



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_KERR MCGEE 19-3 PAD

P_KERR-MCGEE 14-3

P_KERR-MCGEE 14-3

Plan: PLAN #1 1-15-10 RHS

Standard Planning Report

15 January, 2010





P_KERR-MCGEE 14-3
COLORADO NORTHERN ZONE - 83
SECTION 3 T1N R68W
1666 FSL 1149 FWL
LAT: 40° 4' 39.367 N
LONG: 104° 59' 41.402 W



Azimuths to True North
Magnetic North: 9.15°
Magnetic Field
Strength: 53083.1nT
Dip Angle: 66.80°
Date: 1/15/2010
Model: IGRF2010

WELL DETAILS: P_KERR-MCGEE 14-3

+N/-S	+E/-W	Northing	Ground Level: Easting	5042.00 Latitude	Longitude	Slot
0.00	0.00	1271517.97	3141362.26	40° 4' 39.367 N	104° 59' 41.402 W	

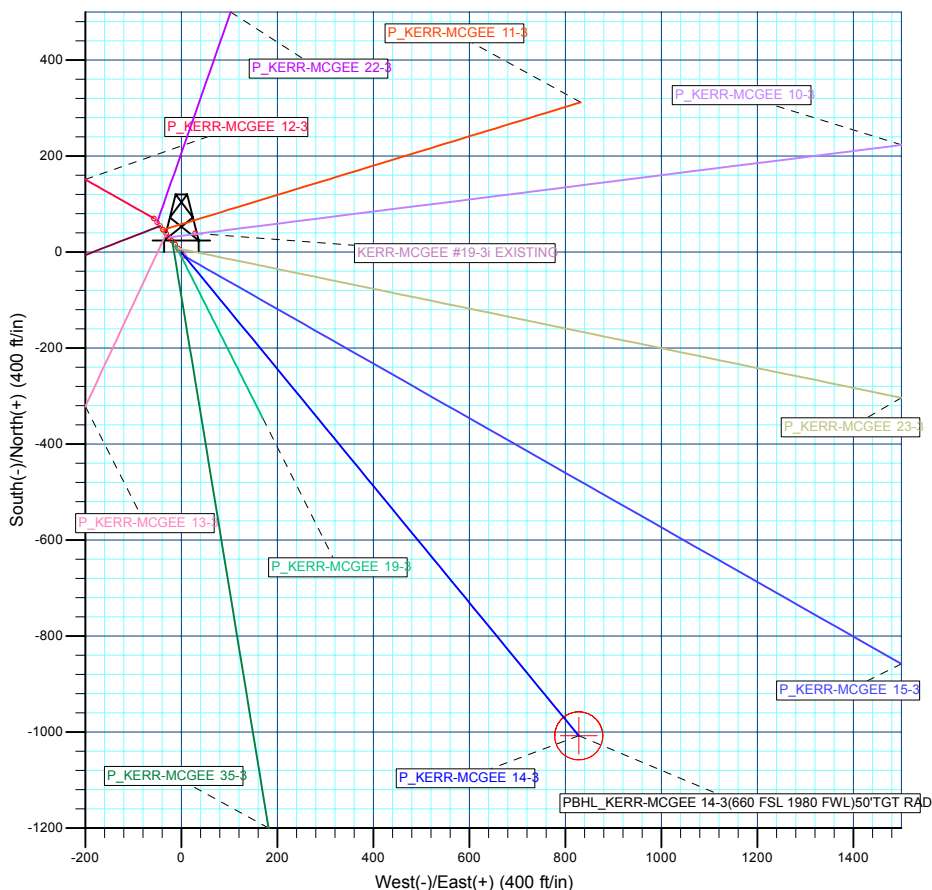
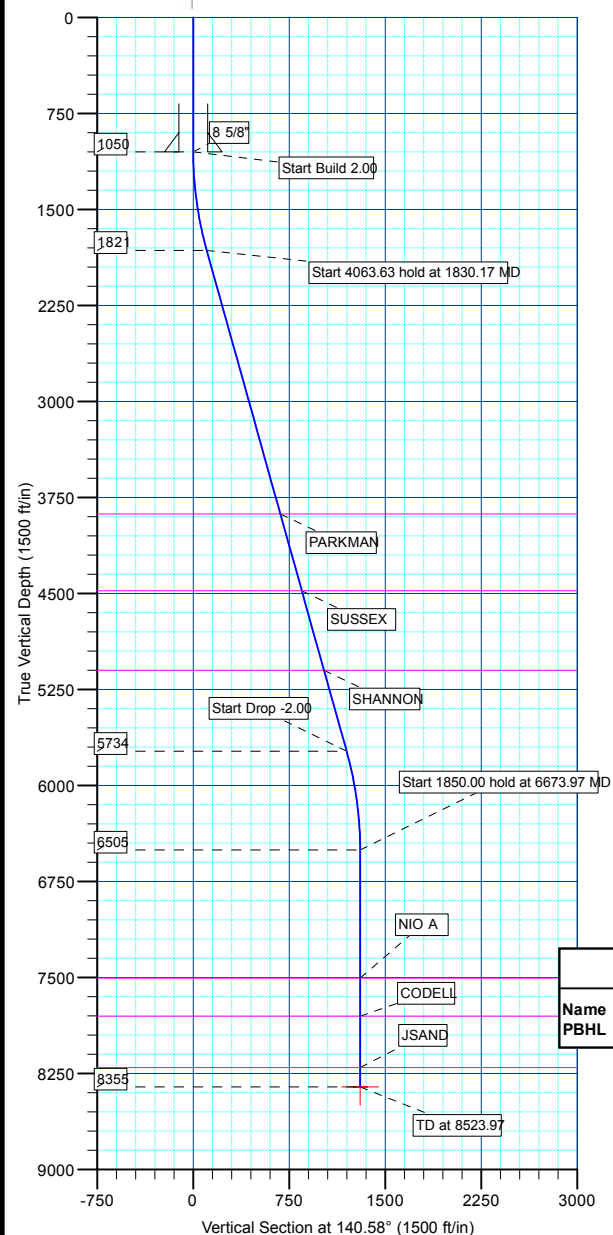
SECTION DETAILS

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	
1830.17	15.60	140.58	1820.56	-81.57	67.03	2.00	140.58	105.58	
5893.80	15.60	140.58	5734.44	-926.00	761.03	0.00	0.00	1198.60	
6673.97	0.00	0.00	6505.00	-1007.57	828.07	2.00	180.00	1304.18	
8523.97	0.00	0.00	8355.00	-1007.57	828.07	0.00	0.00	1304.18	PBHL_KERR-MCGEE 14-3(660 FSL 1980 FWL)50'TGT RAD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3880.00	3968.41	PARKMAN
4480.00	4591.37	SUSSEX
5100.00	5235.09	SHANNON
7505.00	7673.97	NIO A
7804.00	7972.97	CODELL
8204.00	8372.97	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	-1007.57	828.07	1270515.14	3142196.06	40° 4' 29.410 N	104° 59' 30.750 W	Circle (Radius: 50.00)

CASING DETAILS

TVD	MD	Name	Size
1050.00	1050.00	8 5/8"	8.62

Plan: PLAN #1 1-15-10 RHS (P_KERR-MCGEE 14-3/P_KERR-MCGEE 14-3)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 14-3		
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 14-3					
Well Position	+N/-S	-30.98 ft	Northing:	1,271,517.97 ft	Latitude:	40° 4' 39.367 N
	+E/-W	25.19 ft	Easting:	3,141,362.26 ft	Longitude:	104° 59' 41.402 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,042.00 ft

Wellbore	P_KERR-MCGEE 14-3				
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	140.58

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	
1,830.17	15.60	140.58	1,820.56	-81.57	67.03	2.00	2.00	0.00	140.58	
5,893.80	15.60	140.58	5,734.44	-926.00	761.03	0.00	0.00	0.00	0.00	
6,673.97	0.00	0.00	6,505.00	-1,007.57	828.07	2.00	-2.00	0.00	180.00	
8,523.97	0.00	0.00	8,355.00	-1,007.57	828.07	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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 14-3		
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 - 8 5/8"									
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	140.58	1,100.00	-0.34	0.28	0.44	2.00	2.00	0.00
1,200.00	3.00	140.58	1,199.93	-3.03	2.49	3.93	2.00	2.00	0.00
1,300.00	5.00	140.58	1,299.68	-8.42	6.92	10.90	2.00	2.00	0.00
1,400.00	7.00	140.58	1,399.13	-16.50	13.56	21.35	2.00	2.00	0.00
1,500.00	9.00	140.58	1,498.15	-27.25	22.39	35.27	2.00	2.00	0.00
1,600.00	11.00	140.58	1,596.63	-40.66	33.42	52.63	2.00	2.00	0.00
1,700.00	13.00	140.58	1,694.44	-56.73	46.62	73.42	2.00	2.00	0.00
1,800.00	15.00	140.58	1,791.46	-75.41	61.98	97.62	2.00	2.00	0.00
Start 4063.63 hold at 1830.17 MD									
1,830.17	15.60	140.58	1,820.56	-81.57	67.03	105.58	2.00	2.00	0.00
1,900.00	15.60	140.58	1,887.82	-96.08	78.96	124.36	0.00	0.00	0.00
2,000.00	15.60	140.58	1,984.13	-116.86	96.04	151.26	0.00	0.00	0.00
2,100.00	15.60	140.58	2,080.45	-137.64	113.12	178.16	0.00	0.00	0.00
2,200.00	15.60	140.58	2,176.76	-158.42	130.19	205.05	0.00	0.00	0.00
2,300.00	15.60	140.58	2,273.08	-179.20	147.27	231.95	0.00	0.00	0.00
2,400.00	15.60	140.58	2,369.39	-199.98	164.35	258.85	0.00	0.00	0.00
2,500.00	15.60	140.58	2,465.71	-220.76	181.43	285.75	0.00	0.00	0.00
2,600.00	15.60	140.58	2,562.02	-241.54	198.51	312.64	0.00	0.00	0.00
2,700.00	15.60	140.58	2,658.34	-262.32	215.59	339.54	0.00	0.00	0.00
2,800.00	15.60	140.58	2,754.65	-283.10	232.66	366.44	0.00	0.00	0.00
2,900.00	15.60	140.58	2,850.97	-303.88	249.74	393.34	0.00	0.00	0.00
3,000.00	15.60	140.58	2,947.28	-324.66	266.82	420.23	0.00	0.00	0.00
3,100.00	15.60	140.58	3,043.59	-345.44	283.90	447.13	0.00	0.00	0.00
3,200.00	15.60	140.58	3,139.91	-366.22	300.98	474.03	0.00	0.00	0.00
3,300.00	15.60	140.58	3,236.22	-387.00	318.06	500.93	0.00	0.00	0.00
3,400.00	15.60	140.58	3,332.54	-407.78	335.13	527.83	0.00	0.00	0.00
3,500.00	15.60	140.58	3,428.85	-428.56	352.21	554.72	0.00	0.00	0.00
3,600.00	15.60	140.58	3,525.17	-449.34	369.29	581.62	0.00	0.00	0.00
3,700.00	15.60	140.58	3,621.48	-470.12	386.37	608.52	0.00	0.00	0.00
3,800.00	15.60	140.58	3,717.80	-490.90	403.45	635.42	0.00	0.00	0.00
3,900.00	15.60	140.58	3,814.11	-511.68	420.53	662.31	0.00	0.00	0.00
PARKMAN									
3,968.41	15.60	140.58	3,880.00	-525.90	432.21	680.71	0.00	0.00	0.00
4,000.00	15.60	140.58	3,910.43	-532.46	437.60	689.21	0.00	0.00	0.00
4,100.00	15.60	140.58	4,006.74	-553.24	454.68	716.11	0.00	0.00	0.00
4,200.00	15.60	140.58	4,103.06	-574.02	471.76	743.01	0.00	0.00	0.00
4,300.00	15.60	140.58	4,199.37	-594.80	488.84	769.90	0.00	0.00	0.00
4,400.00	15.60	140.58	4,295.69	-615.58	505.92	796.80	0.00	0.00	0.00
4,500.00	15.60	140.58	4,392.00	-636.36	522.99	823.70	0.00	0.00	0.00
SUSSEX									
4,591.37	15.60	140.58	4,480.00	-655.35	538.60	848.28	0.00	0.00	0.00
4,600.00	15.60	140.58	4,488.31	-657.14	540.07	850.60	0.00	0.00	0.00
4,700.00	15.60	140.58	4,584.63	-677.92	557.15	877.50	0.00	0.00	0.00
4,800.00	15.60	140.58	4,680.94	-698.70	574.23	904.39	0.00	0.00	0.00
4,900.00	15.60	140.58	4,777.26	-719.48	591.31	931.29	0.00	0.00	0.00
5,000.00	15.60	140.58	4,873.57	-740.27	608.39	958.19	0.00	0.00	0.00
5,100.00	15.60	140.58	4,969.89	-761.05	625.46	985.09	0.00	0.00	0.00
5,200.00	15.60	140.58	5,066.20	-781.83	642.54	1,011.98	0.00	0.00	0.00
SHANNON									
5,235.09	15.60	140.58	5,100.00	-789.12	648.54	1,021.42	0.00	0.00	0.00
5,300.00	15.60	140.58	5,162.52	-802.61	659.62	1,038.88	0.00	0.00	0.00
5,400.00	15.60	140.58	5,258.83	-823.39	676.70	1,065.78	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 14-3		
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)
5,500.00	15.60	140.58	5,355.15	-844.17	693.78	1,092.68	0.00	0.00	0.00
5,600.00	15.60	140.58	5,451.46	-864.95	710.86	1,119.57	0.00	0.00	0.00
5,700.00	15.60	140.58	5,547.78	-885.73	727.93	1,146.47	0.00	0.00	0.00
5,800.00	15.60	140.58	5,644.09	-906.51	745.01	1,173.37	0.00	0.00	0.00
Start Drop -2.00									
5,893.80	15.60	140.58	5,734.44	-926.00	761.03	1,198.60	0.00	0.00	0.00
5,900.00	15.48	140.58	5,740.41	-927.28	762.09	1,200.26	2.00	-2.00	0.00
6,000.00	13.48	140.58	5,837.23	-946.60	777.96	1,225.26	2.00	-2.00	0.00
6,100.00	11.48	140.58	5,934.86	-963.29	791.68	1,246.87	2.00	-2.00	0.00
6,200.00	9.48	140.58	6,033.19	-977.34	803.23	1,265.06	2.00	-2.00	0.00
6,300.00	7.48	140.58	6,132.09	-988.73	812.59	1,279.80	2.00	-2.00	0.00
6,400.00	5.48	140.58	6,231.44	-997.45	819.75	1,291.09	2.00	-2.00	0.00
6,500.00	3.48	140.58	6,331.13	-1,003.49	824.71	1,298.90	2.00	-2.00	0.00
6,600.00	1.48	140.58	6,431.03	-1,006.83	827.46	1,303.22	2.00	-2.00	0.00
Start 1850.00 hold at 6673.97 MD									
6,673.97	0.00	0.00	6,505.00	-1,007.57	828.07	1,304.18	2.00	-2.00	0.00
6,700.00	0.00	0.00	6,531.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
6,800.00	0.00	0.00	6,631.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
6,900.00	0.00	0.00	6,731.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,000.00	0.00	0.00	6,831.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,100.00	0.00	0.00	6,931.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,200.00	0.00	0.00	7,031.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,300.00	0.00	0.00	7,131.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,400.00	0.00	0.00	7,231.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,500.00	0.00	0.00	7,331.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,600.00	0.00	0.00	7,431.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
NIO A									
7,673.97	0.00	0.00	7,505.00	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,700.00	0.00	0.00	7,531.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,800.00	0.00	0.00	7,631.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
7,900.00	0.00	0.00	7,731.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
CODELL									
7,972.97	0.00	0.00	7,804.00	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,000.00	0.00	0.00	7,831.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,100.00	0.00	0.00	7,931.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,200.00	0.00	0.00	8,031.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,300.00	0.00	0.00	8,131.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
JSAND									
8,372.97	0.00	0.00	8,204.00	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,400.00	0.00	0.00	8,231.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
8,500.00	0.00	0.00	8,331.03	-1,007.57	828.07	1,304.18	0.00	0.00	0.00
PBHL_KERR-MCGEE 14-3(660 FSL 1980 FWL)50'TGT RAD									
8,523.97	0.00	0.00	8,355.00	-1,007.57	828.07	1,304.18	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_KERR-MCGEE 14-3		
Design:	PLAN #1 1-15-10 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL_KERR-MCGEE	0.00	0.00	8,355.00	-1,007.57	828.07	1,270,515.14	3,142,196.06	40° 4' 29.410 N	104° 59' 30.750 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(in)	(in)
	1,050.00	1,050.00	8 5/8"	8.62	11.00

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(ft)	(ft)	Name	Lithology	(°)	(°)
	3,968.41	3,880.00	PARKMAN			
	4,591.37	4,480.00	SUSSEX			
	5,235.09	5,100.00	SHANNON			
	7,673.97	7,505.00	NIO A			
	7,972.97	7,804.00	CODELL			
	8,372.97	8,204.00	JSAND			

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S	+E/-W	Comment
	(ft)	(ft)	(ft)	(ft)	
	1,050.00	1,050.00	0.00	0.00	Start Build 2.00
	1,830.17	1,820.56	-81.57	67.03	Start 4063.63 hold at 1830.17 MD
	5,893.80	5,734.44	-926.00	761.03	Start Drop -2.00
	6,673.97	6,505.00	-1,007.57	828.07	Start 1850.00 hold at 6673.97 MD
	8,523.97	8,355.00	-1,007.57	828.07	TD at 8523.97



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_KERR MCGEE 19-3 PAD
P_KERR-MCGEE 14-3**

**P_KERR-MCGEE 14-3
PLAN #1 1-15-10 RHS**

Anticollision Report

15 January, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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	8,523.97	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	48.93	6.94	1.165	Level 2, CC
KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3	1,300.00	1,293.68	52.66	0.24	1.005	Level 2, ES, SF
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,050.00	1,050.00	39.92	-2.01	0.952	Level 1, CC
P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN	1,100.00	1,100.37	40.13	-3.04	0.930	Level 1, ES, SF
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,050.00	1,050.00	60.01	55.55	13.450	CC, ES
P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN	1,200.00	1,201.06	62.56	57.50	12.384	SF
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,050.00	1,050.00	90.38	85.92	20.258	CC, ES
P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN	1,200.00	1,195.35	97.86	92.81	19.400	SF
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,050.00	1,050.00	49.73	45.26	11.145	CC, ES
P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN	1,200.00	1,201.02	52.05	47.04	10.392	SF
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,238.50	1,237.87	9.85	4.68	1.907	CC
P_KERR-MCGEE 15-3 - P_KERR-MCGEE 15-3 - PLAN	1,300.00	1,299.13	9.99	4.60	1.855	ES, SF
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,050.00	1,050.00	20.10	15.64	4.505	CC
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,200.00	1,201.03	20.18	15.17	4.028	ES
P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN	1,300.00	1,301.50	20.56	15.19	3.830	SF
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,050.00	1,050.00	80.11	75.64	17.954	CC, ES
P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN	1,200.00	1,197.52	86.12	81.06	17.013	SF
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,050.00	1,050.00	10.00	5.54	2.241	CC
P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN	1,100.00	1,100.14	10.09	5.43	2.164	ES, SF
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,050.00	1,050.00	70.11	65.65	15.714	CC, ES
P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN	1,200.00	1,198.63	75.31	70.28	14.989	SF
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,050.00	1,050.00	29.91	25.45	6.703	CC
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,100.00	1,100.46	29.96	25.30	6.431	ES
P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN	1,300.00	1,302.16	31.73	26.36	5.914	SF

Offset Design	WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING										Offset Site Error:	0.00 ft
Survey Program:	0-UNKNOWN										Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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	36.49	39.34	29.10	49.30			
100.00	100.00	94.00	94.00	0.10	1.88	36.49	39.34	29.10	48.93	46.96	1.98	24.769
200.00	200.00	194.00	194.00	0.32	5.76	36.49	39.34	29.10	48.93	42.85	6.08	8.048
300.00	300.00	294.00	294.00	0.55	9.76	36.49	39.34	29.10	48.93	38.63	10.31	4.748

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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 Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
400.00	400.00	394.00	394.00	0.77	13.76	36.49	39.34	29.10	48.93	34.40	14.53	3.368		
500.00	500.00	494.00	494.00	0.99	17.76	36.49	39.34	29.10	48.93	30.18	18.75	2.609		
600.00	600.00	594.00	594.00	1.22	21.76	36.49	39.34	29.10	48.93	25.95	22.98	2.129		
700.00	700.00	694.00	694.00	1.44	25.76	36.49	39.34	29.10	48.93	21.73	27.20	1.799		
800.00	800.00	794.00	794.00	1.67	29.76	36.49	39.34	29.10	48.93	17.50	31.43	1.557		
900.00	900.00	894.00	894.00	1.89	33.76	36.49	39.34	29.10	48.93	13.28	35.65	1.372	Level 3	
1,000.00	1,000.00	994.00	994.00	2.12	37.76	36.49	39.34	29.10	48.93	9.05	39.88	1.227	Level 2	
1,050.00	1,050.00	1,044.00	1,044.00	2.23	39.76	36.49	39.34	29.10	48.93	6.94	41.99	1.165	Level 2, CC	
1,100.00	1,100.00	1,094.00	1,094.00	2.33	41.76	-104.58	39.34	29.10	49.04	4.95	44.09	1.112	Level 2	
1,200.00	1,199.93	1,193.93	1,193.93	2.51	45.76	-108.43	39.34	29.10	50.03	1.77	48.26	1.037	Level 2	
1,300.00	1,299.68	1,293.68	1,293.68	2.70	49.75	-115.59	39.34	29.10	52.66	0.24	52.42	1.005	Level 2, ES, SF	
1,400.00	1,399.13	1,393.13	1,393.13	2.91	53.73	-124.83	39.34	29.10	57.96	1.45	56.51	1.026	Level 2	
1,500.00	1,498.15	1,492.15	1,492.15	3.15	57.69	-134.48	39.34	29.10	66.92	6.46	60.46	1.107	Level 2	
1,600.00	1,596.63	1,590.63	1,590.63	3.43	61.63	-143.16	39.34	29.10	80.12	15.87	64.25	1.247	Level 2	
1,700.00	1,694.44	1,688.44	1,688.44	3.76	65.54	-150.28	39.34	29.10	97.65	29.81	67.84	1.439	Level 3	
1,800.00	1,791.46	1,785.46	1,785.46	4.14	69.42	-155.84	39.34	29.10	119.37	48.13	71.24	1.676		
1,830.17	1,820.56	1,814.56	1,814.56	4.27	70.58	-157.25	39.34	29.10	126.71	54.49	72.23	1.754		
1,900.00	1,887.82	1,881.82	1,881.82	4.58	73.27	-160.12	39.34	29.10	144.30	69.40	74.90	1.926		
2,000.00	1,984.13	1,978.13	1,978.13	5.04	77.13	-163.20	39.34	29.10	169.93	91.16	78.78	2.157		
2,100.00	2,080.45	2,074.45	2,074.45	5.52	80.98	-165.47	39.34	29.10	195.90	113.22	82.68	2.369		
2,200.00	2,176.76	2,170.76	2,170.76	6.03	84.83	-167.20	39.34	29.10	222.10	135.49	86.61	2.564		
2,300.00	2,273.08	2,267.08	2,267.08	6.54	88.68	-168.58	39.34	29.10	248.44	157.89	90.55	2.744		
2,400.00	2,369.39	2,363.39	2,363.39	7.06	92.54	-169.69	39.34	29.10	274.89	180.39	94.50	2.909		
2,500.00	2,465.71	2,459.71	2,459.71	7.59	96.39	-170.60	39.34	29.10	301.42	202.96	98.46	3.061		
2,600.00	2,562.02	2,556.02	2,556.02	8.12	100.24	-171.37	39.34	29.10	328.01	225.58	102.43	3.202		
2,700.00	2,658.34	2,652.34	2,652.34	8.66	104.09	-172.02	39.34	29.10	354.64	248.25	106.40	3.333		
2,800.00	2,754.65	2,748.65	2,748.65	9.21	107.95	-172.58	39.34	29.10	381.32	270.95	110.37	3.455		
2,900.00	2,850.97	2,844.97	2,844.97	9.76	111.80	-173.07	39.34	29.10	408.02	293.67	114.35	3.568		
3,000.00	2,947.28	2,941.28	2,941.28	10.31	115.65	-173.49	39.34	29.10	434.75	316.42	118.33	3.674		
3,100.00	3,043.59	3,037.59	3,037.59	10.86	119.50	-173.87	39.34	29.10	461.49	339.18	122.31	3.773		
3,200.00	3,139.91	3,133.91	3,133.91	11.41	123.36	-174.21	39.34	29.10	488.25	361.96	126.30	3.866		
3,300.00	3,236.22	3,230.22	3,230.22	11.97	127.21	-174.51	39.34	29.10	515.03	384.75	130.28	3.953		
3,400.00	3,332.54	3,326.54	3,326.54	12.53	131.06	-174.78	39.34	29.10	541.82	407.55	134.27	4.035		
3,500.00	3,428.85	3,422.85	3,422.85	13.09	134.91	-175.03	39.34	29.10	568.62	430.36	138.26	4.113		
3,600.00	3,525.17	3,519.17	3,519.17	13.65	138.77	-175.25	39.34	29.10	595.43	453.18	142.25	4.186		
3,700.00	3,621.48	3,615.48	3,615.48	14.21	142.62	-175.46	39.34	29.10	622.24	476.00	146.24	4.255		
3,800.00	3,717.80	3,711.80	3,711.80	14.77	146.47	-175.65	39.34	29.10	649.07	498.83	150.24	4.320		
3,900.00	3,814.11	3,808.11	3,808.11	15.34	150.32	-175.82	39.34	29.10	675.90	521.67	154.23	4.382		
4,000.00	3,910.43	3,904.43	3,904.43	15.90	154.18	-175.98	39.34	29.10	702.73	544.51	158.22	4.441		
4,100.00	4,006.74	4,000.74	4,000.74	16.46	158.03	-176.13	39.34	29.10	729.57	567.35	162.22	4.497		
4,200.00	4,103.06	4,097.06	4,097.06	17.03	161.88	-176.27	39.34	29.10	756.41	590.20	166.21	4.551		
4,300.00	4,199.37	4,193.37	4,193.37	17.59	165.73	-176.39	39.34	29.10	783.26	613.05	170.21	4.602		
4,400.00	4,295.69	4,289.69	4,289.69	18.16	169.59	-176.51	39.34	29.10	810.11	635.90	174.21	4.650		
4,500.00	4,392.00	4,386.00	4,386.00	18.73	173.44	-176.63	39.34	29.10	836.96	658.75	178.20	4.697		
4,600.00	4,488.31	4,482.31	4,482.31	19.29	177.29	-176.73	39.34	29.10	863.82	681.61	182.20	4.741		
4,700.00	4,584.63	4,578.63	4,578.63	19.86	181.15	-176.83	39.34	29.10	890.67	704.47	186.20	4.783		
4,800.00	4,680.94	4,674.94	4,674.94	20.43	185.00	-176.92	39.34	29.10	917.53	727.33	190.20	4.824		
4,900.00	4,777.26	4,771.26	4,771.26	21.00	188.85	-177.01	39.34	29.10	944.40	750.20	194.20	4.863		
5,000.00	4,873.57	4,867.57	4,867.57	21.57	192.70	-177.09	39.34	29.10	971.26	773.06	198.20	4.900		
5,100.00	4,969.89	4,963.89	4,963.89	22.13	196.56	-177.17	39.34	29.10	998.13	795.93	202.20	4.936		
5,200.00	5,066.20	5,060.20	5,060.20	22.70	200.41	-177.24	39.34	29.10	1,025.00	818.80	206.20	4.971		
5,300.00	5,162.52	5,156.52	5,156.52	23.27	204.26	-177.32	39.34	29.10	1,051.87	841.67	210.20	5.004		

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING												Offset Well Error:	0.00 ft
Survey Program: 0-UNKNOWN													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,400.00	5,258.83	5,252.83	5,252.83	23.84	208.11	-177.38	39.34	29.10	1,078.74	864.54	214.20	5.036	
5,500.00	5,355.15	5,349.15	5,349.15	24.41	211.97	-177.45	39.34	29.10	1,105.61	887.41	218.20	5.067	
5,600.00	5,451.46	5,445.46	5,445.46	24.98	215.82	-177.51	39.34	29.10	1,132.48	910.28	222.20	5.097	
5,700.00	5,547.78	5,541.78	5,541.78	25.55	219.67	-177.56	39.34	29.10	1,159.36	933.16	226.20	5.125	
5,800.00	5,644.09	5,638.09	5,638.09	26.12	223.52	-177.62	39.34	29.10	1,186.23	956.03	230.20	5.153	
5,893.80	5,734.44	5,728.44	5,728.44	26.66	227.14	-177.67	39.34	29.10	1,211.44	977.49	233.96	5.178	
5,900.00	5,740.41	5,734.41	5,734.41	26.69	227.38	-177.67	39.34	29.10	1,213.10	978.78	234.33	5.177	
6,000.00	5,837.23	5,831.23	5,831.23	27.08	231.25	-177.74	39.34	29.10	1,238.09	997.76	240.32	5.152	
6,100.00	5,934.86	5,928.86	5,928.86	27.44	235.15	-177.80	39.34	29.10	1,259.68	1,013.56	246.12	5.118	
6,200.00	6,033.19	6,027.19	6,027.19	27.75	239.09	-177.84	39.34	29.10	1,277.85	1,026.16	251.69	5.077	
6,300.00	6,132.09	6,126.09	6,126.09	28.02	243.04	-177.88	39.34	29.10	1,292.59	1,035.57	257.02	5.029	
6,400.00	6,231.44	6,225.44	6,225.44	28.25	247.02	-177.90	39.34	29.10	1,303.86	1,041.80	262.06	4.975	
6,500.00	6,331.13	6,325.13	6,325.13	28.43	251.01	-177.92	39.34	29.10	1,311.67	1,044.85	266.82	4.916	
6,600.00	6,431.03	6,425.03	6,425.03	28.57	255.00	-177.93	39.34	29.10	1,315.99	1,044.72	271.27	4.851	
6,673.97	6,505.00	6,499.00	6,499.00	28.66	257.96	-37.35	39.34	29.10	1,316.95	1,042.59	274.35	4.800	
6,700.00	6,531.03	6,525.03	6,525.03	28.68	259.00	-37.35	39.34	29.10	1,316.95	1,041.51	275.44	4.781	
6,800.00	6,631.03	6,625.03	6,625.03	28.78	263.00	-37.35	39.34	29.10	1,316.95	1,037.35	279.60	4.710	
6,900.00	6,731.03	6,725.03	6,725.03	28.87	267.00	-37.35	39.34	29.10	1,316.95	1,033.19	283.76	4.641	
7,000.00	6,831.03	6,825.03	6,825.03	28.97	271.00	-37.35	39.34	29.10	1,316.95	1,029.02	287.93	4.574	
7,100.00	6,931.03	6,925.03	6,925.03	29.07	275.00	-37.35	39.34	29.10	1,316.95	1,024.85	292.09	4.509	
7,200.00	7,031.03	7,025.03	7,025.03	29.17	279.00	-37.35	39.34	29.10	1,316.95	1,020.69	296.26	4.445	
7,300.00	7,131.03	7,125.03	7,125.03	29.27	283.00	-37.35	39.34	29.10	1,316.95	1,016.52	300.43	4.384	
7,400.00	7,231.03	7,225.03	7,225.03	29.37	287.00	-37.35	39.34	29.10	1,316.95	1,012.35	304.60	4.324	
7,500.00	7,331.03	7,325.03	7,325.03	29.48	291.00	-37.35	39.34	29.10	1,316.95	1,008.18	308.77	4.265	
7,600.00	7,431.03	7,425.03	7,425.03	29.58	295.00	-37.35	39.34	29.10	1,316.95	1,004.01	312.94	4.208	
7,700.00	7,531.03	7,525.03	7,525.03	29.69	299.00	-37.35	39.34	29.10	1,316.95	999.83	317.11	4.153	
7,800.00	7,631.03	7,625.03	7,625.03	29.80	303.00	-37.35	39.34	29.10	1,316.95	995.66	321.29	4.099	
7,900.00	7,731.03	7,725.03	7,725.03	29.91	307.00	-37.35	39.34	29.10	1,316.95	991.48	325.46	4.046	
8,000.00	7,831.03	7,825.03	7,825.03	30.02	311.00	-37.35	39.34	29.10	1,316.95	987.31	329.64	3.995	
8,100.00	7,931.03	7,925.03	7,925.03	30.13	315.00	-37.35	39.34	29.10	1,316.95	983.13	333.82	3.945	
8,200.00	8,031.03	8,025.03	8,025.03	30.25	319.00	-37.35	39.34	29.10	1,316.95	978.95	338.00	3.896	
8,300.00	8,131.03	8,125.03	8,125.03	30.36	323.00	-37.35	39.34	29.10	1,316.95	974.77	342.18	3.849	
8,400.00	8,231.03	8,225.03	8,225.03	30.48	327.00	-37.35	39.34	29.10	1,316.95	970.59	346.36	3.802	
8,500.00	8,331.03	8,325.03	8,325.03	30.59	331.00	-37.35	39.34	29.10	1,316.95	966.41	350.54	3.757	
8,523.97	8,355.00	8,349.00	8,349.00	30.62	331.96	-37.35	39.34	29.10	1,316.95	965.41	351.54	3.746	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-39.11	30.98	-25.19	39.92				
100.00	100.00	100.00	100.00	0.10	1.70	-39.11	30.98	-25.19	39.92	38.13	1.80	22.234	
200.00	200.00	200.00	200.00	0.32	5.70	-39.11	30.98	-25.19	39.92	33.90	6.02	6.631	
300.00	300.00	300.00	300.00	0.55	9.70	-39.11	30.98	-25.19	39.92	29.68	10.25	3.897	
400.00	400.00	400.00	400.00	0.77	13.70	-39.11	30.98	-25.19	39.92	25.45	14.47	2.759	
500.00	500.00	500.00	500.00	0.99	17.70	-39.11	30.98	-25.19	39.92	21.23	18.69	2.136	
600.00	600.00	600.00	600.00	1.22	21.70	-39.11	30.98	-25.19	39.92	17.00	22.92	1.742	
700.00	700.00	700.00	700.00	1.44	25.70	-39.11	30.98	-25.19	39.92	12.78	27.14	1.471 Level 3	
800.00	800.00	800.00	800.00	1.67	29.70	-39.11	30.98	-25.19	39.92	8.55	31.37	1.273 Level 3	
900.00	900.00	900.00	900.00	1.89	33.70	-39.11	30.98	-25.19	39.92	4.33	35.59	1.122 Level 2	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	-39.11	30.98	-25.19	39.92	0.10	39.82	1.003 Level 2	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	39.70	-39.11	30.98	-25.19	39.92	-2.01	41.93	0.952 Level 1, CC	
1,100.00	1,100.00	1,100.37	1,100.36	2.33	40.84	-179.16	31.03	-24.75	40.13	-3.04	43.17	0.930 Level 1, ES, SF	
1,200.00	1,199.93	1,201.02	1,200.95	2.51	41.64	-175.10	31.47	-21.24	41.89	-2.20	44.09	0.950 Level 1	
1,300.00	1,299.68	1,301.40	1,301.08	2.70	42.81	-168.01	32.36	-14.25	45.97	0.64	45.33	1.014 Level 2	
1,400.00	1,399.13	1,401.36	1,400.48	2.91	44.33	-159.63	33.67	-3.83	53.11	6.25	46.86	1.133 Level 2	
1,500.00	1,498.15	1,500.73	1,498.87	3.15	46.20	-151.60	35.41	9.92	63.89	15.19	48.70	1.312 Level 3	
1,600.00	1,596.63	1,599.34	1,595.98	3.43	48.39	-144.79	37.55	26.91	78.49	27.65	50.84	1.544	
1,700.00	1,694.44	1,697.05	1,691.56	3.76	50.88	-139.37	40.09	47.01	96.85	43.61	53.25	1.819	
1,800.00	1,791.46	1,793.72	1,785.40	4.14	53.66	-135.15	42.99	70.06	118.84	62.93	55.91	2.126	
1,830.17	1,820.56	1,822.66	1,813.33	4.27	54.57	-134.06	43.94	77.57	126.16	69.38	56.78	2.222	
1,900.00	1,887.82	1,889.32	1,877.36	4.58	56.71	-131.86	46.26	95.93	143.72	84.67	59.05	2.434	
2,000.00	1,984.13	1,983.98	1,967.52	5.04	60.03	-128.62	49.87	124.53	169.96	107.41	62.54	2.717	
2,100.00	2,080.45	2,077.52	2,055.63	5.52	63.59	-125.40	53.80	155.68	197.68	131.45	66.23	2.985	
2,200.00	2,176.76	2,169.77	2,141.48	6.03	67.38	-122.25	58.03	189.19	227.10	157.04	70.06	3.242	
2,300.00	2,273.08	2,260.58	2,224.87	6.54	71.35	-119.24	62.52	224.83	258.39	184.44	73.95	3.494	
2,400.00	2,369.39	2,353.77	2,309.73	7.06	75.68	-116.48	67.35	263.04	291.14	213.06	78.07	3.729	
2,500.00	2,465.71	2,447.40	2,394.98	7.59	80.16	-114.25	72.19	301.44	324.38	242.12	82.26	3.943	
2,600.00	2,562.02	2,541.03	2,480.23	8.12	84.76	-112.44	77.04	339.85	357.99	271.49	86.50	4.138	
2,700.00	2,658.34	2,634.65	2,565.48	8.66	89.47	-110.93	81.89	378.26	391.87	301.07	90.80	4.316	
2,800.00	2,754.65	2,728.28	2,650.73	9.21	94.27	-109.67	86.73	416.66	425.95	330.80	95.14	4.477	
2,900.00	2,850.97	2,821.91	2,735.98	9.76	99.14	-108.58	91.58	455.07	460.18	360.66	99.53	4.624	
3,000.00	2,947.28	2,915.53	2,821.23	10.31	104.07	-107.65	96.42	493.48	494.54	390.60	103.95	4.758	
3,100.00	3,043.59	3,009.16	2,906.48	10.86	109.06	-106.84	101.27	531.88	529.01	420.60	108.40	4.880	
3,200.00	3,139.91	3,102.79	2,991.73	11.41	114.10	-106.13	106.12	570.29	563.55	450.66	112.89	4.992	
3,300.00	3,236.22	3,196.41	3,076.98	11.97	119.19	-105.50	110.96	608.70	598.16	480.76	117.40	5.095	
3,400.00	3,332.54	3,290.04	3,162.23	12.53	124.31	-104.94	115.81	647.10	632.83	510.89	121.94	5.190	
3,500.00	3,428.85	3,383.67	3,247.47	13.09	129.46	-104.44	120.66	685.51	667.55	541.05	126.50	5.277	
3,600.00	3,525.17	3,477.29	3,332.72	13.65	134.64	-103.98	125.50	723.91	702.31	571.23	131.08	5.358	
3,700.00	3,621.48	3,570.92	3,417.97	14.21	139.85	-103.57	130.35	762.32	737.10	601.42	135.68	5.433	
3,800.00	3,717.80	3,664.55	3,503.22	14.77	145.08	-103.20	135.20	800.73	771.93	631.63	140.30	5.502	
3,900.00	3,814.11	3,758.17	3,588.47	15.34	150.33	-102.86	140.04	839.13	806.78	661.85	144.93	5.567	
4,000.00	3,910.43	3,851.80	3,673.72	15.90	155.60	-102.54	144.89	877.54	841.65	692.08	149.57	5.627	
4,100.00	4,006.74	3,945.43	3,758.97	16.46	160.89	-102.26	149.74	915.95	876.55	722.32	154.23	5.684	
4,200.00	4,103.06	4,039.05	3,844.22	17.03	166.19	-101.99	154.58	954.35	911.46	752.57	158.89	5.736	
4,300.00	4,199.37	4,132.68	3,929.47	17.59	171.51	-101.74	159.43	992.76	946.39	782.82	163.57	5.786	
4,400.00	4,295.69	4,226.31	4,014.72	18.16	176.83	-101.51	164.27	1,031.17	981.33	813.07	168.26	5.832	
4,500.00	4,392.00	4,319.93	4,099.96	18.73	182.17	-101.30	169.12	1,069.57	1,016.29	843.33	172.95	5.876	
4,600.00	4,488.31	4,413.56	4,185.21	19.29	187.52	-101.10	173.97	1,107.98	1,051.25	873.60	177.66	5.917	
4,700.00	4,584.63	4,507.18	4,270.46	19.86	192.88	-100.91	178.81	1,146.38	1,086.23	903.86	182.37	5.956	
4,800.00	4,680.94	4,600.81	4,355.71	20.43	198.25	-100.74	183.66	1,184.79	1,121.22	934.13	187.09	5.993	
4,900.00	4,777.26	4,694.44	4,440.96	21.00	203.62	-100.57	188.51	1,223.20	1,156.21	964.40	191.81	6.028	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,873.57	4,788.06	4,526.21	21.57	209.01	-100.42	193.35	1,261.60	1,191.22	994.67	196.54	6.061	
5,100.00	4,969.89	4,881.69	4,611.46	22.13	214.40	-100.27	198.20	1,300.01	1,226.23	1,024.95	201.28	6.092	
5,200.00	5,066.20	4,975.32	4,696.71	22.70	219.79	-100.14	203.05	1,338.42	1,261.24	1,055.22	206.02	6.122	
5,300.00	5,162.52	5,068.94	4,781.96	23.27	225.20	-100.01	207.89	1,376.82	1,296.27	1,085.50	210.77	6.150	
5,400.00	5,258.83	5,162.57	4,867.21	23.84	230.61	-99.88	212.74	1,415.23	1,331.30	1,115.77	215.52	6.177	
5,500.00	5,355.15	5,256.20	4,952.46	24.41	236.02	-99.76	217.58	1,453.63	1,366.33	1,146.05	220.28	6.203	
5,600.00	5,451.46	5,349.82	5,037.70	24.98	241.44	-99.65	222.43	1,492.04	1,401.37	1,176.33	225.04	6.227	
5,700.00	5,547.78	5,443.45	5,122.95	25.55	246.86	-99.55	227.28	1,530.45	1,436.41	1,206.61	229.80	6.251	
5,800.00	5,644.09	5,537.08	5,208.20	26.12	252.29	-99.45	232.12	1,568.85	1,471.46	1,236.89	234.57	6.273	
5,893.80	5,734.44	5,624.90	5,288.17	26.66	257.38	-99.36	236.67	1,604.88	1,504.34	1,265.29	239.05	6.293	
5,900.00	5,740.41	5,630.70	5,293.45	26.69	257.72	-99.40	236.97	1,607.26	1,506.51	1,267.10	239.41	6.293	
6,000.00	5,837.23	5,724.37	5,378.74	27.08	263.15	-99.96	241.82	1,645.68	1,541.26	1,296.07	245.19	6.286	
6,100.00	5,934.86	5,818.03	5,464.02	27.44	268.59	-100.38	246.67	1,684.10	1,575.47	1,324.63	250.84	6.281	
6,200.00	6,033.19	5,911.57	5,549.19	27.75	274.03	-100.68	251.51	1,722.47	1,609.14	1,352.80	256.35	6.277	
6,300.00	6,132.09	6,004.87	5,634.14	28.02	279.45	-100.85	256.34	1,760.75	1,642.30	1,380.63	261.68	6.276	
6,400.00	6,231.44	6,097.83	5,718.78	28.25	284.86	-100.92	261.15	1,798.88	1,674.99	1,408.18	266.81	6.278	
6,500.00	6,331.13	6,190.32	5,802.99	28.43	290.24	-100.89	265.94	1,836.82	1,707.26	1,435.53	271.72	6.283	
6,600.00	6,431.03	6,282.23	5,886.69	28.57	295.60	-100.76	270.70	1,874.52	1,739.17	1,462.76	276.41	6.292	
6,673.97	6,505.00	6,349.79	5,948.20	28.66	299.53	39.96	274.19	1,902.24	1,762.60	1,482.87	279.73	6.301	
6,700.00	6,531.03	6,373.49	5,969.77	28.68	300.91	40.19	275.42	1,911.96	1,770.84	1,490.32	280.51	6.313	
6,800.00	6,631.03	6,503.46	6,088.56	28.78	308.41	41.38	282.02	1,964.27	1,802.29	1,517.54	284.75	6.329	
6,900.00	6,731.03	6,688.14	6,260.97	28.87	318.44	42.80	290.30	2,029.86	1,830.22	1,539.46	290.76	6.295	
7,000.00	6,831.03	6,881.45	6,445.60	28.97	328.09	43.96	297.45	2,086.57	1,853.50	1,556.37	297.12	6.238	
7,100.00	6,931.03	7,082.14	6,640.90	29.07	337.18	44.86	303.21	2,132.23	1,871.67	1,567.82	303.85	6.160	
7,200.00	7,031.03	7,288.58	6,844.64	29.17	345.54	45.47	307.34	2,164.93	1,884.39	1,573.49	310.90	6.061	
7,300.00	7,131.03	7,498.80	7,054.01	29.27	353.04	45.81	309.65	2,183.19	1,891.39	1,573.17	318.21	5.944	
7,400.00	7,231.03	7,675.88	7,231.03	29.37	357.43	45.88	310.11	2,186.89	1,892.79	1,569.71	323.08	5.859	
7,500.00	7,331.03	7,775.88	7,331.03	29.48	358.30	45.88	310.11	2,186.89	1,892.79	1,568.68	324.11	5.840	
7,600.00	7,431.03	7,875.88	7,431.03	29.58	359.22	45.88	310.11	2,186.89	1,892.79	1,567.61	325.19	5.821	
7,700.00	7,531.03	7,975.88	7,531.03	29.69	360.17	45.88	310.11	2,186.89	1,892.79	1,566.47	326.32	5.800	
7,800.00	7,631.03	8,075.88	7,631.03	29.80	361.17	45.88	310.11	2,186.89	1,892.79	1,565.29	327.50	5.780	
7,900.00	7,731.03	8,175.88	7,731.03	29.91	362.21	45.88	310.11	2,186.89	1,892.79	1,564.06	328.73	5.758	
8,000.00	7,831.03	8,275.88	7,831.03	30.02	363.29	45.88	310.11	2,186.89	1,892.79	1,562.78	330.02	5.735	
8,100.00	7,931.03	8,375.88	7,931.03	30.13	364.41	45.88	310.11	2,186.89	1,892.79	1,561.44	331.35	5.712	
8,200.00	8,031.03	8,475.88	8,031.03	30.25	365.57	45.88	310.11	2,186.89	1,892.79	1,560.06	332.73	5.689	
8,300.00	8,131.03	8,575.88	8,131.03	30.36	366.77	45.88	310.11	2,186.89	1,892.79	1,558.63	334.16	5.664	
8,400.00	8,231.03	8,675.88	8,231.03	30.48	368.01	45.88	310.11	2,186.89	1,892.79	1,557.15	335.64	5.639	
8,500.00	8,331.03	8,775.88	8,331.03	30.59	369.29	45.88	310.11	2,186.89	1,892.79	1,555.63	337.17	5.614	
8,513.88	8,344.90	8,789.76	8,344.90	30.61	369.47	45.88	310.11	2,186.89	1,892.79	1,555.41	337.38	5.610	
8,523.97	8,355.00	8,794.85	8,350.00	30.62	369.54	45.88	310.11	2,186.89	1,892.80	1,555.34	337.46	5.609	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	-39.02	46.62	-37.78	60.01				
100.00	100.00	100.00	100.00	0.10	0.10	-39.02	46.62	-37.78	60.01	59.82	0.19	314.091	
200.00	200.00	200.00	200.00	0.32	0.32	-39.02	46.62	-37.78	60.01	59.37	0.64	93.676	
300.00	300.00	300.00	300.00	0.55	0.55	-39.02	46.62	-37.78	60.01	58.92	1.09	55.047	
400.00	400.00	400.00	400.00	0.77	0.77	-39.02	46.62	-37.78	60.01	58.47	1.54	38.975	
500.00	500.00	500.00	500.00	0.99	0.99	-39.02	46.62	-37.78	60.01	58.02	1.99	30.167	
600.00	600.00	600.00	600.00	1.22	1.22	-39.02	46.62	-37.78	60.01	57.57	2.44	24.606	
700.00	700.00	700.00	700.00	1.44	1.44	-39.02	46.62	-37.78	60.01	57.12	2.89	20.776	
800.00	800.00	800.00	800.00	1.67	1.67	-39.02	46.62	-37.78	60.01	56.67	3.34	17.978	
900.00	900.00	900.00	900.00	1.89	1.89	-39.02	46.62	-37.78	60.01	56.22	3.79	15.844	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-39.02	46.62	-37.78	60.01	55.77	4.24	14.163	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-39.02	46.62	-37.78	60.01	55.55	4.46	13.450 CC, ES	
1,100.00	1,100.00	1,100.39	1,100.39	2.33	2.34	-179.21	46.75	-37.35	60.28	55.61	4.67	12.912	
1,200.00	1,199.93	1,201.06	1,200.99	2.51	2.55	-176.24	47.79	-33.97	62.56	57.50	5.05	12.384 SF	
1,300.00	1,299.68	1,301.38	1,301.06	2.70	2.77	-170.95	49.84	-27.24	67.55	62.11	5.44	12.408	
1,400.00	1,399.13	1,401.14	1,400.26	2.91	3.00	-164.42	52.90	-17.22	75.92	70.07	5.86	12.964	
1,500.00	1,498.15	1,500.11	1,498.26	3.15	3.26	-157.77	56.93	-4.03	88.22	81.93	6.30	14.005	
1,600.00	1,596.63	1,598.18	1,594.86	3.43	3.54	-151.79	61.86	12.12	104.72	97.94	6.79	15.430	
1,700.00	1,694.44	1,695.81	1,690.87	3.76	3.84	-147.79	67.03	29.06	125.04	117.73	7.32	17.093	
1,800.00	1,791.46	1,792.90	1,786.35	4.14	4.16	-145.59	72.17	45.91	148.55	140.67	7.88	18.858	
1,830.17	1,820.56	1,822.07	1,815.03	4.27	4.26	-145.17	73.72	50.97	156.21	148.15	8.05	19.397	
1,900.00	1,887.82	1,889.51	1,881.36	4.58	4.49	-144.61	77.29	62.67	174.25	165.75	8.50	20.504	
2,000.00	1,984.13	1,986.09	1,976.33	5.04	4.83	-143.97	82.40	79.43	200.10	190.94	9.16	21.849	
2,100.00	2,080.45	2,082.67	2,071.31	5.52	5.18	-143.49	87.52	96.19	225.98	216.14	9.84	22.966	
2,200.00	2,176.76	2,179.24	2,166.28	6.03	5.54	-143.10	92.63	112.94	251.86	241.32	10.54	23.899	
2,300.00	2,273.08	2,275.82	2,261.26	6.54	5.90	-142.78	97.75	129.70	277.76	266.50	11.25	24.687	
2,400.00	2,369.39	2,372.40	2,356.24	7.06	6.26	-142.52	102.87	146.46	303.66	291.68	11.98	25.356	
2,500.00	2,465.71	2,468.98	2,451.21	7.59	6.63	-142.30	107.98	163.22	329.56	316.85	12.71	25.930	
2,600.00	2,562.02	2,565.56	2,546.19	8.12	7.00	-142.11	113.10	179.97	355.47	342.02	13.45	26.426	
2,700.00	2,658.34	2,662.14	2,641.17	8.66	7.37	-141.95	118.21	196.73	381.38	367.18	14.20	26.857	
2,800.00	2,754.65	2,758.72	2,736.14	9.21	7.75	-141.81	123.33	213.49	407.30	392.34	14.96	27.235	
2,900.00	2,850.97	2,855.30	2,831.12	9.76	8.12	-141.68	128.44	230.25	433.22	417.50	15.71	27.568	
3,000.00	2,947.28	2,951.88	2,926.10	10.31	8.50	-141.57	133.56	247.00	459.14	442.66	16.48	27.863	
3,100.00	3,043.59	3,048.46	3,021.07	10.86	8.88	-141.47	138.67	263.76	485.06	467.81	17.25	28.126	
3,200.00	3,139.91	3,145.03	3,116.05	11.41	9.26	-141.38	143.79	280.52	510.98	492.96	18.02	28.362	
3,300.00	3,236.22	3,241.61	3,211.03	11.97	9.65	-141.30	148.91	297.27	536.90	518.11	18.79	28.574	
3,400.00	3,332.54	3,338.19	3,306.00	12.53	10.03	-141.23	154.02	314.03	562.82	543.26	19.57	28.766	
3,500.00	3,428.85	3,434.77	3,400.98	13.09	10.42	-141.16	159.14	330.79	588.75	568.40	20.34	28.941	
3,600.00	3,525.17	3,531.35	3,495.96	13.65	10.80	-141.10	164.25	347.55	614.67	593.55	21.12	29.099	
3,700.00	3,621.48	3,627.93	3,590.93	14.21	11.19	-141.04	169.37	364.30	640.60	618.69	21.90	29.244	
3,800.00	3,717.80	3,724.51	3,685.91	14.77	11.57	-140.99	174.48	381.06	666.52	643.84	22.69	29.378	
3,900.00	3,814.11	3,821.09	3,780.89	15.34	11.96	-140.94	179.60	397.82	692.45	668.98	23.47	29.500	
4,000.00	3,910.43	3,917.67	3,875.86	15.90	12.35	-140.90	184.71	414.58	718.38	694.12	24.26	29.613	
4,100.00	4,006.74	4,014.25	3,970.84	16.46	12.74	-140.86	189.83	431.33	744.31	719.26	25.05	29.718	
4,200.00	4,103.06	4,110.83	4,065.81	17.03	13.13	-140.82	194.95	448.09	770.23	744.40	25.83	29.815	
4,300.00	4,199.37	4,207.40	4,160.79	17.59	13.51	-140.78	200.06	464.85	796.16	769.54	26.62	29.905	
4,400.00	4,295.69	4,303.98	4,255.77	18.16	13.90	-140.75	205.18	481.60	822.09	794.68	27.41	29.989	
4,500.00	4,392.00	4,400.56	4,350.74	18.73	14.29	-140.72	210.29	498.36	848.02	819.81	28.20	30.068	
4,600.00	4,488.31	4,497.14	4,445.72	19.29	14.68	-140.69	215.41	515.12	873.95	844.95	28.99	30.142	
4,700.00	4,584.63	4,593.72	4,540.70	19.86	15.07	-140.66	220.52	531.88	899.88	870.09	29.79	30.211	
4,800.00	4,680.94	4,690.30	4,635.67	20.43	15.47	-140.63	225.64	548.63	925.80	895.23	30.58	30.275	
4,900.00	4,777.26	4,786.88	4,730.65	21.00	15.86	-140.61	230.75	565.39	951.73	920.36	31.37	30.336	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,873.57	4,883.46	4,825.63	21.57	16.25	-140.59	235.87	582.15	977.66	945.50	32.17	30.394	
5,100.00	4,969.89	4,980.04	4,920.60	22.13	16.64	-140.56	240.99	598.91	1,003.59	970.63	32.96	30.448	
5,200.00	5,066.20	5,076.62	5,015.58	22.70	17.03	-140.54	246.10	615.66	1,029.52	995.77	33.76	30.499	
5,300.00	5,162.52	5,173.19	5,110.56	23.27	17.42	-140.52	251.22	632.42	1,055.45	1,020.90	34.55	30.548	
5,400.00	5,258.83	5,269.77	5,205.53	23.84	17.81	-140.50	256.33	649.18	1,081.38	1,046.04	35.35	30.594	
5,500.00	5,355.15	5,366.35	5,300.51	24.41	18.20	-140.48	261.45	665.94	1,107.31	1,071.17	36.14	30.638	
5,600.00	5,451.46	5,462.93	5,395.49	24.98	18.60	-140.47	266.56	682.69	1,133.24	1,096.31	36.94	30.679	
5,700.00	5,547.78	5,559.51	5,490.46	25.55	18.99	-140.45	271.68	699.45	1,159.17	1,121.44	37.73	30.719	
5,800.00	5,644.09	5,656.09	5,585.44	26.12	19.38	-140.43	276.79	716.21	1,185.10	1,146.57	38.53	30.757	
5,893.80	5,734.44	5,746.69	5,674.53	26.66	19.75	-140.42	281.59	731.93	1,209.43	1,170.15	39.28	30.790	
5,900.00	5,740.41	5,752.67	5,680.42	26.69	19.77	-140.44	281.91	732.96	1,211.03	1,171.70	39.33	30.790	
6,000.00	5,837.23	5,849.61	5,775.75	27.08	20.17	-140.68	287.04	749.79	1,235.50	1,195.37	40.12	30.794	
6,100.00	5,934.86	5,947.12	5,871.64	27.44	20.56	-140.79	292.21	766.70	1,257.34	1,216.45	40.89	30.749	
6,200.00	6,033.19	6,045.08	5,967.97	27.75	20.96	-140.77	297.40	783.70	1,276.56	1,234.92	41.63	30.661	
6,300.00	6,132.09	6,155.36	6,076.68	28.02	21.32	-140.64	302.81	801.42	1,292.78	1,250.47	42.30	30.559	
6,400.00	6,231.44	6,269.36	6,189.71	28.25	21.61	-140.53	307.13	815.57	1,305.25	1,262.40	42.86	30.457	
6,500.00	6,331.13	6,384.25	6,304.12	28.43	21.86	-140.45	310.15	825.48	1,313.91	1,270.61	43.31	30.340	
6,600.00	6,431.03	6,499.71	6,419.43	28.57	22.06	-140.41	311.84	831.00	1,318.72	1,275.07	43.65	30.209	
6,673.97	6,505.00	6,585.29	6,505.00	28.66	22.17	0.18	312.21	832.22	1,319.78	1,275.94	43.84	30.102	
6,700.00	6,531.03	6,611.32	6,531.03	28.68	22.21	0.18	312.21	832.22	1,319.78	1,275.87	43.91	30.055	
6,800.00	6,631.03	6,711.32	6,631.03	28.78	22.35	0.18	312.21	832.22	1,319.78	1,275.60	44.18	29.873	
6,900.00	6,731.03	6,811.32	6,731.03	28.87	22.49	0.18	312.21	832.22	1,319.78	1,275.33	44.45	29.691	
7,000.00	6,831.03	6,911.32	6,831.03	28.97	22.63	0.18	312.21	832.22	1,319.78	1,275.06	44.72	29.509	
7,100.00	6,931.03	7,011.32	6,931.03	29.07	22.77	0.18	312.21	832.22	1,319.78	1,274.78	45.00	29.328	
7,200.00	7,031.03	7,111.32	7,031.03	29.17	22.92	0.18	312.21	832.22	1,319.78	1,274.50	45.28	29.148	
7,300.00	7,131.03	7,211.32	7,131.03	29.27	23.06	0.18	312.21	832.22	1,319.78	1,274.22	45.56	28.967	
7,400.00	7,231.03	7,311.32	7,231.03	29.37	23.21	0.18	312.21	832.22	1,319.78	1,273.94	45.85	28.788	
7,500.00	7,331.03	7,411.32	7,331.03	29.48	23.36	0.18	312.21	832.22	1,319.78	1,273.65	46.13	28.608	
7,600.00	7,431.03	7,511.32	7,431.03	29.58	23.51	0.18	312.21	832.22	1,319.78	1,273.36	46.42	28.430	
7,700.00	7,531.03	7,611.32	7,531.03	29.69	23.66	0.18	312.21	832.22	1,319.78	1,273.07	46.71	28.252	
7,800.00	7,631.03	7,711.32	7,631.03	29.80	23.81	0.18	312.21	832.22	1,319.78	1,272.77	47.01	28.075	
7,900.00	7,731.03	7,811.32	7,731.03	29.91	23.97	0.18	312.21	832.22	1,319.78	1,272.48	47.31	27.899	
8,000.00	7,831.03	7,911.32	7,831.03	30.02	24.12	0.18	312.21	832.22	1,319.78	1,272.18	47.61	27.723	
8,100.00	7,931.03	8,011.32	7,931.03	30.13	24.28	0.18	312.21	832.22	1,319.78	1,271.87	47.91	27.549	
8,200.00	8,031.03	8,111.32	8,031.03	30.25	24.43	0.18	312.21	832.22	1,319.78	1,271.57	48.21	27.375	
8,300.00	8,131.03	8,211.32	8,131.03	30.36	24.59	0.18	312.21	832.22	1,319.78	1,271.26	48.52	27.202	
8,400.00	8,231.03	8,311.32	8,231.03	30.48	24.75	0.18	312.21	832.22	1,319.78	1,270.96	48.83	27.030	
8,500.00	8,331.03	8,411.32	8,331.03	30.59	24.91	0.18	312.21	832.22	1,319.78	1,270.64	49.14	26.859	
8,505.26	8,336.29	8,416.58	8,336.29	30.60	24.92	0.18	312.21	832.22	1,319.78	1,270.63	49.15	26.850	
8,523.97	8,355.00	8,425.29	8,345.00	30.62	24.93	0.18	312.21	832.22	1,319.82	1,270.62	49.20	26.828	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN #1 1-15-10													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-38.94	70.30	-56.81	90.38				
100.00	100.00	100.00	100.00	0.10	0.10	-38.94	70.30	-56.81	90.38	90.19	0.19	473.087	
200.00	200.00	200.00	200.00	0.32	0.32	-38.94	70.30	-56.81	90.38	89.74	0.64	141.096	
300.00	300.00	300.00	300.00	0.55	0.55	-38.94	70.30	-56.81	90.38	89.29	1.09	82.912	
400.00	400.00	400.00	400.00	0.77	0.77	-38.94	70.30	-56.81	90.38	88.84	1.54	58.704	
500.00	500.00	500.00	500.00	0.99	0.99	-38.94	70.30	-56.81	90.38	88.39	1.99	45.438	
600.00	600.00	600.00	600.00	1.22	1.22	-38.94	70.30	-56.81	90.38	87.95	2.44	37.062	
700.00	700.00	700.00	700.00	1.44	1.44	-38.94	70.30	-56.81	90.38	87.50	2.89	31.294	
800.00	800.00	800.00	800.00	1.67	1.67	-38.94	70.30	-56.81	90.38	87.05	3.34	27.079	
900.00	900.00	900.00	900.00	1.89	1.89	-38.94	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	-38.94	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	-38.94	70.30	-56.81	90.38	85.92	4.46	20.258 CC, ES	
1,100.00	1,100.00	1,098.56	1,098.56	2.33	2.34	-179.62	70.50	-57.16	91.21	86.55	4.67	19.548	
1,200.00	1,199.93	1,195.35	1,195.29	2.51	2.54	179.66	72.12	-60.01	97.86	92.81	5.04	19.400 SF	
1,300.00	1,299.68	1,291.16	1,290.87	2.70	2.76	178.49	75.30	-65.63	111.14	105.71	5.42	20.493	
1,400.00	1,399.13	1,388.10	1,387.39	2.91	2.98	177.24	79.75	-73.49	130.30	124.50	5.81	22.444	
1,500.00	1,498.15	1,485.44	1,484.30	3.15	3.22	176.35	84.30	-81.52	153.08	146.89	6.19	24.733	
1,600.00	1,596.63	1,581.94	1,580.36	3.43	3.46	175.75	88.81	-89.49	179.26	172.69	6.57	27.280	
1,700.00	1,694.44	1,677.47	1,675.45	3.76	3.70	175.37	93.28	-97.37	208.79	201.84	6.95	30.039	
1,800.00	1,791.46	1,771.91	1,769.47	4.14	3.94	175.14	97.69	-105.17	241.64	234.31	7.33	32.974	
1,830.17	1,820.56	1,800.18	1,797.61	4.27	4.01	175.09	99.01	-107.50	252.19	244.75	7.44	33.891	
1,900.00	1,887.82	1,865.47	1,862.61	4.58	4.18	175.04	102.07	-112.89	276.95	269.20	7.75	35.733	
2,000.00	1,984.13	1,958.97	1,955.69	5.04	4.43	174.97	106.44	-120.61	312.42	304.22	8.20	38.095	
2,100.00	2,080.45	2,052.47	2,048.76	5.52	4.68	174.92	110.81	-128.32	347.88	339.22	8.66	40.178	
2,200.00	2,176.76	2,145.96	2,141.84	6.03	4.93	174.88	115.18	-136.04	383.35	374.23	9.12	42.024	
2,300.00	2,273.08	2,239.46	2,234.92	6.54	5.18	174.85	119.55	-143.76	418.81	409.22	9.59	43.667	
2,400.00	2,369.39	2,332.96	2,328.00	7.06	5.44	174.82	123.92	-151.48	454.28	444.22	10.06	45.138	
2,500.00	2,465.71	2,426.46	2,421.07	7.59	5.69	174.80	128.29	-159.19	489.75	479.21	10.54	46.460	
2,600.00	2,562.02	2,519.96	2,514.15	8.12	5.95	174.78	132.66	-166.91	525.21	514.19	11.02	47.653	
2,700.00	2,658.34	2,613.46	2,607.23	8.66	6.20	174.76	137.03	-174.63	560.68	549.17	11.50	48.734	
2,800.00	2,754.65	2,706.96	2,700.31	9.21	6.46	174.74	141.41	-182.34	596.15	584.15	11.99	49.719	
2,900.00	2,850.97	2,800.46	2,793.38	9.76	6.72	174.73	145.78	-190.06	631.61	619.13	12.48	50.617	
3,000.00	2,947.28	2,893.96	2,886.46	10.31	6.98	174.71	150.15	-197.78	667.08	654.11	12.97	51.441	
3,100.00	3,043.59	2,987.46	2,979.54	10.86	7.24	174.70	154.52	-205.50	702.54	689.08	13.46	52.198	
3,200.00	3,139.91	3,080.96	3,072.62	11.41	7.50	174.69	158.89	-213.21	738.01	724.06	13.95	52.897	
3,300.00	3,236.22	3,174.46	3,165.70	11.97	7.76	174.68	163.26	-220.93	773.48	759.03	14.45	53.542	
3,400.00	3,332.54	3,267.96	3,258.77	12.53	8.02	174.67	167.63	-228.65	808.94	794.00	14.94	54.141	
3,500.00	3,428.85	3,361.46	3,351.85	13.09	8.28	174.67	172.00	-236.36	844.41	828.97	15.44	54.697	
3,600.00	3,525.17	3,454.96	3,444.93	13.65	8.54	174.66	176.37	-244.08	879.88	863.94	15.94	55.216	
3,700.00	3,621.48	3,548.45	3,538.01	14.21	8.81	174.65	180.74	-251.80	915.34	898.91	16.43	55.700	
3,800.00	3,717.80	3,641.95	3,631.08	14.77	9.07	174.65	185.11	-259.52	950.81	933.88	16.93	56.153	
3,900.00	3,814.11	3,735.45	3,724.16	15.34	9.33	174.64	189.49	-267.23	986.27	968.84	17.43	56.578	
4,000.00	3,910.43	3,828.95	3,817.24	15.90	9.59	174.63	193.86	-274.95	1,021.74	1,003.81	17.93	56.977	
4,100.00	4,006.74	3,922.45	3,910.32	16.46	9.86	174.63	198.23	-282.67	1,057.21	1,038.77	18.43	57.352	
4,200.00	4,103.06	4,015.95	4,003.40	17.03	10.12	174.62	202.60	-290.38	1,092.67	1,073.74	18.94	57.706	
4,300.00	4,199.37	4,109.45	4,096.47	17.59	10.38	174.62	206.97	-298.10	1,128.14	1,108.70	19.44	58.041	
4,400.00	4,295.69	4,202.95	4,189.55	18.16	10.65	174.62	211.34	-305.82	1,163.61	1,143.67	19.94	58.357	
4,500.00	4,392.00	4,296.45	4,282.63	18.73	10.91	174.61	215.71	-313.54	1,199.07	1,178.63	20.44	58.656	
4,600.00	4,488.31	4,389.95	4,375.71	19.29	11.18	174.61	220.08	-321.25	1,234.54	1,213.59	20.95	58.939	
4,700.00	4,584.63	4,483.45	4,468.78	19.86	11.44	174.61	224.45	-328.97	1,270.01	1,248.56	21.45	59.209	
4,800.00	4,680.94	4,576.95	4,561.86	20.43	11.70	174.60	228.82	-336.69	1,305.47	1,283.52	21.95	59.465	
4,900.00	4,777.26	4,670.45	4,654.94	21.00	11.97	174.60	233.20	-344.40	1,340.94	1,318.48	22.46	59.709	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,873.57	4,763.95	4,748.02	21.57	12.23	174.60	237.57	-352.12	1,376.41	1,353.44	22.96	59.941	
5,100.00	4,969.89	4,857.45	4,841.10	22.13	12.50	174.59	241.94	-359.84	1,411.87	1,388.40	23.47	60.162	
5,200.00	5,066.20	4,950.94	4,934.17	22.70	12.76	174.59	246.31	-367.56	1,447.34	1,423.37	23.97	60.374	
5,300.00	5,162.52	5,044.44	5,027.25	23.27	13.03	174.59	250.68	-375.27	1,482.81	1,458.33	24.48	60.576	
5,400.00	5,258.83	5,137.94	5,120.33	23.84	13.29	174.59	255.05	-382.99	1,518.27	1,493.29	24.98	60.770	
5,500.00	5,355.15	5,231.44	5,213.41	24.41	13.56	174.58	259.42	-390.71	1,553.74	1,528.25	25.49	60.955	
5,600.00	5,451.46	5,324.94	5,306.48	24.98	13.82	174.58	263.79	-398.42	1,589.20	1,563.21	26.00	61.133	
5,700.00	5,547.78	5,418.44	5,399.56	25.55	14.09	174.58	268.16	-406.14	1,624.67	1,598.17	26.50	61.303	
5,800.00	5,644.09	5,511.94	5,492.64	26.12	14.35	174.58	272.53	-413.86	1,660.14	1,633.13	27.01	61.467	
5,893.80	5,734.44	5,599.65	5,579.95	26.66	14.60	174.58	276.63	-421.10	1,693.41	1,665.92	27.48	61.614	
5,900.00	5,740.41	5,605.44	5,585.72	26.69	14.62	174.58	276.90	-421.58	1,695.60	1,668.07	27.52	61.604	
6,000.00	5,837.23	5,699.61	5,679.46	27.08	14.89	174.64	281.31	-429.35	1,729.23	1,701.09	28.14	61.459	
6,100.00	5,934.86	5,794.89	5,774.31	27.44	15.16	174.68	285.76	-437.21	1,759.57	1,730.86	28.71	61.285	
6,200.00	6,033.19	5,891.16	5,870.15	27.75	15.43	174.70	290.26	-445.16	1,786.58	1,757.33	29.25	61.085	
6,300.00	6,132.09	5,988.32	5,966.87	28.02	15.70	174.71	294.80	-453.18	1,810.23	1,780.49	29.74	60.863	
6,400.00	6,231.44	6,086.22	6,064.33	28.25	15.98	174.70	299.38	-461.26	1,830.49	1,800.29	30.20	60.620	
6,500.00	6,331.13	6,184.77	6,162.44	28.43	16.26	174.67	303.99	-469.39	1,847.34	1,816.73	30.61	60.359	
6,600.00	6,431.03	6,305.32	6,282.46	28.57	16.59	174.61	309.52	-479.16	1,860.68	1,829.67	31.01	60.002	
6,673.97	6,505.00	6,502.91	6,479.78	28.66	16.95	-44.86	314.24	-487.50	1,865.08	1,833.66	31.42	59.351	
6,700.00	6,531.03	6,554.16	6,531.03	28.68	17.03	-44.87	314.38	-487.75	1,865.19	1,833.63	31.56	59.105	
6,800.00	6,631.03	6,654.16	6,631.03	28.78	17.21	-44.87	314.38	-487.75	1,865.19	1,833.27	31.91	58.444	
6,900.00	6,731.03	6,754.16	6,731.03	28.87	17.39	-44.87	314.38	-487.75	1,865.19	1,832.90	32.28	57.780	
7,000.00	6,831.03	6,854.16	6,831.03	28.97	17.58	-44.87	314.38	-487.75	1,865.19	1,832.54	32.65	57.128	
7,100.00	6,931.03	6,954.16	6,931.03	29.07	17.76	-44.87	314.38	-487.75	1,865.19	1,832.17	33.02	56.487	
7,200.00	7,031.03	7,054.16	7,031.03	29.17	17.95	-44.87	314.38	-487.75	1,865.19	1,831.79	33.39	55.857	
7,300.00	7,131.03	7,154.16	7,131.03	29.27	18.14	-44.87	314.38	-487.75	1,865.19	1,831.42	33.77	55.238	
7,400.00	7,231.03	7,254.16	7,231.03	29.37	18.33	-44.87	314.38	-487.75	1,865.19	1,831.04	34.14	54.630	
7,500.00	7,331.03	7,354.16	7,331.03	29.48	18.52	-44.87	314.38	-487.75	1,865.19	1,830.67	34.52	54.033	
7,600.00	7,431.03	7,454.16	7,431.03	29.58	18.71	-44.87	314.38	-487.75	1,865.19	1,830.29	34.90	53.446	
7,700.00	7,531.03	7,554.16	7,531.03	29.69	18.90	-44.87	314.38	-487.75	1,865.19	1,829.91	35.28	52.869	
7,800.00	7,631.03	7,654.16	7,631.03	29.80	19.09	-44.87	314.38	-487.75	1,865.19	1,829.52	35.66	52.302	
7,900.00	7,731.03	7,754.16	7,731.03	29.91	19.28	-44.87	314.38	-487.75	1,865.19	1,829.14	36.05	51.745	
8,000.00	7,831.03	7,854.16	7,831.03	30.02	19.48	-44.87	314.38	-487.75	1,865.19	1,828.75	36.43	51.198	
8,100.00	7,931.03	7,954.16	7,931.03	30.13	19.67	-44.87	314.38	-487.75	1,865.19	1,828.37	36.82	50.661	
8,200.00	8,031.03	8,054.16	8,031.03	30.25	19.86	-44.87	314.38	-487.75	1,865.19	1,827.98	37.21	50.132	
8,300.00	8,131.03	8,154.16	8,131.03	30.36	20.06	-44.87	314.38	-487.75	1,865.19	1,827.59	37.59	49.613	
8,400.00	8,231.03	8,254.16	8,231.03	30.48	20.26	-44.87	314.38	-487.75	1,865.19	1,827.20	37.99	49.103	
8,500.00	8,331.03	8,354.16	8,331.03	30.59	20.45	-44.87	314.38	-487.75	1,865.19	1,826.81	38.38	48.602	
8,523.97	8,355.00	8,378.13	8,355.00	30.62	20.50	-44.87	314.38	-487.75	1,865.19	1,826.71	38.47	48.483	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft) +E/-W (ft)		Distance Between Centres (ft) Between Ellipses (ft)		Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-39.07	38.61	-31.34	49.73					
100.00	100.00	100.00	100.00	0.10	0.10	-39.07	38.61	-31.34	49.73	49.53	0.19	260.274		
200.00	200.00	200.00	200.00	0.32	0.32	-39.07	38.61	-31.34	49.73	49.09	0.64	77.626		
300.00	300.00	300.00	300.00	0.55	0.55	-39.07	38.61	-31.34	49.73	48.64	1.09	45.615		
400.00	400.00	400.00	400.00	0.77	0.77	-39.07	38.61	-31.34	49.73	48.19	1.54	32.297		
500.00	500.00	500.00	500.00	0.99	0.99	-39.07	38.61	-31.34	49.73	47.74	1.99	24.998		
600.00	600.00	600.00	600.00	1.22	1.22	-39.07	38.61	-31.34	49.73	47.29	2.44	20.390		
700.00	700.00	700.00	700.00	1.44	1.44	-39.07	38.61	-31.34	49.73	46.84	2.89	17.217		
800.00	800.00	800.00	800.00	1.67	1.67	-39.07	38.61	-31.34	49.73	46.39	3.34	14.898		
900.00	900.00	900.00	900.00	1.89	1.89	-39.07	38.61	-31.34	49.73	45.94	3.79	13.130		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-39.07	38.61	-31.34	49.73	45.49	4.24	11.736		
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-39.07	38.61	-31.34	49.73	45.26	4.46	11.145 CC, ES		
1,100.00	1,100.00	1,100.38	1,100.37	2.33	2.33	179.88	38.20	-31.53	49.97	45.31	4.66	10.725		
1,200.00	1,199.93	1,201.02	1,200.95	2.51	2.51	176.37	35.00	-33.03	52.05	47.04	5.01	10.392 SF		
1,300.00	1,299.68	1,301.35	1,301.03	2.70	2.69	170.19	28.63	-36.02	56.73	51.36	5.37	10.563		
1,400.00	1,399.13	1,401.16	1,400.28	2.91	2.90	162.74	19.14	-40.46	64.73	58.98	5.75	11.250		
1,500.00	1,498.15	1,500.24	1,498.39	3.15	3.13	155.40	6.63	-46.33	76.62	70.45	6.17	12.411		
1,600.00	1,596.63	1,598.41	1,595.07	3.43	3.40	148.99	-8.78	-53.55	92.64	85.99	6.65	13.929		
1,700.00	1,694.44	1,695.49	1,690.04	3.76	3.70	143.72	-26.96	-62.07	112.78	105.58	7.20	15.663		
1,800.00	1,791.46	1,792.35	1,784.44	4.14	4.05	140.13	-46.64	-71.30	136.53	128.71	7.82	17.456		
1,830.17	1,820.56	1,821.48	1,812.82	4.27	4.16	139.42	-52.56	-74.07	144.26	136.24	8.02	17.989		
1,900.00	1,887.82	1,888.84	1,878.46	4.58	4.42	138.35	-66.25	-80.48	162.48	153.96	8.52	19.079		
2,000.00	1,984.13	1,985.29	1,972.45	5.04	4.80	137.16	-85.84	-89.67	188.64	179.38	9.26	20.371		
2,100.00	2,080.45	2,081.74	2,066.45	5.52	5.20	136.27	-105.44	-98.85	214.86	204.83	10.03	21.414		
2,200.00	2,176.76	2,178.20	2,160.44	6.03	5.61	135.57	-125.04	-108.04	241.11	230.28	10.83	22.262		
2,300.00	2,273.08	2,274.65	2,254.44	6.54	6.03	135.01	-144.64	-117.22	267.40	255.75	11.65	22.960		
2,400.00	2,369.39	2,371.11	2,348.43	7.06	6.45	134.55	-164.23	-126.41	293.70	281.22	12.48	23.540		
2,500.00	2,465.71	2,467.56	2,442.43	7.59	6.88	134.16	-183.83	-135.59	320.02	306.70	13.32	24.027		
2,600.00	2,562.02	2,564.02	2,536.42	8.12	7.32	133.83	-203.43	-144.78	346.34	332.17	14.17	24.441		
2,700.00	2,658.34	2,660.47	2,630.42	8.66	7.75	133.55	-223.03	-153.96	372.68	357.65	15.03	24.794		
2,800.00	2,754.65	2,756.93	2,724.41	9.21	8.20	133.31	-242.62	-163.15	399.03	383.13	15.90	25.100		
2,900.00	2,850.97	2,853.38	2,818.41	9.76	8.64	133.10	-262.22	-172.34	425.38	408.61	16.77	25.366		
3,000.00	2,947.28	2,949.83	2,912.40	10.31	9.09	132.91	-281.82	-181.52	451.73	434.09	17.65	25.599		
3,100.00	3,043.59	3,046.29	3,006.40	10.86	9.54	132.74	-301.41	-190.71	478.09	459.56	18.53	25.805		
3,200.00	3,139.91	3,142.74	3,100.39	11.41	9.99	132.59	-321.01	-199.89	504.45	485.04	19.41	25.988		
3,300.00	3,236.22	3,239.20	3,194.39	11.97	10.44	132.45	-340.61	-209.08	530.82	510.52	20.30	26.152		
3,400.00	3,332.54	3,335.65	3,288.38	12.53	10.90	132.33	-360.21	-218.26	557.19	536.00	21.19	26.299		
3,500.00	3,428.85	3,432.11	3,382.38	13.09	11.35	132.22	-379.80	-227.45	583.56	561.48	22.08	26.433		
3,600.00	3,525.17	3,528.56	3,476.37	13.65	11.81	132.12	-399.40	-236.63	609.93	586.96	22.97	26.554		
3,700.00	3,621.48	3,625.01	3,570.36	14.21	12.26	132.02	-419.00	-245.82	636.30	612.44	23.86	26.665		
3,800.00	3,717.80	3,721.47	3,664.36	14.77	12.72	131.94	-438.60	-255.00	662.68	637.92	24.76	26.766		
3,900.00	3,814.11	3,817.92	3,758.35	15.34	13.18	131.86	-458.19	-264.19	689.06	663.40	25.65	26.859		
4,000.00	3,910.43	3,914.38	3,852.35	15.90	13.64	131.79	-477.79	-273.37	715.43	688.88	26.55	26.946		
4,100.00	4,006.74	4,010.83	3,946.34	16.46	14.10	131.72	-497.39	-282.56	741.81	714.37	27.45	27.026		
4,200.00	4,103.06	4,107.29	4,040.34	17.03	14.56	131.65	-516.99	-291.74	768.19	739.85	28.35	27.100		
4,300.00	4,199.37	4,203.74	4,134.33	17.59	15.02	131.59	-536.58	-300.93	794.57	765.33	29.24	27.170		
4,400.00	4,295.69	4,300.20	4,228.33	18.16	15.48	131.54	-556.18	-310.11	820.96	790.81	30.14	27.235		
4,500.00	4,392.00	4,396.65	4,322.32	18.73	15.94	131.49	-575.78	-319.30	847.34	816.29	31.04	27.296		
4,600.00	4,488.31	4,493.10	4,416.32	19.29	16.41	131.44	-595.38	-328.48	873.72	841.78	31.94	27.354		
4,700.00	4,584.63	4,589.56	4,510.31	19.86	16.87	131.39	-614.97	-337.67	900.10	867.26	32.84	27.408		
4,800.00	4,680.94	4,686.01	4,604.31	20.43	17.33	131.35	-634.57	-346.85	926.49	892.75	33.74	27.459		
4,900.00	4,777.26	4,782.47	4,698.30	21.00	17.80	131.31	-654.17	-356.04	952.87	918.23	34.64	27.508		

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,873.57	4,878.92	4,792.30	21.57	18.26	131.27	-673.77	-365.22	979.26	943.72	35.54	27.555	
5,100.00	4,969.89	4,975.38	4,886.29	22.13	18.72	131.23	-693.36	-374.41	1,005.64	969.20	36.44	27.599	
5,200.00	5,066.20	5,071.83	4,980.29	22.70	19.19	131.20	-712.96	-383.59	1,032.03	994.69	37.34	27.641	
5,300.00	5,162.52	5,168.29	5,074.28	23.27	19.65	131.16	-732.56	-392.78	1,058.41	1,020.18	38.24	27.681	
5,400.00	5,258.83	5,264.74	5,168.28	23.84	20.11	131.13	-752.16	-401.96	1,084.80	1,045.66	39.13	27.720	
5,500.00	5,355.15	5,361.19	5,262.27	24.41	20.58	131.10	-771.75	-411.15	1,111.18	1,071.15	40.03	27.757	
5,600.00	5,451.46	5,457.65	5,356.27	24.98	21.04	131.07	-791.35	-420.33	1,137.57	1,096.64	40.93	27.792	
5,700.00	5,547.78	5,554.10	5,450.26	25.55	21.51	131.05	-810.95	-429.52	1,163.96	1,122.13	41.83	27.827	
5,800.00	5,644.09	5,650.56	5,544.26	26.12	21.97	131.02	-830.54	-438.70	1,190.34	1,147.62	42.73	27.860	
5,893.80	5,734.44	5,741.04	5,632.43	26.66	22.41	131.00	-848.93	-447.32	1,215.10	1,171.53	43.57	27.890	
5,900.00	5,740.41	5,747.01	5,638.25	26.69	22.44	131.02	-850.14	-447.89	1,216.73	1,173.10	43.62	27.891	
6,000.00	5,837.23	5,843.78	5,732.55	27.08	22.91	131.32	-869.80	-457.10	1,241.87	1,197.40	44.46	27.930	
6,100.00	5,934.86	5,941.00	5,827.30	27.44	23.37	131.46	-889.56	-466.36	1,264.78	1,219.51	45.28	27.935	
6,200.00	6,033.19	6,048.66	5,932.34	27.75	23.81	131.44	-910.90	-476.37	1,285.28	1,239.26	46.02	27.927	
6,300.00	6,132.09	6,167.81	6,049.45	28.02	24.17	131.37	-930.76	-485.67	1,302.18	1,255.52	46.66	27.911	
6,400.00	6,231.44	6,288.30	6,168.69	28.25	24.48	131.32	-946.33	-492.97	1,315.22	1,268.02	47.19	27.868	
6,500.00	6,331.13	6,409.80	6,289.56	28.43	24.74	131.27	-957.43	-498.17	1,324.34	1,276.70	47.63	27.802	
6,600.00	6,431.03	6,531.96	6,411.50	28.57	24.94	131.24	-963.89	-501.20	1,329.50	1,281.53	47.97	27.714	
6,673.97	6,505.00	6,622.55	6,502.07	28.66	25.05	-88.19	-965.65	-502.02	1,330.75	1,282.58	48.18	27.623	
6,700.00	6,531.03	6,651.51	6,531.03	28.68	25.09	-88.20	-965.69	-502.04	1,330.77	1,282.53	48.24	27.586	
6,800.00	6,631.03	6,751.51	6,631.03	28.78	25.20	-88.20	-965.69	-502.04	1,330.77	1,282.31	48.46	27.461	
6,900.00	6,731.03	6,851.51	6,731.03	28.87	25.30	-88.20	-965.69	-502.04	1,330.77	1,282.09	48.68	27.338	
7,000.00	6,831.03	6,951.51	6,831.03	28.97	25.40	-88.20	-965.69	-502.04	1,330.77	1,281.87	48.90	27.216	
7,100.00	6,931.03	7,051.51	6,931.03	29.07	25.51	-88.20	-965.69	-502.04	1,330.77	1,281.65	49.12	27.092	
7,200.00	7,031.03	7,151.51	7,031.03	29.17	25.62	-88.20	-965.69	-502.04	1,330.77	1,281.42	49.35	26.968	
7,300.00	7,131.03	7,251.51	7,131.03	29.27	25.73	-88.20	-965.69	-502.04	1,330.77	1,281.19	49.58	26.843	
7,400.00	7,231.03	7,351.51	7,231.03	29.37	25.84	-88.20	-965.69	-502.04	1,330.77	1,280.96	49.81	26.718	
7,500.00	7,331.03	7,451.51	7,331.03	29.48	25.95	-88.20	-965.69	-502.04	1,330.77	1,280.73	50.04	26.593	
7,600.00	7,431.03	7,551.51	7,431.03	29.58	26.07	-88.20	-965.69	-502.04	1,330.77	1,280.49	50.28	26.467	
7,700.00	7,531.03	7,651.51	7,531.03	29.69	26.18	-88.20	-965.69	-502.04	1,330.77	1,280.25	50.52	26.341	
7,800.00	7,631.03	7,751.51	7,631.03	29.80	26.30	-88.20	-965.69	-502.04	1,330.77	1,280.00	50.76	26.214	
7,900.00	7,731.03	7,851.51	7,731.03	29.91	26.42	-88.20	-965.69	-502.04	1,330.77	1,279.76	51.01	26.088	
8,000.00	7,831.03	7,951.51	7,831.03	30.02	26.54	-88.20	-965.69	-502.04	1,330.77	1,279.51	51.26	25.961	
8,100.00	7,931.03	8,051.51	7,931.03	30.13	26.66	-88.20	-965.69	-502.04	1,330.77	1,279.26	51.51	25.834	
8,200.00	8,031.03	8,151.51	8,031.03	30.25	26.78	-88.20	-965.69	-502.04	1,330.77	1,279.00	51.77	25.707	
8,300.00	8,131.03	8,251.51	8,131.03	30.36	26.90	-88.20	-965.69	-502.04	1,330.77	1,278.74	52.02	25.580	
8,400.00	8,231.03	8,351.51	8,231.03	30.48	27.03	-88.20	-965.69	-502.04	1,330.77	1,278.48	52.28	25.452	
8,500.00	8,331.03	8,451.51	8,331.03	30.59	27.15	-88.20	-965.69	-502.04	1,330.77	1,278.22	52.55	25.325	
8,505.26	8,336.29	8,456.77	8,336.29	30.60	27.16	-88.20	-965.69	-502.04	1,330.77	1,278.21	52.56	25.319	
8,523.97	8,355.00	8,465.48	8,345.00	30.62	27.17	-88.20	-965.69	-502.04	1,330.81	1,278.21	52.60	25.302	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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	142.44	-8.01	6.16	10.10				
100.00	100.00	100.00	100.00	0.10	0.10	142.44	-8.01	6.16	10.10	9.91	0.19	52.861	
200.00	200.00	200.00	200.00	0.32	0.32	142.44	-8.01	6.16	10.10	9.46	0.64	15.766	
300.00	300.00	300.00	300.00	0.55	0.55	142.44	-8.01	6.16	10.10	9.01	1.09	9.264	
400.00	400.00	400.00	400.00	0.77	0.77	142.44	-8.01	6.16	10.10	8.56	1.54	6.559	
500.00	500.00	500.00	500.00	0.99	0.99	142.44	-8.01	6.16	10.10	8.11	1.99	5.077	
600.00	600.00	600.00	600.00	1.22	1.22	142.44	-8.01	6.16	10.10	7.66	2.44	4.141	
700.00	700.00	700.00	700.00	1.44	1.44	142.44	-8.01	6.16	10.10	7.21	2.89	3.497	
800.00	800.00	800.00	800.00	1.67	1.67	142.44	-8.01	6.16	10.10	6.76	3.34	3.026	
900.00	900.00	900.00	900.00	1.89	1.89	142.44	-8.01	6.16	10.10	6.31	3.79	2.667	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	142.44	-8.01	6.16	10.10	5.86	4.24	2.384	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	142.44	-8.01	6.16	10.10	5.64	4.46	2.264	
1,100.00	1,100.00	1,099.84	1,099.84	2.33	2.33	0.98	-8.22	6.53	10.07	5.40	4.66	2.159	
1,200.00	1,199.93	1,199.50	1,199.43	2.51	2.52	-6.21	-9.93	9.55	9.88	4.86	5.02	1.968	
1,238.50	1,238.37	1,237.87	1,237.73	2.58	2.60	-10.98	-11.05	11.51	9.85	4.68	5.16	1.907 CC	
1,300.00	1,299.68	1,299.13	1,298.81	2.70	2.72	-20.78	-13.36	15.57	9.99	4.60	5.39	1.855 ES, SF	
1,400.00	1,399.13	1,398.70	1,397.84	2.91	2.94	-40.06	-18.48	24.58	11.27	5.49	5.78	1.950	
1,500.00	1,498.15	1,498.19	1,496.36	3.15	3.18	-57.77	-25.30	36.57	14.42	8.17	6.25	2.308	
1,600.00	1,596.63	1,597.57	1,594.24	3.43	3.47	-70.42	-33.80	51.51	19.49	12.69	6.81	2.864	
1,700.00	1,694.44	1,696.83	1,691.35	3.76	3.79	-78.66	-43.95	69.36	26.27	18.81	7.46	3.520	
1,800.00	1,791.46	1,795.94	1,787.54	4.14	4.17	-84.02	-55.74	90.10	34.54	26.32	8.22	4.200	
1,830.17	1,820.56	1,825.81	1,816.36	4.27	4.30	-85.26	-59.62	96.91	37.31	28.83	8.48	4.399	
1,900.00	1,887.82	1,894.89	1,882.70	4.58	4.61	-86.65	-69.15	113.67	44.23	35.14	9.09	4.867	
2,000.00	1,984.13	1,993.56	1,976.60	5.04	5.12	-85.23	-84.13	140.01	55.33	45.33	10.01	5.529	
2,100.00	2,080.45	2,091.74	2,068.93	5.52	5.70	-81.71	-100.61	168.99	68.01	57.06	10.96	6.206	
2,200.00	2,176.76	2,189.18	2,159.39	6.03	6.34	-77.30	-118.51	200.46	82.66	70.75	11.91	6.941	
2,300.00	2,273.08	2,285.68	2,247.72	6.54	7.04	-72.70	-137.72	234.24	99.64	86.80	12.83	7.765	
2,400.00	2,369.39	2,382.34	2,335.00	7.06	7.82	-68.35	-158.24	270.34	118.99	105.26	13.72	8.671	
2,500.00	2,465.71	2,480.02	2,423.03	7.59	8.63	-65.07	-179.17	307.15	139.12	124.50	14.62	9.517	
2,600.00	2,562.02	2,577.70	2,511.06	8.12	9.45	-62.62	-200.11	343.95	159.59	144.07	15.52	10.282	
2,700.00	2,658.34	2,675.39	2,599.09	8.66	10.29	-60.73	-221.04	380.76	180.27	163.84	16.43	10.971	
2,800.00	2,754.65	2,773.07	2,687.12	9.21	11.14	-59.22	-241.97	417.57	201.10	183.75	17.35	11.591	
2,900.00	2,850.97	2,870.75	2,775.15	9.76	12.00	-58.00	-262.90	454.38	222.04	203.77	18.28	12.150	
3,000.00	2,947.28	2,968.44	2,863.18	10.31	12.86	-56.99	-283.84	491.18	243.06	223.85	19.21	12.655	
3,100.00	3,043.59	3,066.12	2,951.20	10.86	13.73	-56.14	-304.77	527.99	264.14	244.00	20.14	13.113	
3,200.00	3,139.91	3,163.81	3,039.23	11.41	14.60	-55.42	-325.70	564.80	285.27	264.19	21.08	13.530	
3,300.00	3,236.22	3,261.49	3,127.26	11.97	15.48	-54.79	-346.63	601.61	306.44	284.41	22.03	13.910	
3,400.00	3,332.54	3,359.17	3,215.29	12.53	16.35	-54.25	-367.56	638.41	327.63	304.65	22.98	14.259	
3,500.00	3,428.85	3,456.86	3,303.32	13.09	17.23	-53.77	-388.50	675.22	348.85	324.92	23.93	14.579	
3,600.00	3,525.17	3,554.54	3,391.35	13.65	18.12	-53.35	-409.43	712.03	370.09	345.21	24.88	14.874	
3,700.00	3,621.48	3,652.22	3,479.38	14.21	19.00	-52.97	-430.36	748.84	391.35	365.51	25.84	15.146	
3,800.00	3,717.80	3,749.91	3,567.41	14.77	19.89	-52.63	-451.29	785.64	412.63	385.83	26.80	15.399	
3,900.00	3,814.11	3,847.59	3,655.44	15.34	20.77	-52.33	-472.22	822.45	433.91	406.15	27.76	15.633	
4,000.00	3,910.43	3,945.27	3,743.47	15.90	21.66	-52.05	-493.16	859.26	455.21	426.49	28.72	15.852	
4,100.00	4,006.74	4,042.96	3,831.50	16.46	22.55	-51.80	-514.09	896.07	476.51	446.83	29.68	16.056	
4,200.00	4,103.06	4,140.64	3,919.53	17.03	23.44	-51.57	-535.02	932.87	497.83	467.18	30.64	16.247	
4,300.00	4,199.37	4,238.33	4,007.55	17.59	24.33	-51.36	-555.95	969.68	519.15	487.54	31.61	16.426	
4,400.00	4,295.69	4,336.01	4,095.58	18.16	25.22	-51.16	-576.88	1,006.49	540.47	507.90	32.57	16.594	
4,500.00	4,392.00	4,433.69	4,183.61	18.73	26.11	-50.98	-597.82	1,043.30	561.80	528.27	33.54	16.752	
4,600.00	4,488.31	4,531.38	4,271.64	19.29	27.01	-50.82	-618.75	1,080.10	583.14	548.64	34.50	16.902	
4,700.00	4,584.63	4,629.06	4,359.67	19.86	27.90	-50.66	-639.68	1,116.91	604.48	569.01	35.47	17.043	
4,800.00	4,680.94	4,726.74	4,447.70	20.43	28.79	-50.52	-660.61	1,153.72	625.83	589.39	36.43	17.177	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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 15-3 - P_KERR-MCGEE 15-3 - 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
4,900.00	4,777.26	4,824.43	4,535.73	21.00	29.69	-50.38	-681.54	1,190.53	647.18	609.78	37.40	17.303	
5,000.00	4,873.57	4,922.11	4,623.76	21.57	30.58	-50.25	-702.48	1,227.33	668.53	630.16	38.37	17.424	
5,100.00	4,969.89	5,019.79	4,711.79	22.13	31.48	-50.14	-723.41	1,264.14	689.88	650.55	39.34	17.538	
5,200.00	5,066.20	5,117.48	4,799.82	22.70	32.37	-50.02	-744.34	1,300.95	711.24	670.94	40.30	17.647	
5,300.00	5,162.52	5,215.16	4,887.85	23.27	33.27	-49.92	-765.27	1,337.76	732.60	691.33	41.27	17.751	
5,400.00	5,258.83	5,312.84	4,975.88	23.84	34.16	-49.82	-786.20	1,374.56	753.96	711.72	42.24	17.850	
5,500.00	5,355.15	5,410.53	5,063.90	24.41	35.06	-49.73	-807.14	1,411.37	775.33	732.12	43.21	17.944	
5,600.00	5,451.46	5,508.21	5,151.93	24.98	35.96	-49.64	-828.07	1,448.18	796.69	752.52	44.18	18.035	
5,700.00	5,547.78	5,605.90	5,239.96	25.55	36.85	-49.56	-849.00	1,484.99	818.06	772.92	45.14	18.121	
5,800.00	5,644.09	5,703.58	5,327.99	26.12	37.75	-49.48	-869.93	1,521.79	839.43	793.32	46.11	18.205	
5,893.80	5,734.44	5,795.21	5,410.57	26.66	38.59	-49.40	-889.57	1,556.32	859.48	812.46	47.02	18.280	
5,900.00	5,740.41	5,801.26	5,416.02	26.69	38.65	-49.42	-890.86	1,558.60	860.81	813.73	47.08	18.283	
6,000.00	5,837.23	5,898.63	5,503.77	27.08	39.54	-49.60	-911.73	1,595.29	883.42	835.46	47.97	18.417	
6,100.00	5,934.86	5,995.36	5,590.94	27.44	40.43	-49.66	-932.46	1,631.74	908.26	859.52	48.74	18.635	
6,200.00	6,033.19	6,091.33	5,677.42	27.75	41.31	-49.60	-953.02	1,667.90	935.32	885.92	49.40	18.934	
6,300.00	6,132.09	6,186.43	5,763.12	28.02	42.18	-49.45	-973.40	1,703.73	964.63	914.68	49.95	19.312	
6,400.00	6,231.44	6,280.53	5,847.92	28.25	43.05	-49.22	-993.57	1,739.19	996.23	945.83	50.40	19.768	
6,500.00	6,331.13	6,373.53	5,931.73	28.43	43.90	-48.93	-1,013.49	1,774.23	1,030.15	979.41	50.75	20.300	
6,600.00	6,431.03	6,496.79	6,043.46	28.57	44.92	-48.29	-1,039.22	1,819.47	1,065.52	1,014.62	50.90	20.932	
6,673.97	6,505.00	6,600.64	6,139.21	28.66	45.60	92.87	-1,059.09	1,854.41	1,090.79	1,039.92	50.88	21.440	
6,700.00	6,531.03	6,637.73	6,173.75	28.68	45.82	93.21	-1,065.77	1,866.15	1,099.39	1,048.58	50.81	21.639	
6,800.00	6,631.03	6,783.63	6,311.24	28.78	46.65	94.36	-1,089.88	1,908.55	1,129.81	1,079.15	50.67	22.298	
6,900.00	6,731.03	6,934.54	6,455.88	28.87	47.37	95.29	-1,111.14	1,945.94	1,155.89	1,105.27	50.62	22.834	
7,000.00	6,831.03	7,089.85	6,606.87	28.97	47.99	96.03	-1,129.07	1,977.46	1,177.33	1,126.68	50.66	23.241	
7,100.00	6,931.03	7,248.81	6,763.21	29.07	48.48	96.59	-1,143.19	2,002.30	1,193.90	1,143.13	50.76	23.519	
7,200.00	7,031.03	7,410.52	6,923.65	29.17	48.86	96.96	-1,153.15	2,019.81	1,205.39	1,154.46	50.93	23.666	
7,300.00	7,131.03	7,574.03	7,086.76	29.27	49.10	97.17	-1,158.65	2,029.47	1,211.68	1,160.52	51.16	23.686	
7,400.00	7,231.03	7,718.33	7,231.03	29.37	49.22	97.21	-1,159.75	2,031.42	1,212.94	1,161.52	51.42	23.590	
7,500.00	7,331.03	7,818.33	7,331.03	29.48	49.29	97.21	-1,159.75	2,031.42	1,212.94	1,161.29	51.65	23.485	
7,600.00	7,431.03	7,918.33	7,431.03	29.58	49.35	97.21	-1,159.75	2,031.42	1,212.94	1,161.06	51.88	23.380	
7,700.00	7,531.03	8,018.33	7,531.03	29.69	49.42	97.21	-1,159.75	2,031.42	1,212.94	1,160.83	52.11	23.275	
7,800.00	7,631.03	8,118.33	7,631.03	29.80	49.49	97.21	-1,159.75	2,031.42	1,212.94	1,160.59	52.35	23.170	
7,900.00	7,731.03	8,218.33	7,731.03	29.91	49.56	97.21	-1,159.75	2,031.42	1,212.94	1,160.35	52.59	23.064	
8,000.00	7,831.03	8,318.33	7,831.03	30.02	49.63	97.21	-1,159.75	2,031.42	1,212.94	1,160.11	52.83	22.958	
8,100.00	7,931.03	8,418.33	7,931.03	30.13	49.70	97.21	-1,159.75	2,031.42	1,212.94	1,159.86	53.08	22.852	
8,200.00	8,031.03	8,518.33	8,031.03	30.25	49.78	97.21	-1,159.75	2,031.42	1,212.94	1,159.61	53.33	22.746	
8,300.00	8,131.03	8,618.33	8,131.03	30.36	49.85	97.21	-1,159.75	2,031.42	1,212.94	1,159.36	53.58	22.639	
8,400.00	8,231.03	8,718.33	8,231.03	30.48	49.93	97.21	-1,159.75	2,031.42	1,212.94	1,159.11	53.83	22.533	
8,500.00	8,331.03	8,818.33	8,331.03	30.59	50.00	97.21	-1,159.75	2,031.42	1,212.94	1,158.85	54.09	22.426	
8,523.97	8,355.00	8,842.30	8,355.00	30.62	50.02	97.21	-1,159.75	2,031.42	1,212.94	1,158.79	54.15	22.401	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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
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	-38.80	15.66	-12.59	20.10				
100.00	100.00	100.00	100.00	0.10	0.10	-38.80	15.66	-12.59	20.10	19.91	0.19	105.197	
200.00	200.00	200.00	200.00	0.32	0.32	-38.80	15.66	-12.59	20.10	19.46	0.64	31.375	
300.00	300.00	300.00	300.00	0.55	0.55	-38.80	15.66	-12.59	20.10	19.01	1.09	18.437	
400.00	400.00	400.00	400.00	0.77	0.77	-38.80	15.66	-12.59	20.10	18.56	1.54	13.054	
500.00	500.00	500.00	500.00	0.99	0.99	-38.80	15.66	-12.59	20.10	18.11	1.99	10.104	
600.00	600.00	600.00	600.00	1.22	1.22	-38.80	15.66	-12.59	20.10	17.66	2.44	8.241	
700.00	700.00	700.00	700.00	1.44	1.44	-38.80	15.66	-12.59	20.10	17.21	2.89	6.959	
800.00	800.00	800.00	800.00	1.67	1.67	-38.80	15.66	-12.59	20.10	16.76	3.34	6.021	
900.00	900.00	900.00	900.00	1.89	1.89	-38.80	15.66	-12.59	20.10	16.31	3.79	5.307	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.80	15.66	-12.59	20.10	15.86	4.24	4.744	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-38.80	15.66	-12.59	20.10	15.64	4.46	4.505 CC	
1,100.00	1,100.00	1,100.35	1,100.34	2.33	2.33	-179.66	15.27	-12.39	20.10	15.45	4.66	4.315	
1,200.00	1,199.93	1,201.03	1,200.96	2.51	2.51	178.14	12.11	-10.80	20.18	15.17	5.01	4.028 ES	
1,300.00	1,299.68	1,301.50	1,301.19	2.70	2.70	173.95	5.96	-7.70	20.56	15.19	5.37	3.830 SF	
1,400.00	1,399.13	1,401.43	1,400.83	2.91	2.90	170.63	-0.93	-4.23	23.70	17.96	5.73	4.132	
1,500.00	1,498.15	1,501.21	1,500.30	3.15	3.11	169.43	-7.80	-0.76	30.31	24.20	6.11	4.962	
1,600.00	1,596.63	1,600.70	1,599.49	3.43	3.33	169.62	-14.66	2.69	40.36	33.87	6.49	6.217	
1,700.00	1,694.44	1,699.78	1,698.28	3.76	3.55	170.37	-21.48	6.14	53.81	46.94	6.88	7.826	
1,800.00	1,791.46	1,798.34	1,796.55	4.14	3.79	171.25	-28.27	9.56	70.68	63.42	7.26	9.731	
1,830.17	1,820.56	1,827.95	1,826.07	4.27	3.86	171.51	-30.31	10.59	76.44	69.06	7.38	10.356	
1,900.00	1,887.82	1,896.42	1,894.34	4.58	4.02	172.05	-35.03	12.96	90.14	82.44	7.69	11.716	
2,000.00	1,984.13	1,994.47	1,992.10	5.04	4.26	172.59	-41.78	16.37	109.76	101.61	8.15	13.467	
2,100.00	2,080.45	2,092.52	2,089.86	5.52	4.50	172.96	-48.54	19.78	129.38	120.77	8.61	15.019	
2,200.00	2,176.76	2,190.58	2,187.62	6.03	4.74	173.24	-55.29	23.18	149.01	139.93	9.09	16.400	
2,300.00	2,273.08	2,288.63	2,285.38	6.54	4.99	173.45	-62.05	26.59	168.64	159.08	9.56	17.633	
2,400.00	2,369.39	2,386.68	2,383.14	7.06	5.23	173.62	-68.80	29.99	188.28	178.23	10.05	18.740	
2,500.00	2,465.71	2,484.73	2,480.90	7.59	5.48	173.76	-75.56	33.40	207.91	197.38	10.53	19.738	
2,600.00	2,562.02	2,582.78	2,578.66	8.12	5.73	173.87	-82.31	36.80	227.55	216.52	11.02	20.640	
2,700.00	2,658.34	2,680.84	2,676.42	8.66	5.99	173.96	-89.06	40.21	247.19	235.67	11.52	21.460	
2,800.00	2,754.65	2,778.89	2,774.18	9.21	6.24	174.04	-95.82	43.61	266.82	254.81	12.02	22.207	
2,900.00	2,850.97	2,876.94	2,871.94	9.76	6.49	174.11	-102.57	47.02	286.46	273.95	12.51	22.890	
3,000.00	2,947.28	2,974.99	2,969.70	10.31	6.75	174.18	-109.33	50.43	306.10	293.08	13.02	23.516	
3,100.00	3,043.59	3,073.05	3,067.46	10.86	7.01	174.23	-116.08	53.83	325.74	312.22	13.52	24.093	
3,200.00	3,139.91	3,171.10	3,165.22	11.41	7.26	174.28	-122.84	57.24	345.38	331.35	14.03	24.625	
3,300.00	3,236.22	3,269.15	3,262.98	11.97	7.52	174.32	-129.59	60.64	365.02	350.48	14.53	25.118	
3,400.00	3,332.54	3,367.20	3,360.74	12.53	7.78	174.36	-136.35	64.05	384.65	369.61	15.04	25.575	
3,500.00	3,428.85	3,465.26	3,458.50	13.09	8.04	174.39	-143.10	67.45	404.29	388.74	15.55	26.000	
3,600.00	3,525.17	3,563.31	3,556.26	13.65	8.30	174.42	-149.86	70.86	423.93	407.87	16.06	26.396	
3,700.00	3,621.48	3,661.36	3,654.02	14.21	8.56	174.45	-156.61	74.26	443.57	427.00	16.57	26.767	
3,800.00	3,717.80	3,759.41	3,751.78	14.77	8.82	174.48	-163.37	77.67	463.21	446.13	17.08	27.113	
3,900.00	3,814.11	3,857.46	3,849.54	15.34	9.08	174.50	-170.12	81.08	482.85	465.25	17.60	27.439	
4,000.00	3,910.43	3,955.52	3,947.30	15.90	9.34	174.52	-176.87	84.48	502.49	484.38	18.11	27.744	
4,100.00	4,006.74	4,053.57	4,045.06	16.46	9.60	174.54	-183.63	87.89	522.13	503.50	18.63	28.032	
4,200.00	4,103.06	4,151.62	4,142.82	17.03	9.86	174.56	-190.38	91.29	541.77	522.63	19.14	28.303	
4,300.00	4,199.37	4,249.67	4,240.58	17.59	10.12	174.58	-197.14	94.70	561.41	541.75	19.66	28.559	
4,400.00	4,295.69	4,347.73	4,338.34	18.16	10.38	174.59	-203.89	98.10	581.05	560.88	20.17	28.801	
4,500.00	4,392.00	4,445.78	4,436.10	18.73	10.65	174.61	-210.65	101.51	600.69	580.00	20.69	29.031	
4,600.00	4,488.31	4,543.83	4,533.86	19.29	10.91	174.62	-217.40	104.91	620.33	599.12	21.21	29.248	
4,700.00	4,584.63	4,641.88	4,631.62	19.86	11.17	174.64	-224.16	108.32	639.97	618.24	21.73	29.455	
4,800.00	4,680.94	4,739.93	4,729.38	20.43	11.43	174.65	-230.91	111.73	659.61	637.36	22.25	29.651	
4,900.00	4,777.26	4,837.99	4,827.14	21.00	11.70	174.66	-237.67	115.13	679.25	656.49	22.76	29.838	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,873.57	4,936.04	4,924.90	21.57	11.96	174.67	-244.42	118.54	698.89	675.61	23.28	30.017	
5,100.00	4,969.89	5,034.09	5,022.66	22.13	12.22	174.68	-251.18	121.94	718.53	694.73	23.80	30.187	
5,200.00	5,066.20	5,132.14	5,120.42	22.70	12.49	174.69	-257.93	125.35	738.17	713.85	24.32	30.349	
5,300.00	5,162.52	5,230.20	5,218.18	23.27	12.75	174.70	-264.69	128.75	757.81	732.97	24.84	30.504	
5,400.00	5,258.83	5,328.25	5,315.94	23.84	13.01	174.71	-271.44	132.16	777.45	752.09	25.36	30.653	
5,500.00	5,355.15	5,426.30	5,413.70	24.41	13.28	174.72	-278.19	135.56	797.09	771.21	25.88	30.795	
5,600.00	5,451.46	5,524.35	5,511.46	24.98	13.54	174.73	-284.95	138.97	816.73	790.33	26.40	30.932	
5,700.00	5,547.78	5,622.41	5,609.22	25.55	13.80	174.74	-291.70	142.37	836.37	809.45	26.93	31.063	
5,800.00	5,644.09	5,720.46	5,706.98	26.12	14.07	174.74	-298.46	145.78	856.01	828.57	27.45	31.188	
5,893.80	5,734.44	5,812.43	5,798.68	26.66	14.32	174.75	-304.79	148.97	874.44	846.50	27.94	31.302	
5,900.00	5,740.41	5,818.51	5,804.74	26.69	14.33	174.75	-305.21	149.19	875.65	847.67	27.97	31.303	
6,000.00	5,837.23	5,916.92	5,902.86	27.08	14.60	174.78	-311.99	152.60	893.37	864.82	28.54	31.300	
6,100.00	5,934.86	6,015.89	6,001.53	27.44	14.86	174.78	-318.81	156.04	907.66	878.58	29.07	31.222	
6,200.00	6,033.19	6,115.29	6,100.64	27.75	15.13	174.76	-325.66	159.49	918.50	888.94	29.56	31.074	
6,300.00	6,132.09	6,215.01	6,200.06	28.02	15.40	174.71	-332.53	162.96	925.88	895.87	30.00	30.859	
6,400.00	6,231.44	6,311.23	6,295.99	28.25	15.66	174.64	-339.16	166.30	929.80	899.40	30.39	30.591	
6,500.00	6,331.13	6,400.00	6,384.59	28.43	15.86	174.58	-344.05	168.76	931.66	900.96	30.70	30.351	
6,600.00	6,431.03	6,466.80	6,451.35	28.57	15.98	174.55	-346.11	169.80	932.46	901.57	30.88	30.194	
6,673.97	6,505.00	6,523.30	6,507.84	28.66	16.07	-44.88	-346.77	170.14	932.49	901.48	31.01	30.069	
6,690.07	6,521.10	6,536.56	6,521.10	28.67	16.10	-44.88	-346.78	170.14	932.47	901.41	31.06	30.018	
6,700.00	6,531.03	6,546.49	6,531.03	28.68	16.12	-44.88	-346.78	170.14	932.47	901.37	31.10	29.983	
6,800.00	6,631.03	6,646.49	6,631.03	28.78	16.28	-44.88	-346.78	170.14	932.47	901.02	31.45	29.652	
6,900.00	6,731.03	6,746.49	6,731.03	28.87	16.45	-44.88	-346.78	170.14	932.47	900.68	31.79	29.336	
7,000.00	6,831.03	6,846.49	6,831.03	28.97	16.61	-44.88	-346.78	170.14	932.47	900.34	32.13	29.023	
7,100.00	6,931.03	6,946.49	6,931.03	29.07	16.77	-44.88	-346.78	170.14	932.47	900.00	32.47	28.715	
7,200.00	7,031.03	7,046.49	7,031.03	29.17	16.94	-44.88	-346.78	170.14	932.47	899.65	32.82	28.411	
7,300.00	7,131.03	7,146.49	7,131.03	29.27	17.11	-44.88	-346.78	170.14	932.47	899.30	33.17	28.111	
7,400.00	7,231.03	7,246.49	7,231.03	29.37	17.28	-44.88	-346.78	170.14	932.47	898.95	33.52	27.816	
7,500.00	7,331.03	7,346.49	7,331.03	29.48	17.45	-44.88	-346.78	170.14	932.47	898.59	33.88	27.525	
7,600.00	7,431.03	7,446.49	7,431.03	29.58	17.62	-44.88	-346.78	170.14	932.47	898.24	34.23	27.238	
7,700.00	7,531.03	7,546.49	7,531.03	29.69	17.79	-44.88	-346.78	170.14	932.47	897.88	34.59	26.956	
7,800.00	7,631.03	7,646.49	7,631.03	29.80	17.96	-44.88	-346.78	170.14	932.47	897.52	34.95	26.677	
7,900.00	7,731.03	7,746.49	7,731.03	29.91	18.14	-44.88	-346.78	170.14	932.47	897.15	35.32	26.403	
8,000.00	7,831.03	7,846.49	7,831.03	30.02	18.31	-44.88	-346.78	170.14	932.47	896.79	35.68	26.133	
8,100.00	7,931.03	7,946.49	7,931.03	30.13	18.49	-44.88	-346.78	170.14	932.47	896.42	36.05	25.867	
8,200.00	8,031.03	8,046.49	8,031.03	30.25	18.67	-44.88	-346.78	170.14	932.47	896.05	36.42	25.605	
8,300.00	8,131.03	8,146.49	8,131.03	30.36	18.85	-44.88	-346.78	170.14	932.47	895.68	36.79	25.348	
8,400.00	8,231.03	8,246.49	8,231.03	30.48	19.03	-44.88	-346.78	170.14	932.47	895.31	37.16	25.094	
8,500.00	8,331.03	8,346.49	8,331.03	30.59	19.21	-44.88	-346.78	170.14	932.47	894.94	37.53	24.844	
8,523.97	8,355.00	8,370.46	8,355.00	30.62	19.25	-44.88	-346.78	170.14	932.47	894.85	37.62	24.785	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-38.96	62.29	-50.37	80.11				
100.00	100.00	100.00	100.00	0.10	0.10	-38.96	62.29	-50.37	80.11	79.91	0.19	419.287	
200.00	200.00	200.00	200.00	0.32	0.32	-38.96	62.29	-50.37	80.11	79.46	0.64	125.051	
300.00	300.00	300.00	300.00	0.55	0.55	-38.96	62.29	-50.37	80.11	79.02	1.09	73.483	
400.00	400.00	400.00	400.00	0.77	0.77	-38.96	62.29	-50.37	80.11	78.57	1.54	52.028	
500.00	500.00	500.00	500.00	0.99	0.99	-38.96	62.29	-50.37	80.11	78.12	1.99	40.271	
600.00	600.00	600.00	600.00	1.22	1.22	-38.96	62.29	-50.37	80.11	77.67	2.44	32.847	
700.00	700.00	700.00	700.00	1.44	1.44	-38.96	62.29	-50.37	80.11	77.22	2.89	27.735	
800.00	800.00	800.00	800.00	1.67	1.67	-38.96	62.29	-50.37	80.11	76.77	3.34	24.000	
900.00	900.00	900.00	900.00	1.89	1.89	-38.96	62.29	-50.37	80.11	76.32	3.79	21.151	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.96	62.29	-50.37	80.11	75.87	4.24	18.907	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-38.96	62.29	-50.37	80.11	75.64	4.46	17.954 CC, ES	
1,100.00	1,100.00	1,099.26	1,099.26	2.33	2.34	-179.29	62.69	-50.23	80.77	76.10	4.67	17.293	
1,200.00	1,199.93	1,197.52	1,197.46	2.51	2.56	-177.41	65.87	-49.12	86.12	81.06	5.06	17.013 SF	
1,300.00	1,299.68	1,294.98	1,294.69	2.70	2.78	-174.28	72.17	-46.91	97.05	91.59	5.46	17.789	
1,400.00	1,399.13	1,391.14	1,390.33	2.91	3.00	-170.73	81.44	-43.67	113.77	107.92	5.85	19.443	
1,500.00	1,498.15	1,485.50	1,483.82	3.15	3.24	-167.36	93.47	-39.46	136.40	130.15	6.25	21.817	
1,600.00	1,596.63	1,577.63	1,574.65	3.43	3.50	-164.43	108.02	-34.37	164.88	158.22	6.66	24.762	
1,700.00	1,694.44	1,671.70	1,667.12	3.76	3.78	-162.18	124.34	-28.66	197.99	190.90	7.08	27.947	
1,800.00	1,791.46	1,764.76	1,758.60	4.14	4.08	-160.77	140.49	-23.01	234.35	226.83	7.52	31.169	
1,830.17	1,820.56	1,792.61	1,785.96	4.27	4.17	-160.46	145.32	-21.32	245.93	238.28	7.65	32.144	
1,900.00	1,887.82	1,856.92	1,849.18	4.58	4.38	-160.04	156.49	-17.41	273.07	265.07	8.01	34.111	
2,000.00	1,984.13	1,949.03	1,939.72	5.04	4.70	-159.56	172.47	-11.82	311.95	303.43	8.53	36.591	
2,100.00	2,080.45	2,041.13	2,030.25	5.52	5.02	-159.19	188.45	-6.23	350.85	341.79	9.06	38.731	
2,200.00	2,176.76	2,133.23	2,120.79	6.03	5.35	-158.89	204.43	-0.64	389.76	380.16	9.60	40.587	
2,300.00	2,273.08	2,225.34	2,211.32	6.54	5.69	-158.65	220.42	4.95	428.67	418.52	10.16	42.207	
2,400.00	2,369.39	2,317.44	2,301.85	7.06	6.03	-158.45	236.40	10.54	467.59	456.88	10.72	43.629	
2,500.00	2,465.71	2,409.55	2,392.39	7.59	6.37	-158.27	252.38	16.14	506.52	495.23	11.29	44.883	
2,600.00	2,562.02	2,501.65	2,482.92	8.12	6.72	-158.13	268.36	21.73	545.44	533.59	11.86	45.995	
2,700.00	2,658.34	2,593.75	2,573.46	8.66	7.07	-158.00	284.35	27.32	584.37	571.94	12.44	46.987	
2,800.00	2,754.65	2,685.86	2,663.99	9.21	7.42	-157.89	300.33	32.91	623.31	610.29	13.02	47.875	
2,900.00	2,850.97	2,777.96	2,754.52	9.76	7.77	-157.79	316.31	38.50	662.24	648.63	13.61	48.674	
3,000.00	2,947.28	2,870.07	2,845.06	10.31	8.13	-157.70	332.30	44.09	701.18	686.98	14.19	49.396	
3,100.00	3,043.59	2,962.17	2,935.59	10.86	8.48	-157.62	348.28	49.69	740.11	725.32	14.79	50.052	
3,200.00	3,139.91	3,054.27	3,026.13	11.41	8.84	-157.55	364.26	55.28	779.05	763.67	15.38	50.649	
3,300.00	3,236.22	3,146.38	3,116.66	11.97	9.20	-157.49	380.24	60.87	817.99	802.01	15.98	51.194	
3,400.00	3,332.54	3,238.48	3,207.19	12.53	9.56	-157.43	396.23	66.46	856.93	840.35	16.58	51.694	
3,500.00	3,428.85	3,330.58	3,297.73	13.09	9.92	-157.38	412.21	72.05	895.87	878.69	17.18	52.155	
3,600.00	3,525.17	3,422.69	3,388.26	13.65	10.28	-157.33	428.19	77.64	934.81	917.03	17.78	52.579	
3,700.00	3,621.48	3,514.79	3,478.80	14.21	10.65	-157.29	444.18	83.24	973.75	955.37	18.38	52.972	
3,800.00	3,717.80	3,606.90	3,569.33	14.77	11.01	-157.24	460.16	88.83	1,012.69	993.70	18.99	53.336	
3,900.00	3,814.11	3,699.00	3,659.86	15.34	11.37	-157.21	476.14	94.42	1,051.63	1,032.04	19.59	53.675	
4,000.00	3,910.43	3,791.10	3,750.40	15.90	11.74	-157.17	492.12	100.01	1,090.57	1,070.38	20.20	53.990	
4,100.00	4,006.74	3,883.21	3,840.93	16.46	12.10	-157.14	508.11	105.60	1,129.52	1,108.71	20.81	54.285	
4,200.00	4,103.06	3,975.31	3,931.47	17.03	12.47	-157.11	524.09	111.20	1,168.46	1,147.04	21.42	54.560	
4,300.00	4,199.37	4,067.42	4,022.00	17.59	12.84	-157.08	540.07	116.79	1,207.40	1,185.38	22.03	54.819	
4,400.00	4,295.69	4,159.52	4,112.53	18.16	13.20	-157.05	556.05	122.38	1,246.35	1,223.71	22.64	55.062	
4,500.00	4,392.00	4,251.62	4,203.07	18.73	13.57	-157.03	572.04	127.97	1,285.29	1,262.04	23.25	55.290	
4,600.00	4,488.31	4,343.73	4,293.60	19.29	13.94	-157.00	588.02	133.56	1,324.23	1,300.38	23.86	55.505	
4,700.00	4,584.63	4,435.83	4,384.14	19.86	14.30	-156.98	604.00	139.15	1,363.18	1,338.71	24.47	55.709	
4,800.00	4,680.94	4,527.93	4,474.67	20.43	14.67	-156.96	619.99	144.75	1,402.12	1,377.04	25.08	55.901	
4,900.00	4,777.26	4,620.04	4,565.20	21.00	15.04	-156.94	635.97	150.34	1,441.07	1,415.37	25.70	56.083	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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 22-3 - P_KERR-MCGEE 22-3 - 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	4,873.57	4,712.14	4,655.74	21.57	15.41	-156.92	651.95	155.93	1,480.01	1,453.70	26.31	56.255	
5,100.00	4,969.89	4,804.25	4,746.27	22.13	15.78	-156.90	667.93	161.52	1,518.96	1,492.03	26.92	56.419	
5,200.00	5,066.20	4,896.35	4,836.81	22.70	16.15	-156.88	683.92	167.11	1,557.90	1,530.36	27.54	56.575	
5,300.00	5,162.52	4,988.45	4,927.34	23.27	16.52	-156.87	699.90	172.70	1,596.85	1,568.69	28.15	56.723	
5,400.00	5,258.83	5,080.56	5,017.87	23.84	16.88	-156.85	715.88	178.30	1,635.79	1,607.02	28.77	56.864	
5,500.00	5,355.15	5,172.66	5,108.41	24.41	17.25	-156.84	731.86	183.89	1,674.74	1,645.35	29.38	56.998	
5,600.00	5,451.46	5,264.77	5,198.94	24.98	17.62	-156.82	747.85	189.48	1,713.68	1,683.68	30.00	57.127	
5,700.00	5,547.78	5,356.87	5,289.48	25.55	17.99	-156.81	763.83	195.07	1,752.63	1,722.01	30.61	57.249	
5,800.00	5,644.09	5,448.97	5,380.01	26.12	18.36	-156.80	779.81	200.66	1,791.57	1,760.34	31.23	57.367	
5,893.80	5,734.44	5,535.37	5,464.94	26.66	18.71	-156.78	794.81	205.91	1,828.10	1,796.30	31.81	57.472	
5,900.00	5,740.41	5,541.08	5,470.55	26.69	18.73	-156.80	795.80	206.25	1,830.51	1,798.66	31.86	57.463	
6,000.00	5,837.23	5,633.86	5,561.75	27.08	19.11	-157.08	811.90	211.89	1,867.79	1,835.22	32.57	57.344	
6,100.00	5,934.86	5,727.76	5,654.05	27.44	19.48	-157.28	828.19	217.59	1,902.06	1,868.81	33.25	57.197	
6,200.00	6,033.19	5,822.68	5,747.35	27.75	19.86	-157.42	844.66	223.35	1,933.30	1,899.40	33.90	57.027	
6,300.00	6,132.09	5,918.49	5,841.52	28.02	20.25	-157.49	861.29	229.17	1,961.48	1,926.97	34.51	56.838	
6,400.00	6,231.44	6,015.07	5,936.46	28.25	20.64	-157.49	878.05	235.03	1,986.56	1,951.48	35.08	56.635	
6,500.00	6,331.13	6,170.72	6,089.77	28.43	21.17	-157.33	903.34	243.88	2,007.89	1,972.17	35.72	56.213	
6,600.00	6,431.03	6,401.11	6,318.74	28.57	21.72	-157.11	926.94	252.14	2,020.66	1,984.29	36.37	55.562	
6,673.97	6,505.00	6,574.09	6,491.56	28.66	22.00	-16.47	933.20	254.33	2,023.84	1,987.10	36.74	55.084	
6,700.00	6,531.03	6,613.55	6,531.03	28.68	22.05	-16.47	933.29	254.36	2,023.88	1,987.03	36.84	54.934	
6,800.00	6,631.03	6,713.55	6,631.03	28.78	22.19	-16.47	933.29	254.36	2,023.88	1,986.71	37.16	54.461	
6,900.00	6,731.03	6,813.55	6,731.03	28.87	22.33	-16.47	933.29	254.36	2,023.88	1,986.39	37.48	53.993	
7,000.00	6,831.03	6,913.55	6,831.03	28.97	22.47	-16.47	933.29	254.36	2,023.88	1,986.07	37.81	53.529	
7,100.00	6,931.03	7,013.55	6,931.03	29.07	22.62	-16.47	933.29	254.36	2,023.88	1,985.74	38.14	53.069	
7,200.00	7,031.03	7,113.55	7,031.03	29.17	22.76	-16.47	933.29	254.36	2,023.88	1,985.41	38.47	52.614	
7,300.00	7,131.03	7,213.55	7,131.03	29.27	22.91	-16.47	933.29	254.36	2,023.88	1,985.08	38.80	52.163	
7,400.00	7,231.03	7,313.55	7,231.03	29.37	23.06	-16.47	933.29	254.36	2,023.88	1,984.74	39.13	51.717	
7,500.00	7,331.03	7,413.55	7,331.03	29.48	23.21	-16.47	933.29	254.36	2,023.88	1,984.41	39.47	51.275	
7,600.00	7,431.03	7,513.55	7,431.03	29.58	23.36	-16.47	933.29	254.36	2,023.88	1,984.07	39.81	50.839	
7,700.00	7,531.03	7,613.55	7,531.03	29.69	23.51	-16.47	933.29	254.36	2,023.88	1,983.73	40.15	50.407	
7,800.00	7,631.03	7,713.55	7,631.03	29.80	23.66	-16.47	933.29	254.36	2,023.88	1,983.38	40.49	49.979	
7,900.00	7,731.03	7,813.55	7,731.03	29.91	23.82	-16.47	933.29	254.36	2,023.88	1,983.04	40.84	49.556	
8,000.00	7,831.03	7,913.55	7,831.03	30.02	23.97	-16.47	933.29	254.36	2,023.88	1,982.69	41.19	49.138	
8,100.00	7,931.03	8,013.55	7,931.03	30.13	24.13	-16.47	933.29	254.36	2,023.88	1,982.34	41.54	48.725	
8,124.19	7,955.22	8,037.74	7,955.22	30.16	24.17	-16.47	933.29	254.36	2,023.88	1,982.25	41.62	48.626	
8,200.00	8,031.03	8,057.52	7,975.00	30.25	24.20	-16.47	933.29	254.36	2,024.65	1,982.87	41.78	48.456	
8,300.00	8,131.03	8,057.52	7,975.00	30.36	24.20	-16.47	933.29	254.36	2,029.88	1,987.93	41.95	48.390	
8,400.00	8,231.03	8,057.52	7,975.00	30.48	24.20	-16.47	933.29	254.36	2,040.01	1,997.89	42.11	48.439	
8,500.00	8,331.03	8,057.52	7,975.00	30.59	24.20	-16.47	933.29	254.36	2,054.95	2,012.67	42.28	48.601	
8,523.97	8,355.00	8,057.52	7,975.00	30.62	24.20	-16.47	933.29	254.36	2,059.24	2,016.92	42.32	48.656	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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	-40.08	7.65	-6.44	10.00				
100.00	100.00	100.00	100.00	0.10	0.10	-40.08	7.65	-6.44	10.00	9.81	0.19	52.327	
200.00	200.00	200.00	200.00	0.32	0.32	-40.08	7.65	-6.44	10.00	9.36	0.64	15.606	
300.00	300.00	300.00	300.00	0.55	0.55	-40.08	7.65	-6.44	10.00	8.91	1.09	9.171	
400.00	400.00	400.00	400.00	0.77	0.77	-40.08	7.65	-6.44	10.00	8.46	1.54	6.493	
500.00	500.00	500.00	500.00	0.99	0.99	-40.08	7.65	-6.44	10.00	8.01	1.99	5.026	
600.00	600.00	600.00	600.00	1.22	1.22	-40.08	7.65	-6.44	10.00	7.56	2.44	4.099	
700.00	700.00	700.00	700.00	1.44	1.44	-40.08	7.65	-6.44	10.00	7.11	2.89	3.461	
800.00	800.00	800.00	800.00	1.67	1.67	-40.08	7.65	-6.44	10.00	6.66	3.34	2.995	
900.00	900.00	900.00	900.00	1.89	1.89	-40.08	7.65	-6.44	10.00	6.21	3.79	2.640	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-40.08	7.65	-6.44	10.00	5.76	4.24	2.360	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-40.08	7.65	-6.44	10.00	5.54	4.46	2.241 CC	
1,100.00	1,100.00	1,100.14	1,100.13	2.33	2.33	-179.09	7.56	-6.01	10.09	5.43	4.66	2.164 ES, SF	
1,200.00	1,199.93	1,200.37	1,200.30	2.51	2.53	-167.72	6.85	-2.57	11.11	6.08	5.03	2.207	
1,300.00	1,299.68	1,300.47	1,300.16	2.70	2.74	-151.36	5.44	4.28	14.12	8.69	5.42	2.603	
1,400.00	1,399.13	1,400.38	1,399.51	2.91	2.97	-137.68	3.32	14.52	19.85	14.00	5.85	3.393	
1,500.00	1,498.15	1,500.00	1,498.15	3.15	3.22	-128.62	0.52	28.11	28.35	22.02	6.33	4.481	
1,600.00	1,596.63	1,599.27	1,595.91	3.43	3.50	-122.89	-2.96	44.98	39.44	32.57	6.87	5.741	
1,700.00	1,694.44	1,698.10	1,692.59	3.76	3.83	-119.16	-7.11	65.06	52.97	45.47	7.49	7.068	
1,800.00	1,791.46	1,796.44	1,788.02	4.14	4.21	-116.62	-11.90	88.26	68.83	60.61	8.21	8.380	
1,830.17	1,820.56	1,826.00	1,816.54	4.27	4.34	-116.01	-13.46	95.87	74.06	65.60	8.46	8.758	
1,900.00	1,887.82	1,894.25	1,882.08	4.58	4.65	-114.51	-17.31	114.52	86.61	77.56	9.05	9.573	
2,000.00	1,984.13	1,991.51	1,974.65	5.04	5.14	-111.49	-23.34	143.72	105.40	95.42	9.98	10.561	
2,100.00	2,080.45	2,088.57	2,066.05	5.52	5.70	-108.03	-29.94	175.69	125.39	114.40	10.99	11.413	
2,200.00	2,176.76	2,186.23	2,157.82	6.03	6.30	-105.28	-36.70	208.43	145.93	133.90	12.03	12.131	
2,300.00	2,273.08	2,283.89	2,249.58	6.54	6.92	-103.21	-43.45	241.16	166.72	153.63	13.09	12.736	
2,400.00	2,369.39	2,381.55	2,341.34	7.06	7.55	-101.60	-50.21	273.90	187.67	173.50	14.16	13.249	
2,500.00	2,465.71	2,479.21	2,433.10	7.59	8.19	-100.32	-56.97	306.64	208.73	193.48	15.25	13.688	
2,600.00	2,562.02	2,576.87	2,524.86	8.12	8.85	-99.27	-63.72	339.37	229.87	213.53	16.34	14.065	
2,700.00	2,658.34	2,674.53	2,616.62	8.66	9.51	-98.39	-70.48	372.11	251.08	233.63	17.45	14.392	
2,800.00	2,754.65	2,772.19	2,708.38	9.21	10.17	-97.65	-77.24	404.84	272.33	253.78	18.55	14.679	
2,900.00	2,850.97	2,869.85	2,800.15	9.76	10.84	-97.02	-83.99	437.58	293.62	273.96	19.67	14.931	
3,000.00	2,947.28	2,967.51	2,891.91	10.31	11.52	-96.48	-90.75	470.32	314.94	294.16	20.78	15.154	
3,100.00	3,043.59	3,065.17	2,983.67	10.86	12.20	-96.00	-97.51	503.05	336.29	314.39	21.90	15.353	
3,200.00	3,139.91	3,162.83	3,075.43	11.41	12.88	-95.58	-104.26	535.79	357.65	334.63	23.03	15.532	
3,300.00	3,236.22	3,260.49	3,167.19	11.97	13.56	-95.21	-111.02	568.52	379.03	354.88	24.15	15.693	
3,400.00	3,332.54	3,358.15	3,258.95	12.53	14.25	-94.88	-117.78	601.26	400.42	375.14	25.28	15.839	
3,500.00	3,428.85	3,455.81	3,350.71	13.09	14.94	-94.58	-124.53	633.99	421.83	395.42	26.41	15.972	
3,600.00	3,525.17	3,553.47	3,442.48	13.65	15.62	-94.31	-131.29	666.73	443.24	415.70	27.54	16.094	
3,700.00	3,621.48	3,651.13	3,534.24	14.21	16.32	-94.06	-138.05	699.47	464.67	435.99	28.67	16.206	
3,800.00	3,717.80	3,748.78	3,626.00	14.77	17.01	-93.84	-144.80	732.20	486.10	456.29	29.81	16.308	
3,900.00	3,814.11	3,846.44	3,717.76	15.34	17.70	-93.64	-151.56	764.94	507.54	476.59	30.94	16.403	
4,000.00	3,910.43	3,944.10	3,809.52	15.90	18.39	-93.45	-158.31	797.67	528.98	496.90	32.08	16.491	
4,100.00	4,006.74	4,041.76	3,901.28	16.46	19.09	-93.27	-165.07	830.41	550.43	517.21	33.21	16.573	
4,200.00	4,103.06	4,139.42	3,993.04	17.03	19.78	-93.11	-171.83	863.14	571.88	537.53	34.35	16.649	
4,300.00	4,199.37	4,237.08	4,084.81	17.59	20.48	-92.96	-178.58	895.88	593.34	557.85	35.48	16.721	
4,400.00	4,295.69	4,334.74	4,176.57	18.16	21.17	-92.83	-185.34	928.62	614.79	578.17	36.62	16.788	
4,500.00	4,392.00	4,432.40	4,268.33	18.73	21.87	-92.70	-192.10	961.35	636.26	598.50	37.76	16.851	
4,600.00	4,488.31	4,530.06	4,360.09	19.29	22.57	-92.58	-198.85	994.09	657.72	618.83	38.90	16.910	
4,700.00	4,584.63	4,627.72	4,451.85	19.86	23.26	-92.46	-205.61	1,026.82	679.19	639.16	40.03	16.966	
4,800.00	4,680.94	4,725.38	4,543.61	20.43	23.96	-92.36	-212.37	1,059.56	700.66	659.49	41.17	17.018	
4,900.00	4,777.26	4,823.04	4,635.37	21.00	24.66	-92.26	-219.12	1,092.29	722.14	679.83	42.31	17.068	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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	4,873.57	4,920.70	4,727.14	21.57	25.36	-92.16	-225.88	1,125.03	743.61	700.17	43.45	17.116	
5,100.00	4,969.89	5,018.36	4,818.90	22.13	26.06	-92.07	-232.64	1,157.77	765.09	720.50	44.58	17.161	
5,200.00	5,066.20	5,116.02	4,910.66	22.70	26.76	-91.99	-239.39	1,190.50	786.57	740.85	45.72	17.204	
5,300.00	5,162.52	5,213.68	5,002.42	23.27	27.45	-91.91	-246.15	1,223.24	808.05	761.19	46.86	17.244	
5,400.00	5,258.83	5,311.34	5,094.18	23.84	28.15	-91.84	-252.91	1,255.97	829.53	781.53	48.00	17.283	
5,500.00	5,355.15	5,409.00	5,185.94	24.41	28.85	-91.76	-259.66	1,288.71	851.01	801.88	49.13	17.321	
5,600.00	5,451.46	5,506.66	5,277.70	24.98	29.55	-91.70	-266.42	1,321.45	872.49	822.23	50.27	17.356	
5,700.00	5,547.78	5,604.32	5,369.47	25.55	30.25	-91.63	-273.18	1,354.18	893.98	842.57	51.41	17.390	
5,800.00	5,644.09	5,701.98	5,461.23	26.12	30.95	-91.57	-279.93	1,386.92	915.47	862.91	52.55	17.420	
5,893.80	5,734.44	5,802.33	5,555.64	26.66	31.63	-91.53	-286.80	1,420.22	935.45	881.80	53.65	17.437	
5,900.00	5,740.41	5,809.82	5,562.72	26.69	31.67	-91.56	-287.30	1,422.61	936.72	883.00	53.72	17.438	
6,000.00	5,837.23	5,931.44	5,678.55	27.08	32.28	-91.97	-294.79	1,458.88	955.87	901.15	54.72	17.468	
6,100.00	5,934.86	6,054.17	5,796.93	27.44	32.82	-92.32	-301.33	1,490.58	972.46	916.84	55.62	17.484	
6,200.00	6,033.19	6,177.88	5,917.54	27.75	33.29	-92.61	-306.88	1,517.47	986.43	930.01	56.41	17.486	
6,300.00	6,132.09	6,302.41	6,040.04	28.02	33.69	-92.85	-311.40	1,539.36	997.73	940.63	57.09	17.476	
6,400.00	6,231.44	6,427.58	6,164.03	28.25	34.01	-93.03	-314.85	1,556.09	1,006.32	948.67	57.65	17.455	
6,500.00	6,331.13	6,553.23	6,289.13	28.43	34.25	-93.17	-317.21	1,567.54	1,012.19	954.09	58.10	17.422	
6,600.00	6,431.03	6,679.17	6,414.90	28.57	34.43	-93.25	-318.46	1,573.61	1,015.31	956.87	58.43	17.376	
6,673.97	6,505.00	6,769.28	6,505.00	28.66	34.51	47.30	-318.68	1,574.65	1,015.85	957.24	58.62	17.331	
6,700.00	6,531.03	6,795.30	6,531.03	28.68	34.54	47.30	-318.68	1,574.65	1,015.85	957.19	58.67	17.316	
6,800.00	6,631.03	6,895.30	6,631.03	28.78	34.62	47.30	-318.68	1,574.65	1,015.85	956.99	58.86	17.259	
6,900.00	6,731.03	6,995.30	6,731.03	28.87	34.71	47.30	-318.68	1,574.65	1,015.85	956.80	59.05	17.202	
7,000.00	6,831.03	7,095.30	6,831.03	28.97	34.80	47.30	-318.68	1,574.65	1,015.85	956.60	59.25	17.145	
7,100.00	6,931.03	7,195.30	6,931.03	29.07	34.90	47.30	-318.68	1,574.65	1,015.85	956.40	59.45	17.087	
7,200.00	7,031.03	7,295.30	7,031.03	29.17	34.99	47.30	-318.68	1,574.65	1,015.85	956.20	59.66	17.028	
7,300.00	7,131.03	7,395.30	7,131.03	29.27	35.08	47.30	-318.68	1,574.65	1,015.85	955.99	59.86	16.970	
7,400.00	7,231.03	7,495.30	7,231.03	29.37	35.18	47.30	-318.68	1,574.65	1,015.85	955.78	60.07	16.910	
7,500.00	7,331.03	7,595.30	7,331.03	29.48	35.28	47.30	-318.68	1,574.65	1,015.85	955.57	60.28	16.851	
7,600.00	7,431.03	7,695.30	7,431.03	29.58	35.38	47.30	-318.68	1,574.65	1,015.85	955.35	60.50	16.791	
7,700.00	7,531.03	7,795.30	7,531.03	29.69	35.48	47.30	-318.68	1,574.65	1,015.85	955.14	60.72	16.731	
7,800.00	7,631.03	7,895.30	7,631.03	29.80	35.58	47.30	-318.68	1,574.65	1,015.85	954.92	60.94	16.671	
7,900.00	7,731.03	7,995.30	7,731.03	29.91	35.68	47.30	-318.68	1,574.65	1,015.85	954.70	61.16	16.611	
8,000.00	7,831.03	8,095.30	7,831.03	30.02	35.78	47.30	-318.68	1,574.65	1,015.85	954.47	61.38	16.550	
8,100.00	7,931.03	8,195.30	7,931.03	30.13	35.88	47.30	-318.68	1,574.65	1,015.85	954.24	61.61	16.489	
8,200.00	8,031.03	8,295.30	8,031.03	30.25	35.99	47.30	-318.68	1,574.65	1,015.85	954.01	61.84	16.428	
8,300.00	8,131.03	8,395.30	8,131.03	30.36	36.09	47.30	-318.68	1,574.65	1,015.85	953.78	62.07	16.366	
8,400.00	8,231.03	8,495.30	8,231.03	30.48	36.20	47.30	-318.68	1,574.65	1,015.85	953.55	62.30	16.305	
8,500.00	8,331.03	8,595.30	8,331.03	30.59	36.31	47.30	-318.68	1,574.65	1,015.85	953.31	62.54	16.243	
8,523.97	8,355.00	8,619.28	8,355.00	30.62	36.34	47.30	-318.68	1,574.65	1,015.85	953.25	62.60	16.228	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-38.80	54.64	-43.93	70.11				
100.00	100.00	100.00	100.00	0.10	0.10	-38.80	54.64	-43.93	70.11	69.92	0.19	366.971	
200.00	200.00	200.00	200.00	0.32	0.32	-38.80	54.64	-43.93	70.11	69.47	0.64	109.448	
300.00	300.00	300.00	300.00	0.55	0.55	-38.80	54.64	-43.93	70.11	69.02	1.09	64.315	
400.00	400.00	400.00	400.00	0.77	0.77	-38.80	54.64	-43.93	70.11	68.57	1.54	45.537	
500.00	500.00	500.00	500.00	0.99	0.99	-38.80	54.64	-43.93	70.11	68.12	1.99	35.246	
600.00	600.00	600.00	600.00	1.22	1.22	-38.80	54.64	-43.93	70.11	67.67	2.44	28.749	
700.00	700.00	700.00	700.00	1.44	1.44	-38.80	54.64	-43.93	70.11	67.22	2.89	24.274	
800.00	800.00	800.00	800.00	1.67	1.67	-38.80	54.64	-43.93	70.11	66.77	3.34	21.005	
900.00	900.00	900.00	900.00	1.89	1.89	-38.80	54.64	-43.93	70.11	66.32	3.79	18.512	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.80	54.64	-43.93	70.11	65.87	4.24	16.548	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-38.80	54.64	-43.93	70.11	65.65	4.46	15.714 CC, ES	
1,100.00	1,100.00	1,099.62	1,099.62	2.33	2.33	-179.72	54.48	-44.33	70.68	66.02	4.66	15.160	
1,200.00	1,199.93	1,198.63	1,198.57	2.51	2.52	177.78	53.24	-47.53	75.31	70.28	5.02	14.989 SF	
1,300.00	1,299.68	1,296.94	1,296.64	2.70	2.72	173.63	50.79	-53.85	84.91	79.51	5.39	15.738	
1,400.00	1,399.13	1,394.10	1,393.27	2.91	2.94	168.94	47.18	-63.18	99.89	94.11	5.78	17.293	
1,500.00	1,498.15	1,489.68	1,487.95	3.15	3.18	164.53	42.47	-75.33	120.48	114.31	6.17	19.518	
1,600.00	1,596.63	1,583.48	1,580.40	3.43	3.44	160.76	36.74	-90.11	146.68	140.08	6.59	22.254	
1,700.00	1,694.44	1,678.45	1,673.77	3.76	3.73	158.02	30.46	-106.31	177.24	170.20	7.04	25.177	
1,800.00	1,791.46	1,772.45	1,766.19	4.14	4.04	156.37	24.25	-122.34	211.06	203.55	7.51	28.112	
1,830.17	1,820.56	1,800.61	1,793.87	4.27	4.14	156.03	22.39	-127.14	221.86	214.21	7.65	28.994	
1,900.00	1,887.82	1,865.65	1,857.82	4.58	4.36	155.56	18.09	-138.24	247.20	239.16	8.03	30.768	
2,000.00	1,984.13	1,958.80	1,949.39	5.04	4.70	155.03	11.93	-154.12	283.50	274.90	8.60	32.972	
2,100.00	2,080.45	2,051.95	2,040.97	5.52	5.04	154.63	5.77	-170.01	319.82	310.64	9.18	34.842	
2,200.00	2,176.76	2,145.10	2,132.55	6.03	5.38	154.31	-0.39	-185.90	356.15	346.38	9.77	36.438	
2,300.00	2,273.08	2,238.25	2,224.13	6.54	5.73	154.04	-6.54	-201.78	392.49	382.11	10.38	37.809	
2,400.00	2,369.39	2,331.41	2,315.71	7.06	6.09	153.82	-12.70	-217.67	428.83	417.83	11.00	38.997	
2,500.00	2,465.71	2,424.56	2,407.29	7.59	6.45	153.64	-18.86	-233.56	465.18	453.56	11.62	40.032	
2,600.00	2,562.02	2,517.71	2,498.87	8.12	6.82	153.48	-25.02	-249.45	501.53	489.28	12.25	40.940	
2,700.00	2,658.34	2,610.86	2,590.45	8.66	7.19	153.35	-31.17	-265.33	537.89	525.00	12.89	41.742	
2,800.00	2,754.65	2,704.01	2,682.03	9.21	7.56	153.23	-37.33	-281.22	574.24	560.72	13.53	42.455	
2,900.00	2,850.97	2,797.16	2,773.60	9.76	7.93	153.12	-43.49	-297.11	610.60	596.43	14.17	43.092	
3,000.00	2,947.28	2,890.31	2,865.18	10.31	8.30	153.03	-49.65	-313.00	646.96	632.15	14.82	43.664	
3,100.00	3,043.59	2,983.46	2,956.76	10.86	8.68	152.95	-55.81	-328.88	683.32	667.86	15.47	44.181	
3,200.00	3,139.91	3,076.61	3,048.34	11.41	9.05	152.87	-61.96	-344.77	719.69	703.57	16.12	44.651	
3,300.00	3,236.22	3,169.76	3,139.92	11.97	9.43	152.80	-68.12	-360.66	756.05	739.28	16.77	45.078	
3,400.00	3,332.54	3,262.91	3,231.50	12.53	9.81	152.74	-74.28	-376.55	792.41	774.99	17.43	45.470	
3,500.00	3,428.85	3,356.06	3,323.08	13.09	10.19	152.69	-80.44	-392.43	828.78	810.70	18.08	45.830	
3,600.00	3,525.17	3,449.21	3,414.66	13.65	10.57	152.64	-86.59	-408.32	865.15	846.40	18.74	46.163	
3,700.00	3,621.48	3,542.36	3,506.24	14.21	10.95	152.59	-92.75	-424.21	901.51	882.11	19.40	46.470	
3,800.00	3,717.80	3,635.51	3,597.81	14.77	11.34	152.54	-98.91	-440.10	937.88	917.82	20.06	46.756	
3,900.00	3,814.11	3,728.66	3,689.39	15.34	11.72	152.50	-105.07	-455.98	974.25	953.53	20.72	47.023	
4,000.00	3,910.43	3,821.81	3,780.97	15.90	12.10	152.47	-111.23	-471.87	1,010.61	989.24	21.38	47.272	
4,100.00	4,006.74	3,914.96	3,872.55	16.46	12.49	152.43	-117.38	-487.76	1,046.98	1,024.94	22.04	47.505	
4,200.00	4,103.06	4,008.11	3,964.13	17.03	12.87	152.40	-123.54	-503.65	1,083.35	1,060.64	22.71	47.709	
4,300.00	4,199.37	4,101.27	4,055.71	17.59	13.26	152.37	-129.70	-519.53	1,119.72	1,096.34	23.38	47.893	
4,400.00	4,295.69	4,194.42	4,147.29	18.16	13.64	152.34	-135.86	-535.42	1,156.09	1,132.04	24.05	48.065	
4,500.00	4,392.00	4,287.57	4,238.87	18.73	14.03	152.31	-142.01	-551.31	1,192.46	1,167.73	24.73	48.227	
4,600.00	4,488.31	4,380.72	4,330.45	19.29	14.41	152.29	-148.17	-567.20	1,228.83	1,203.43	25.40	48.378	
4,700.00	4,584.63	4,473.87	4,422.02	19.86	14.80	152.27	-154.33	-583.08	1,265.20	1,239.12	26.08	48.520	
4,800.00	4,680.94	4,567.02	4,513.60	20.43	15.19	152.24	-160.49	-598.97	1,301.57	1,274.82	26.75	48.654	
4,900.00	4,777.26	4,660.17	4,605.18	21.00	15.57	152.22	-166.65	-614.86	1,337.94	1,310.51	27.43	48.780	

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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN #1 1-15-10												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,873.57	4,753.32	4,696.76	21.57	15.96	152.20	-172.80	-630.74	1,374.31	1,346.20	28.10	48.899	
5,100.00	4,969.89	4,846.47	4,788.34	22.13	16.35	152.18	-178.96	-646.63	1,410.68	1,381.90	28.78	49.012	
5,200.00	5,066.20	4,939.62	4,879.92	22.70	16.73	152.17	-185.12	-662.52	1,447.05	1,417.59	29.46	49.119	
5,300.00	5,162.52	5,032.77	4,971.50	23.27	17.12	152.15	-191.28	-678.41	1,483.42	1,453.28	30.14	49.220	
5,400.00	5,258.83	5,125.92	5,063.08	23.84	17.51	152.13	-197.43	-694.29	1,519.79	1,488.97	30.82	49.316	
5,500.00	5,355.15	5,219.07	5,154.66	24.41	17.90	152.12	-203.59	-710.18	1,556.16	1,524.66	31.50	49.408	
5,600.00	5,451.46	5,312.22	5,246.23	24.98	18.29	152.10	-209.75	-726.07	1,592.53	1,560.36	32.18	49.495	
5,700.00	5,547.78	5,405.37	5,337.81	25.55	18.67	152.09	-215.91	-741.96	1,628.90	1,596.05	32.86	49.578	
5,800.00	5,644.09	5,498.52	5,429.39	26.12	19.06	152.07	-222.06	-757.84	1,665.27	1,631.74	33.54	49.657	
5,893.80	5,734.44	5,585.90	5,515.30	26.66	19.43	152.06	-227.84	-772.75	1,699.39	1,665.22	34.17	49.728	
5,900.00	5,740.41	5,591.68	5,520.97	26.69	19.45	152.08	-228.22	-773.73	1,701.64	1,667.42	34.22	49.722	
6,000.00	5,837.23	5,685.43	5,613.15	27.08	19.84	152.38	-234.42	-789.72	1,736.39	1,701.42	34.96	49.661	
6,100.00	5,934.86	5,780.18	5,706.30	27.44	20.24	152.60	-240.68	-805.88	1,768.22	1,732.55	35.67	49.565	
6,200.00	6,033.19	5,875.81	5,800.31	27.75	20.64	152.72	-247.01	-822.19	1,797.11	1,760.76	36.35	49.441	
6,300.00	6,132.09	5,972.20	5,895.07	28.02	21.04	152.77	-253.38	-838.63	1,823.04	1,786.05	36.98	49.292	
6,400.00	6,231.44	6,069.23	5,990.47	28.25	21.45	152.75	-259.79	-855.18	1,845.97	1,808.40	37.58	49.123	
6,500.00	6,331.13	6,166.79	6,086.38	28.43	21.85	152.65	-266.24	-871.82	1,865.92	1,827.79	38.13	48.938	
6,600.00	6,431.03	6,264.76	6,182.70	28.57	22.26	152.48	-272.72	-888.53	1,882.87	1,844.24	38.63	48.737	
6,673.97	6,505.00	6,337.42	6,254.14	28.66	22.57	-67.11	-277.52	-900.92	1,893.49	1,854.51	38.98	48.570	
6,700.00	6,531.03	6,363.01	6,279.29	28.68	22.67	-67.21	-279.21	-905.29	1,896.94	1,857.82	39.12	48.494	
6,800.00	6,631.03	6,461.32	6,375.95	28.78	23.08	-67.59	-285.71	-922.06	1,910.25	1,870.64	39.61	48.221	
6,900.00	6,731.03	6,559.63	6,472.60	28.87	23.50	-67.96	-292.21	-938.82	1,923.65	1,883.54	40.11	47.959	
7,000.00	6,831.03	6,657.95	6,569.25	28.97	23.91	-68.33	-298.71	-955.59	1,937.12	1,896.52	40.60	47.707	
7,100.00	6,931.03	6,756.26	6,665.91	29.07	24.32	-68.69	-305.21	-972.36	1,950.67	1,909.58	41.10	47.464	
7,200.00	7,031.03	6,854.57	6,762.56	29.17	24.73	-69.05	-311.71	-989.13	1,964.30	1,922.71	41.59	47.231	
7,300.00	7,131.03	6,952.89	6,859.22	29.27	25.14	-69.40	-318.21	-1,005.89	1,978.01	1,935.93	42.08	47.006	
7,400.00	7,231.03	7,051.20	6,955.87	29.37	25.55	-69.75	-324.71	-1,022.66	1,991.78	1,949.22	42.57	46.790	
7,500.00	7,331.03	7,213.53	7,115.89	29.48	26.07	-70.26	-334.53	-1,048.02	2,004.73	1,961.57	43.16	46.451	
7,600.00	7,431.03	7,426.48	7,327.63	29.58	26.54	-70.68	-342.58	-1,068.77	2,012.68	1,968.95	43.73	46.022	
7,700.00	7,531.03	7,630.03	7,531.03	29.69	26.83	-70.80	-344.94	-1,074.86	2,015.00	1,970.81	44.19	45.603	
7,800.00	7,631.03	7,730.03	7,631.03	29.80	26.95	-70.80	-344.94	-1,074.86	2,015.00	1,970.52	44.47	45.308	
7,900.00	7,731.03	7,830.03	7,731.03	29.91	27.08	-70.80	-344.94	-1,074.86	2,015.00	1,970.24	44.76	45.018	
8,000.00	7,831.03	7,930.03	7,831.03	30.02	27.20	-70.80	-344.94	-1,074.86	2,015.00	1,969.95	45.05	44.729	
8,100.00	7,931.03	8,030.03	7,931.03	30.13	27.33	-70.80	-344.94	-1,074.86	2,015.00	1,969.66	45.34	44.441	
8,131.93	7,962.96	8,061.96	7,962.96	30.17	27.37	-70.80	-344.94	-1,074.86	2,015.00	1,969.56	45.43	44.349	
8,200.00	8,031.03	8,079.00	7,980.00	30.25	27.39	-70.80	-344.94	-1,074.86	2,015.64	1,970.08	45.56	44.242	
8,300.00	8,131.03	8,079.00	7,980.00	30.36	27.39	-70.80	-344.94	-1,074.86	2,020.65	1,974.94	45.71	44.208	
8,400.00	8,231.03	8,079.00	7,980.00	30.48	27.39	-70.80	-344.94	-1,074.86	2,030.57	1,984.72	45.86	44.281	
8,500.00	8,331.03	8,079.00	7,980.00	30.59	27.39	-70.80	-344.94	-1,074.86	2,045.34	1,999.34	46.01	44.457	
8,523.97	8,355.00	8,079.00	7,980.00	30.62	27.39	-70.80	-344.94	-1,074.86	2,049.59	2,003.55	46.04	44.514	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-15-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-38.82	23.30	-18.75	29.91				
100.00	100.00	100.00	100.00	0.10	0.10	-38.82	23.30	-18.75	29.91	29.72	0.19	156.543	
200.00	200.00	200.00	200.00	0.32	0.32	-38.82	23.30	-18.75	29.91	29.27	0.64	46.688	
300.00	300.00	300.00	300.00	0.55	0.55	-38.82	23.30	-18.75	29.91	28.82	1.09	27.435	
400.00	400.00	400.00	400.00	0.77	0.77	-38.82	23.30	-18.75	29.91	28.37	1.54	19.425	
500.00	500.00	500.00	500.00	0.99	0.99	-38.82	23.30	-18.75	29.91	27.92	1.99	15.035	
600.00	600.00	600.00	600.00	1.22	1.22	-38.82	23.30	-18.75	29.91	27.47	2.44	12.264	
700.00	700.00	700.00	700.00	1.44	1.44	-38.82	23.30	-18.75	29.91	27.02	2.89	10.355	
800.00	800.00	800.00	800.00	1.67	1.67	-38.82	23.30	-18.75	29.91	26.57	3.34	8.960	
900.00	900.00	900.00	900.00	1.89	1.89	-38.82	23.30	-18.75	29.91	26.12	3.79	7.897	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-38.82	23.30	-18.75	29.91	25.67	4.24	7.059	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-38.82	23.30	-18.75	29.91	25.45	4.46	6.703 CC	
1,100.00	1,100.00	1,100.46	1,100.45	2.33	2.33	-179.83	22.86	-18.68	29.96	25.30	4.66	6.431 ES	
1,200.00	1,199.93	1,201.35	1,201.28	2.51	2.50	176.81	19.36	-18.10	30.45	25.45	5.01	6.083	
1,300.00	1,299.68	1,302.16	1,301.83	2.70	2.69	170.47	12.36	-16.96	31.73	26.36	5.36	5.914 SF	
1,400.00	1,399.13	1,402.84	1,401.95	2.91	2.90	162.02	1.89	-15.24	34.28	28.54	5.74	5.971	
1,500.00	1,498.15	1,503.35	1,501.46	3.15	3.13	152.78	-12.02	-12.96	38.63	32.47	6.16	6.270	
1,600.00	1,596.63	1,603.63	1,600.20	3.43	3.40	144.02	-29.33	-10.12	45.13	38.48	6.66	6.780	
1,700.00	1,694.44	1,703.65	1,697.99	3.76	3.72	136.48	-49.97	-6.74	53.90	46.65	7.25	7.430	
1,800.00	1,791.46	1,803.34	1,794.69	4.14	4.09	130.36	-73.88	-2.82	64.90	56.92	7.98	8.137	
1,830.17	1,820.56	1,833.35	1,823.63	4.27	4.22	128.77	-81.73	-1.53	68.64	60.41	8.22	8.346	
1,900.00	1,887.82	1,902.70	1,890.16	4.58	4.52	125.14	-101.01	1.63	77.53	68.69	8.84	8.771	
2,000.00	1,984.13	2,001.63	1,984.23	5.04	5.01	119.36	-131.25	6.58	90.61	80.78	9.83	9.219	
2,100.00	2,080.45	2,100.05	2,076.78	5.52	5.57	113.35	-164.28	12.00	104.63	93.73	10.90	9.596	
2,200.00	2,176.76	2,198.46	2,169.09	6.03	6.15	108.46	-197.93	17.51	119.66	107.65	12.00	9.970	
2,300.00	2,273.08	2,296.87	2,261.40	6.54	6.76	104.68	-231.58	23.03	135.34	122.24	13.10	10.331	
2,400.00	2,369.39	2,395.28	2,353.72	7.06	7.38	101.69	-265.24	28.54	151.49	137.29	14.20	10.668	
2,500.00	2,465.71	2,493.69	2,446.03	7.59	8.01	99.27	-298.89	34.06	167.96	152.66	15.30	10.978	
2,600.00	2,562.02	2,592.10	2,538.34	8.12	8.65	97.29	-332.54	39.58	184.67	168.27	16.40	11.262	
2,700.00	2,658.34	2,690.51	2,630.65	8.66	9.30	95.64	-366.20	45.09	201.56	184.06	17.50	11.519	
2,800.00	2,754.65	2,788.92	2,722.97	9.21	9.95	94.24	-399.85	50.61	218.58	199.99	18.60	11.753	
2,900.00	2,850.97	2,887.34	2,815.28	9.76	10.61	93.05	-433.50	56.13	235.72	216.02	19.70	11.966	
3,000.00	2,947.28	2,985.75	2,907.59	10.31	11.27	92.02	-467.16	61.64	252.94	232.14	20.80	12.161	
3,100.00	3,043.59	3,084.16	2,999.90	10.86	11.94	91.12	-500.81	67.16	270.23	248.33	21.90	12.338	
3,200.00	3,139.91	3,182.57	3,092.22	11.41	12.61	90.32	-534.46	72.67	287.58	264.58	23.00	12.501	
3,300.00	3,236.22	3,280.98	3,184.53	11.97	13.28	89.62	-568.12	78.19	304.98	280.87	24.11	12.650	
3,400.00	3,332.54	3,379.39	3,276.84	12.53	13.95	88.99	-601.77	83.71	322.41	297.20	25.21	12.788	
3,500.00	3,428.85	3,477.80	3,369.15	13.09	14.62	88.43	-635.42	89.22	339.88	313.57	26.32	12.915	
3,600.00	3,525.17	3,576.21	3,461.47	13.65	15.30	87.93	-669.08	94.74	357.38	329.96	27.42	13.033	
3,700.00	3,621.48	3,674.62	3,553.78	14.21	15.97	87.47	-702.73	100.25	374.90	346.38	28.53	13.143	
3,800.00	3,717.80	3,773.03	3,646.09	14.77	16.65	87.05	-736.38	105.77	392.45	362.82	29.63	13.245	
3,900.00	3,814.11	3,871.44	3,738.41	15.34	17.33	86.66	-770.04	111.29	410.01	379.27	30.74	13.340	
4,000.00	3,910.43	3,969.85	3,830.72	15.90	18.01	86.31	-803.69	116.80	427.59	395.75	31.84	13.429	
4,100.00	4,006.74	4,068.26	3,923.03	16.46	18.69	85.99	-837.34	122.32	445.18	412.23	32.95	13.512	
4,200.00	4,103.06	4,166.67	4,015.34	17.03	19.37	85.69	-871.00	127.83	462.79	428.73	34.05	13.590	
4,300.00	4,199.37	4,265.08	4,107.66	17.59	20.05	85.41	-904.65	133.35	480.40	445.25	35.16	13.664	
4,400.00	4,295.69	4,363.49	4,199.97	18.16	20.73	85.15	-938.30	138.87	498.03	461.77	36.26	13.734	
4,500.00	4,392.00	4,461.90	4,292.28	18.73	21.41	84.91	-971.96	144.38	515.67	478.30	37.37	13.799	
4,600.00	4,488.31	4,560.31	4,384.59	19.29	22.10	84.69	-1,005.61	149.90	533.31	494.84	38.47	13.861	
4,700.00	4,584.63	4,658.72	4,476.91	19.86	22.78	84.48	-1,039.26	155.41	550.97	511.38	39.58	13.920	
4,800.00	4,680.94	4,757.13	4,569.22	20.43	23.46	84.28	-1,072.92	160.93	568.62	527.94	40.69	13.976	
4,900.00	4,777.26	4,855.54	4,661.53	21.00	24.15	84.10	-1,106.57	166.45	586.29	544.50	41.79	14.029	

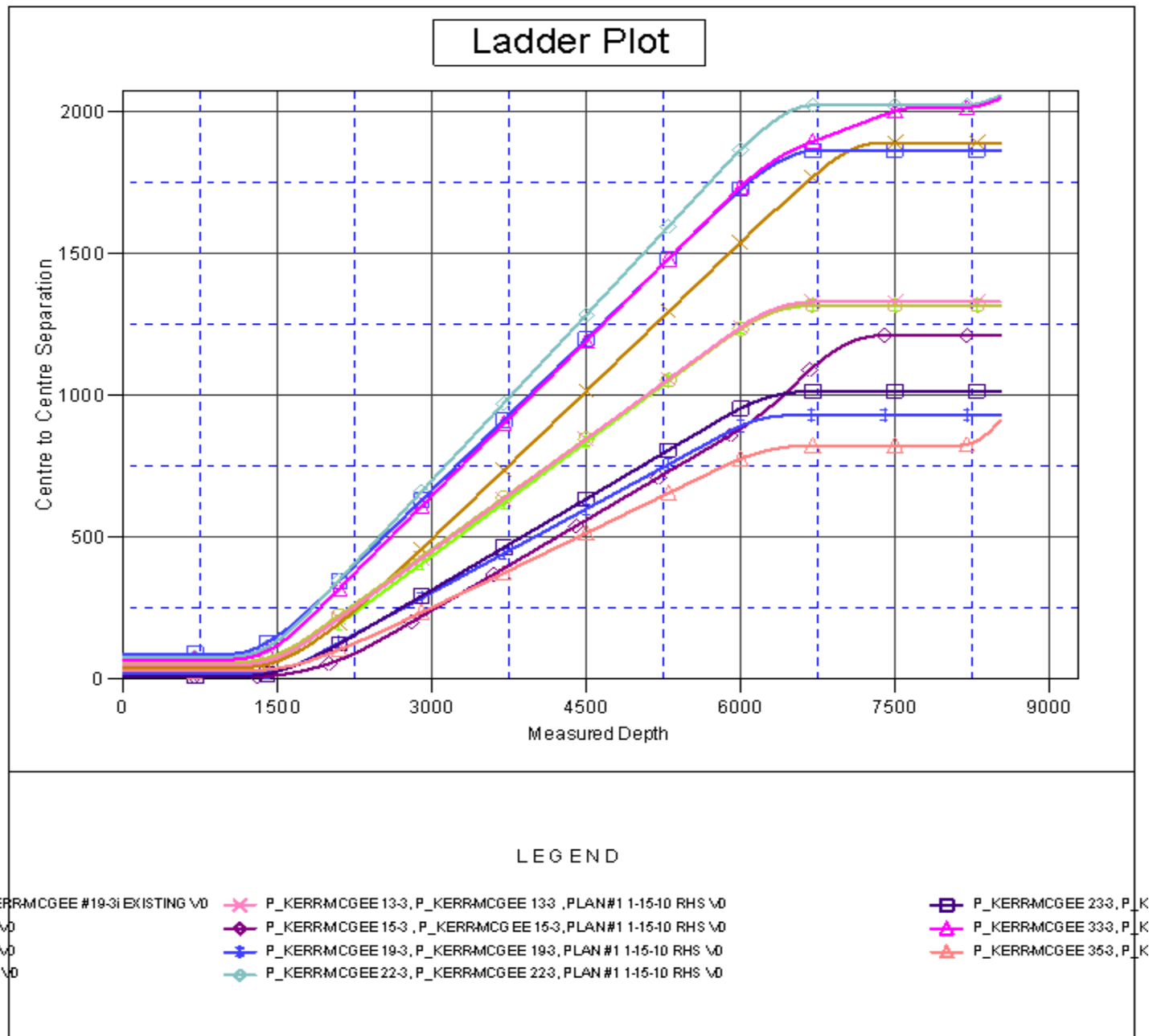
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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	4,873.57	4,953.95	4,753.84	21.57	24.83	83.92	-1,140.22	171.96	603.96	561.06	42.90	14.078	
5,100.00	4,969.89	5,052.36	4,846.16	22.13	25.52	83.76	-1,173.88	177.48	621.64	577.62	44.01	14.124	
5,200.00	5,066.20	5,150.77	4,938.47	22.70	26.20	83.60	-1,207.53	182.99	639.32	594.19	45.13	14.168	
5,300.00	5,162.52	5,249.18	5,030.78	23.27	26.89	83.46	-1,241.18	188.51	657.00	610.76	46.24	14.209	
5,400.00	5,258.83	5,347.59	5,123.09	23.84	27.57	83.32	-1,274.84	194.03	674.69	627.34	47.35	14.248	
5,500.00	5,355.15	5,446.00	5,215.41	24.41	28.26	83.19	-1,308.49	199.54	692.38	643.92	48.47	14.286	
5,600.00	5,451.46	5,544.41	5,307.72	24.98	28.95	83.06	-1,342.14	205.06	710.08	660.50	49.58	14.322	
5,700.00	5,547.78	5,642.82	5,400.03	25.55	29.63	82.94	-1,375.80	210.57	727.77	677.08	50.69	14.357	
5,800.00	5,644.09	5,741.23	5,492.34	26.12	30.32	82.83	-1,409.45	216.09	745.48	693.67	51.81	14.390	
5,893.80	5,734.44	5,846.72	5,591.72	26.66	30.91	82.79	-1,444.37	221.81	761.47	708.64	52.83	14.413	
5,900.00	5,740.41	5,853.97	5,598.59	26.69	30.94	82.81	-1,446.64	222.19	762.46	709.56	52.90	14.414	
6,000.00	5,837.23	5,971.39	5,710.71	27.08	31.46	83.19	-1,481.04	227.83	777.36	723.52	53.84	14.439	
6,100.00	5,934.86	6,089.52	5,824.84	27.44	31.94	83.50	-1,511.05	232.74	790.28	735.60	54.68	14.453	
6,200.00	6,033.19	6,208.25	5,940.73	27.75	32.35	83.76	-1,536.50	236.91	801.19	745.77	55.42	14.455	
6,300.00	6,132.09	6,327.50	6,058.10	28.02	32.71	83.97	-1,557.27	240.32	810.06	754.00	56.06	14.449	
6,400.00	6,231.44	6,447.16	6,176.65	28.25	33.00	84.12	-1,573.25	242.94	816.86	760.26	56.60	14.432	
6,500.00	6,331.13	6,567.12	6,296.08	28.43	33.24	84.23	-1,584.35	244.76	821.57	764.54	57.03	14.406	
6,600.00	6,431.03	6,687.28	6,416.07	28.57	33.41	84.29	-1,590.52	245.77	824.19	766.83	57.35	14.371	
6,673.97	6,505.00	6,776.23	6,505.00	28.66	33.50	-135.11	-1,591.88	245.99	824.76	767.23	57.53	14.336	
6,700.00	6,531.03	6,802.26	6,531.03	28.68	33.52	-135.11	-1,591.88	245.99	824.76	767.18	57.58	14.323	
6,800.00	6,631.03	6,902.26	6,631.03	28.78	33.60	-135.11	-1,591.88	245.99	824.76	766.99	57.77	14.277	
6,900.00	6,731.03	7,002.26	6,731.03	28.87	33.68	-135.11	-1,591.88	245.99	824.76	766.81	57.96	14.231	
7,000.00	6,831.03	7,102.26	6,831.03	28.97	33.75	-135.11	-1,591.88	245.99	824.76	766.62	58.15	14.184	
7,100.00	6,931.03	7,202.26	6,931.03	29.07	33.83	-135.11	-1,591.88	245.99	824.76	766.42	58.34	14.137	
7,200.00	7,031.03	7,302.26	7,031.03	29.17	33.91	-135.11	-1,591.88	245.99	824.76	766.23	58.54	14.090	
7,300.00	7,131.03	7,402.26	7,131.03	29.27	33.99	-135.11	-1,591.88	245.99	824.76	766.03	58.73	14.042	
7,400.00	7,231.03	7,502.26	7,231.03	29.37	34.08	-135.11	-1,591.88	245.99	824.76	765.83	58.94	13.994	
7,500.00	7,331.03	7,602.26	7,331.03	29.48	34.16	-135.11	-1,591.88	245.99	824.76	765.62	59.14	13.946	
7,600.00	7,431.03	7,702.26	7,431.03	29.58	34.25	-135.11	-1,591.88	245.99	824.76	765.41	59.35	13.897	
7,700.00	7,531.03	7,802.26	7,531.03	29.69	34.33	-135.11	-1,591.88	245.99	824.76	765.20	59.56	13.848	
7,800.00	7,631.03	7,902.26	7,631.03	29.80	34.42	-135.11	-1,591.88	245.99	824.76	764.99	59.77	13.799	
7,900.00	7,731.03	8,002.26	7,731.03	29.91	34.51	-135.11	-1,591.88	245.99	824.76	764.78	59.99	13.749	
8,000.00	7,831.03	8,102.26	7,831.03	30.02	34.60	-135.11	-1,591.88	245.99	824.76	764.56	60.20	13.700	
8,100.00	7,931.03	8,202.26	7,931.03	30.13	34.69	-135.11	-1,591.88	245.99	824.76	764.34	60.42	13.650	
8,101.78	7,932.81	8,204.04	7,932.81	30.13	34.69	-135.11	-1,591.88	245.99	824.76	764.33	60.43	13.649	
8,200.00	8,031.03	8,236.23	7,965.00	30.25	34.72	-135.11	-1,591.88	245.99	827.40	766.83	60.57	13.659	
8,300.00	8,131.03	8,236.23	7,965.00	30.36	34.72	-135.11	-1,591.88	245.99	841.31	780.62	60.69	13.862	
8,400.00	8,231.03	8,236.23	7,965.00	30.48	34.72	-135.11	-1,591.88	245.99	866.60	805.80	60.81	14.252	
8,500.00	8,331.03	8,236.23	7,965.00	30.59	34.72	-135.11	-1,591.88	245.99	902.33	841.41	60.93	14.811	
8,523.97	8,355.00	8,236.23	7,965.00	30.62	34.72	-135.11	-1,591.88	245.99	912.32	851.37	60.95	14.967	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_KERR-MCGEE 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	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 14-3
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 14-3
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 14-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_KERR-MCGEE 14-3	Database:	EDM 2003.21 Single User Db
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Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.33°

