



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_NORTHGLENN STATE 7 PAD
P_NORTHGLENN STATE 3-36**

P_NORTHGLENN STATE 3-36

Plan: PLAN #1 10-09-09 RHS

Standard Planning Report

09 October, 2009





Azimuths to True North
Magnetic North: 9.12°
Magnetic Field
Strength: 53100.7nT
Dip Angle: 66.77°
Date: 10/9/2009
Model: IGRF200510

WELL DETAILS: P_NORTHGLENN STATE 3-36

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	1247597.68	5103.00	3154667.63	40° 0' 42.192 N	104° 56' 52.152 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3365.00	3807.23	PARKMAN TOP
4845.00	5416.17	SUSSEX TOP
5495.00	6066.17	SHANNON TOP
7445.00	8016.17	NIO A TOP
7885.00	8456.17	CODELL TOP
8315.00	8886.17	JSAND TOP

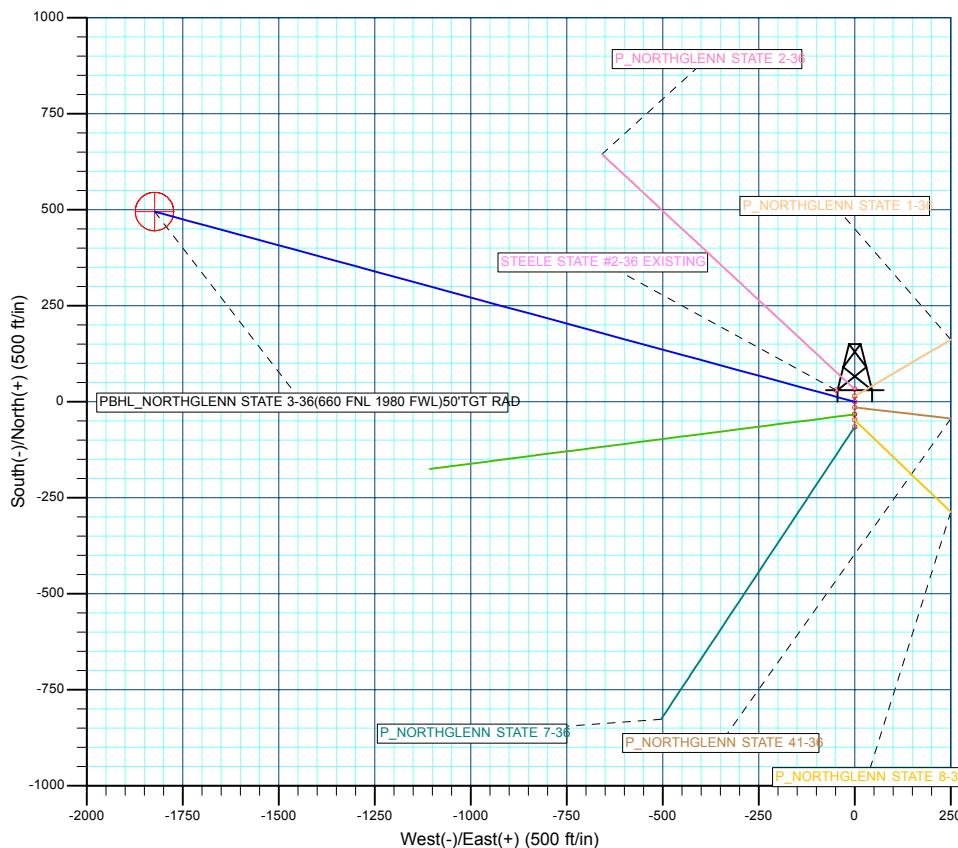
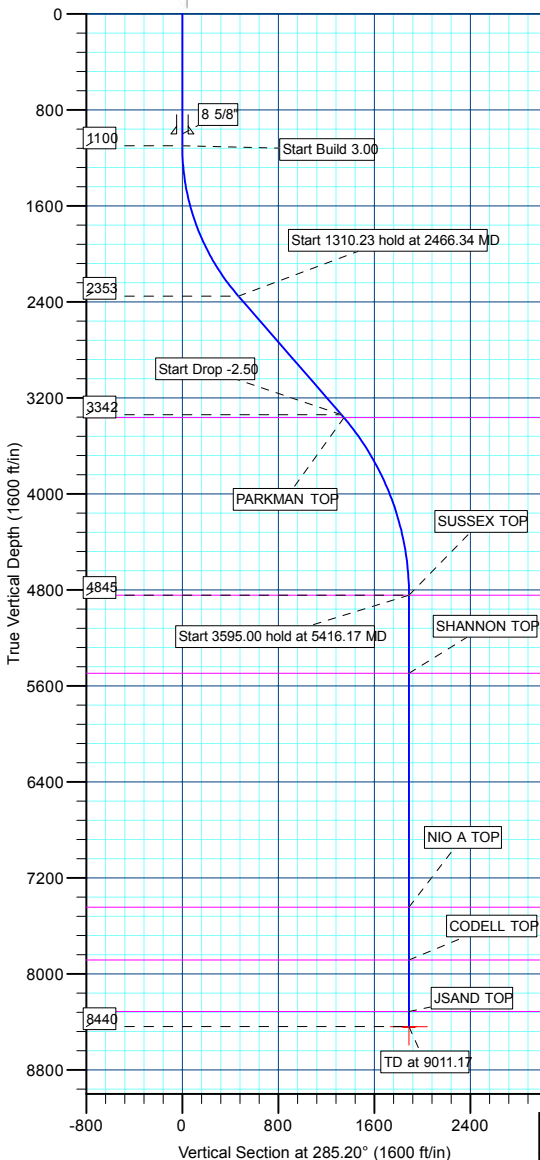
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
2466.34	40.99	285.20	2352.73	122.79	-451.87	3.00	285.20	468.25	
3776.57	40.99	285.20	3341.72	348.15	-1281.21	0.00	0.00	1327.67	
5416.17	0.00	0.00	4845.00	495.49	-1823.45	2.50	180.00	1889.57	
9011.17	0.00	0.00	8440.00	495.49	-1823.45	0.00	0.00	1889.57	PBHL_NORTHGLENN STATE 3-36(660 FNL 1980 FWL)50'TGT

CASING DETAILS

TVD	MD	Name	Size
1000.00	1000.00	8 5/8"	8.62

KB ELEV: WELL @ 5118.00ft (Original Well Elev)
GRD ELEV: 5103.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8440.00	495.49	-1823.45	1248081.80	3152841.13	40° 0' 47.088 N	104° 57' 15.588 W	Circle (Radius: 50.00)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site:	WELD_NORTHGLENN STATE 7 PAD	North Reference:	True
Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NORTHGLENN STATE 3-36		
Design:	PLAN #1 10-09-09 RHS		

Project	KERR MCGEE OIL & GAS ONSHORE LP, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site						WELD_NORTHGLENN STATE 7 PAD, SECTION 36 T1N R68W											
Site Position:						Northing:			1,247,612.25 ft			Latitude:			40° 0' 42.336 N		
From:			Lat/Long			Easting:			3,154,667.53 ft			Longitude:			104° 56' 52.152 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.36 °		

Well	P_NORTHGLENN STATE 3-36					
Well Position	+N/-S	-14.58 ft	Northing:	1,247,597.68 ft	Latitude:	40° 0' 42.192 N
	+E/-W	0.00 ft	Easting:	3,154,667.63 ft	Longitude:	104° 56' 52.152 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,103.00 ft

Wellbore	P_NORTHGLENN STATE 3-36				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/9/2009	9.12	66.77	53,101

Design	PLAN #1 10-09-09 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	285.20

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	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,466.34	40.99	285.20	2,352.73	122.79	-451.87	3.00	3.00	0.00	285.20	
3,776.57	40.99	285.20	3,341.72	348.15	-1,281.21	0.00	0.00	0.00	0.00	
5,416.17	0.00	0.00	4,845.00	495.49	-1,823.45	2.50	-2.50	0.00	180.00	
9,011.17	0.00	0.00	8,440.00	495.49	-1,823.45	0.00	0.00	0.00	0.00	PBHL_NORTHGLE

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site:	WELD_NORTHGLENN STATE 7 PAD	North Reference:	True
Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NORTHGLENN STATE 3-36		
Design:	PLAN #1 10-09-09 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 3.00									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	3.00	285.20	1,199.95	0.69	-2.53	2.62	3.00	3.00	0.00
1,300.00	6.00	285.20	1,299.63	2.74	-10.10	10.46	3.00	3.00	0.00
1,400.00	9.00	285.20	1,398.77	6.17	-22.69	23.51	3.00	3.00	0.00
1,500.00	12.00	285.20	1,497.08	10.94	-40.27	41.74	3.00	3.00	0.00
1,600.00	15.00	285.20	1,594.31	17.06	-62.80	65.08	3.00	3.00	0.00
1,700.00	18.00	285.20	1,690.18	24.51	-90.20	93.48	3.00	3.00	0.00
1,800.00	21.00	285.20	1,784.43	33.26	-122.41	126.85	3.00	3.00	0.00
1,900.00	24.00	285.20	1,876.81	43.30	-159.34	165.12	3.00	3.00	0.00
2,000.00	27.00	285.20	1,967.06	54.58	-200.88	208.16	3.00	3.00	0.00
2,100.00	30.00	285.20	2,054.93	67.10	-246.92	255.87	3.00	3.00	0.00
2,200.00	33.00	285.20	2,140.18	80.80	-297.33	308.12	3.00	3.00	0.00
2,300.00	36.00	285.20	2,222.59	95.65	-351.99	364.75	3.00	3.00	0.00
2,400.00	39.00	285.20	2,301.91	111.61	-410.73	425.62	3.00	3.00	0.00
Start 1310.23 hold at 2466.34 MD									
2,466.34	40.99	285.20	2,352.73	122.79	-451.87	468.25	3.00	3.00	0.00
2,500.00	40.99	285.20	2,378.14	128.58	-473.18	490.33	0.00	0.00	0.00
2,600.00	40.99	285.20	2,453.62	145.78	-536.47	555.93	0.00	0.00	0.00
2,700.00	40.99	285.20	2,529.11	162.98	-599.77	621.52	0.00	0.00	0.00
2,800.00	40.99	285.20	2,604.59	180.18	-663.07	687.11	0.00	0.00	0.00
2,900.00	40.99	285.20	2,680.07	197.38	-726.37	752.71	0.00	0.00	0.00
3,000.00	40.99	285.20	2,755.55	214.58	-789.66	818.30	0.00	0.00	0.00
3,100.00	40.99	285.20	2,831.04	231.78	-852.96	883.89	0.00	0.00	0.00
3,200.00	40.99	285.20	2,906.52	248.98	-916.26	949.48	0.00	0.00	0.00
3,300.00	40.99	285.20	2,982.00	266.18	-979.56	1,015.08	0.00	0.00	0.00
3,400.00	40.99	285.20	3,057.48	283.38	-1,042.85	1,080.67	0.00	0.00	0.00
3,500.00	40.99	285.20	3,132.96	300.58	-1,106.15	1,146.26	0.00	0.00	0.00
3,600.00	40.99	285.20	3,208.45	317.78	-1,169.45	1,211.86	0.00	0.00	0.00
3,700.00	40.99	285.20	3,283.93	334.98	-1,232.75	1,277.45	0.00	0.00	0.00
Start Drop -2.50									
3,776.57	40.99	285.20	3,341.72	348.15	-1,281.21	1,327.67	0.00	0.00	0.00
3,800.00	40.40	285.20	3,359.49	352.15	-1,295.96	1,342.95	2.50	-2.50	0.00
PARKMAN TOP									
3,807.23	40.22	285.20	3,365.00	353.38	-1,300.47	1,347.63	2.50	-2.50	0.00
3,900.00	37.90	285.20	3,437.03	368.71	-1,356.88	1,406.09	2.50	-2.50	0.00
4,000.00	35.40	285.20	3,517.25	384.36	-1,414.49	1,465.78	2.50	-2.50	0.00
4,100.00	32.90	285.20	3,599.99	399.08	-1,468.66	1,521.92	2.50	-2.50	0.00
4,200.00	30.40	285.20	3,685.11	412.84	-1,519.30	1,574.39	2.50	-2.50	0.00
4,300.00	27.90	285.20	3,772.43	425.62	-1,566.31	1,623.11	2.50	-2.50	0.00
4,400.00	25.40	285.20	3,861.80	437.38	-1,609.60	1,667.96	2.50	-2.50	0.00
4,500.00	22.90	285.20	3,953.04	448.11	-1,649.08	1,708.88	2.50	-2.50	0.00
4,600.00	20.40	285.20	4,045.97	457.78	-1,684.69	1,745.78	2.50	-2.50	0.00
4,700.00	17.90	285.20	4,140.43	466.39	-1,716.35	1,778.59	2.50	-2.50	0.00
4,800.00	15.40	285.20	4,236.23	473.90	-1,744.00	1,807.24	2.50	-2.50	0.00
4,900.00	12.90	285.20	4,333.18	480.31	-1,767.60	1,831.69	2.50	-2.50	0.00
5,000.00	10.40	285.20	4,431.11	485.61	-1,787.09	1,851.89	2.50	-2.50	0.00
5,100.00	7.90	285.20	4,529.83	489.78	-1,802.44	1,867.80	2.50	-2.50	0.00
5,200.00	5.40	285.20	4,629.15	492.82	-1,813.62	1,879.39	2.50	-2.50	0.00
5,300.00	2.90	285.20	4,728.88	494.72	-1,820.61	1,886.63	2.50	-2.50	0.00
5,400.00	0.40	285.20	4,828.83	495.47	-1,823.40	1,889.52	2.50	-2.50	0.00
Start 3595.00 hold at 5416.17 MD - SUSSEX TOP									
5,416.17	0.00	0.00	4,845.00	495.49	-1,823.45	1,889.57	2.50	-2.50	0.00
5,500.00	0.00	0.00	4,928.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00

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Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site:	WELD_NORTHGLENN STATE 7 PAD	North Reference:	True
Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NORTHGLENN STATE 3-36		
Design:	PLAN #1 10-09-09 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,600.00	0.00	0.00	5,028.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
5,700.00	0.00	0.00	5,128.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
5,800.00	0.00	0.00	5,228.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
5,900.00	0.00	0.00	5,328.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,000.00	0.00	0.00	5,428.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
SHANNON TOP									
6,066.17	0.00	0.00	5,495.00	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,100.00	0.00	0.00	5,528.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,200.00	0.00	0.00	5,628.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,300.00	0.00	0.00	5,728.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,400.00	0.00	0.00	5,828.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,500.00	0.00	0.00	5,928.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,600.00	0.00	0.00	6,028.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,700.00	0.00	0.00	6,128.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,800.00	0.00	0.00	6,228.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
6,900.00	0.00	0.00	6,328.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,000.00	0.00	0.00	6,428.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,100.00	0.00	0.00	6,528.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,200.00	0.00	0.00	6,628.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,300.00	0.00	0.00	6,728.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,400.00	0.00	0.00	6,828.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,500.00	0.00	0.00	6,928.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,600.00	0.00	0.00	7,028.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,700.00	0.00	0.00	7,128.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,800.00	0.00	0.00	7,228.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
7,900.00	0.00	0.00	7,328.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,000.00	0.00	0.00	7,428.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
NIO A TOP									
8,016.17	0.00	0.00	7,445.00	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,100.00	0.00	0.00	7,528.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,200.00	0.00	0.00	7,628.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,300.00	0.00	0.00	7,728.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,400.00	0.00	0.00	7,828.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
CODELL TOP									
8,456.17	0.00	0.00	7,885.00	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,500.00	0.00	0.00	7,928.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,600.00	0.00	0.00	8,028.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,700.00	0.00	0.00	8,128.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,800.00	0.00	0.00	8,228.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
JSAND TOP									
8,886.17	0.00	0.00	8,315.00	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
8,900.00	0.00	0.00	8,328.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
9,000.00	0.00	0.00	8,428.83	495.49	-1,823.45	1,889.57	0.00	0.00	0.00
TD at 9011.17 - PBHL_NORTHGLENN STATE 3-36(660 FNL 1980 FWL)50'TGT									
9,011.17	0.00	0.00	8,440.00	495.49	-1,823.45	1,889.57	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Project:	KERR MCGEE OIL & GAS ONSHORE LP	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site:	WELD_NORTHGLENN STATE 7 PAD	North Reference:	True
Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NORTHGLENN STATE 3-36		
Design:	PLAN #1 10-09-09 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_NORTHGLENN - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,440.00	495.49	-1,823.45	1,248,081.80	3,152,841.13	40° 0' 47.088 N	104° 57' 15.588 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	1,000.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,807.23	3,365.00	PARKMAN TOP				
5,416.17	4,845.00	SUSSEX TOP				
6,066.17	5,495.00	SHANNON TOP				
8,016.17	7,445.00	NIO A TOP				
8,456.17	7,885.00	CODELL TOP				
8,886.17	8,315.00	JSAND TOP				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,100.00	1,100.00	0.00	0.00	Start Build 3.00	
2,466.34	2,352.73	122.79	-451.87	Start 1310.23 hold at 2466.34 MD	
3,776.57	3,341.72	348.15	-1,281.21	Start Drop -2.50	
5,416.17	4,845.00	495.49	-1,823.45	Start 3595.00 hold at 5416.17 MD	
9,011.17	8,440.00	495.49	-1,823.45	TD at 9011.17	



US ROCKIES REGION PLANNING

**KERR MCGEE OIL & GAS ONSHORE LP
WELD_NORTHGLENN STATE 7 PAD
P_NORTHGLENN STATE 3-36**

**P_NORTHGLENN STATE 3-36
PLAN #1 10-09-09 RHS**

Anticollision Report

09 October, 2009



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 10-09-09 RHS		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	10/9/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	9,011.17	PLAN #1 10-09-09 RHS (P_NORTHGLEN	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_NORTHGLENN STATE 7 PAD						
P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STA	1,100.00	1,100.00	14.58	9.89	3.111	CC
P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STA	1,113.30	1,113.26	14.58	9.84	3.074	ES
P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STA	1,200.00	1,199.59	15.31	10.19	2.990	SF
P_NORTHGLENN STATE 21-36 - P_NORTHGLENN ST	1,100.00	1,100.00	32.79	28.10	6.997	CC, ES
P_NORTHGLENN STATE 21-36 - P_NORTHGLENN ST	1,200.00	1,199.85	33.71	28.59	6.594	SF
P_NORTHGLENN STATE 2-36 - P_NORTHGLENN STA	1,100.00	1,100.00	32.78	28.10	6.996	CC, ES
P_NORTHGLENN STATE 2-36 - P_NORTHGLENN STA	1,300.00	1,298.41	35.11	29.56	6.319	SF
P_NORTHGLENN STATE 41-36 - P_NORTHGLENN ST	1,100.00	1,100.00	14.58	9.89	3.110	CC, ES, SF
P_NORTHGLENN STATE 7-36 - P_NORTHGLENN STA	1,100.00	1,100.00	65.57	60.88	13.992	CC, ES
P_NORTHGLENN STATE 7-36 - P_NORTHGLENN STA	1,200.00	1,198.07	67.70	62.60	13.282	SF
P_NORTHGLENN STATE 8-36 - P_NORTHGLENN STA	1,100.00	1,100.00	47.36	42.67	10.106	CC, ES
P_NORTHGLENN STATE 8-36 - P_NORTHGLENN STA	1,200.00	1,198.71	49.38	44.28	9.681	SF
STEELE STATE #2-36 EXISTING - STEELE STATE #2-	1,556.90	1,552.55	16.67	-46.62	0.263	Level 1, CC, ES, SF

Offset Design		WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STATE 1-36										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	0.00	14.58	0.00	14.58					
100.00	100.00	100.00	100.00	0.10	0.10	0.00	14.58	0.00	14.58	14.39	0.19	76.312		
200.00	200.00	200.00	200.00	0.32	0.32	0.00	14.58	0.00	14.58	13.94	0.64	22.760		
300.00	300.00	300.00	300.00	0.55	0.55	0.00	14.58	0.00	14.58	13.49	1.09	13.374		
400.00	400.00	400.00	400.00	0.77	0.77	0.00	14.58	0.00	14.58	13.04	1.54	9.469		
500.00	500.00	500.00	500.00	0.99	0.99	0.00	14.58	0.00	14.58	12.59	1.99	7.329		
600.00	600.00	600.00	600.00	1.22	1.22	0.00	14.58	0.00	14.58	12.14	2.44	5.978		
700.00	700.00	700.00	700.00	1.44	1.44	0.00	14.58	0.00	14.58	11.69	2.89	5.048		
800.00	800.00	800.00	800.00	1.67	1.67	0.00	14.58	0.00	14.58	11.24	3.34	4.368		
900.00	900.00	900.00	900.00	1.89	1.89	0.00	14.58	0.00	14.58	10.79	3.79	3.850		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	14.58	0.00	14.58	10.34	4.24	3.441		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	14.58	0.00	14.58	9.89	4.69	3.111	CC	
1,113.30	1,113.30	1,113.26	1,113.26	2.37	2.37	75.08	14.59	0.03	14.58	9.84	4.74	3.074	ES	
1,200.00	1,199.95	1,199.59	1,199.57	2.56	2.56	89.94	15.46	1.49	15.31	10.19	5.12	2.990	SF	
1,300.00	1,299.63	1,298.30	1,298.14	2.78	2.77	120.59	18.05	5.92	22.20	16.67	5.53	4.012		

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

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Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STATE 1-36												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 Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,400.00	1,398.77	1,395.25	1,394.73	3.02	2.99	139.61	22.28	13.11	39.46	33.54	5.92	6.662	
1,500.00	1,497.08	1,489.66	1,488.46	3.30	3.22	148.29	27.98	22.81	65.91	59.62	6.30	10.466	
1,600.00	1,594.31	1,580.78	1,578.53	3.63	3.46	152.49	34.97	34.70	100.38	93.71	6.67	15.059	
1,700.00	1,690.18	1,668.55	1,664.83	4.05	3.72	154.71	43.05	48.46	142.18	135.15	7.03	20.223	
1,800.00	1,784.43	1,756.53	1,751.16	4.57	4.00	156.23	51.65	63.09	189.36	181.96	7.40	25.578	
1,900.00	1,876.81	1,842.01	1,835.03	5.19	4.29	157.38	60.00	77.31	240.89	233.11	7.78	30.970	
2,000.00	1,967.06	1,924.76	1,916.23	5.93	4.58	158.27	68.08	91.07	296.65	288.49	8.16	36.365	
2,100.00	2,054.93	2,004.54	1,994.51	6.79	4.86	158.95	75.88	104.34	356.53	347.99	8.54	41.729	
2,200.00	2,140.18	2,081.15	2,069.68	7.78	5.14	159.45	83.37	117.09	420.38	411.44	8.94	47.018	
2,300.00	2,222.59	2,154.37	2,141.52	8.89	5.42	159.78	90.52	129.26	488.06	478.71	9.35	52.190	
2,400.00	2,301.91	2,223.99	2,209.84	10.13	5.68	159.95	97.32	140.84	559.38	549.60	9.78	57.192	
2,466.34	2,352.73	2,268.11	2,253.13	11.01	5.85	159.99	101.63	148.18	608.63	598.55	10.08	60.382	
2,500.00	2,378.14	2,290.06	2,274.67	11.48	5.93	160.36	103.78	151.83	634.00	623.71	10.29	61.631	
2,600.00	2,453.62	2,355.28	2,338.66	12.88	6.19	161.33	110.15	162.68	709.44	698.52	10.91	65.001	
2,700.00	2,529.11	2,420.50	2,402.65	14.30	6.44	162.12	116.52	173.53	784.94	773.39	11.55	67.942	
2,800.00	2,604.59	2,485.71	2,466.65	15.74	6.70	162.76	122.90	184.37	860.50	848.30	12.20	70.522	
2,900.00	2,680.07	2,550.93	2,530.64	17.18	6.95	163.31	129.27	195.22	936.10	923.25	12.86	72.801	
3,000.00	2,755.55	2,616.15	2,594.63	18.64	7.21	163.77	135.64	206.07	1,011.74	998.21	13.52	74.828	
3,100.00	2,831.04	2,681.37	2,658.62	20.10	7.47	164.17	142.01	216.91	1,087.39	1,073.20	14.19	76.638	
3,200.00	2,906.52	2,746.58	2,722.62	21.56	7.73	164.52	148.39	227.76	1,163.07	1,148.20	14.86	78.263	
3,300.00	2,982.00	2,811.80	2,786.61	23.03	8.00	164.82	154.76	238.61	1,238.76	1,223.22	15.54	79.730	
3,400.00	3,057.48	2,877.02	2,850.60	24.50	8.26	165.09	161.13	249.46	1,314.46	1,298.25	16.22	81.060	
3,500.00	3,132.96	2,942.24	2,914.60	25.98	8.53	165.33	167.50	260.30	1,390.18	1,373.28	16.90	82.269	
3,600.00	3,208.45	3,007.45	2,978.59	27.46	8.79	165.55	173.88	271.15	1,465.90	1,448.32	17.58	83.374	
3,700.00	3,283.93	3,072.67	3,042.58	28.94	9.06	165.74	180.25	282.00	1,541.64	1,523.37	18.27	84.386	
3,776.57	3,341.72	3,122.61	3,091.58	30.07	9.26	165.88	185.13	290.30	1,599.63	1,580.83	18.80	85.106	
3,800.00	3,359.49	3,137.98	3,106.66	30.40	9.32	166.08	186.63	292.86	1,617.30	1,598.31	18.99	85.172	
3,900.00	3,437.03	3,205.54	3,172.96	31.65	9.60	166.84	193.23	304.10	1,690.97	1,671.17	19.80	85.403	
4,000.00	3,517.25	3,276.21	3,242.29	32.82	9.89	167.46	200.14	315.85	1,761.71	1,741.10	20.61	85.490	
4,100.00	3,599.99	3,349.83	3,314.53	33.92	10.20	167.97	207.33	328.09	1,829.37	1,807.97	21.40	85.478	
4,200.00	3,685.11	3,426.27	3,389.53	34.93	10.51	168.39	214.80	340.81	1,893.83	1,871.65	22.18	85.398	
4,300.00	3,772.43	3,505.38	3,467.16	35.86	10.84	168.72	222.53	353.97	1,954.97	1,932.04	22.93	85.275	
4,400.00	3,861.80	3,587.02	3,547.27	36.71	11.18	168.98	230.51	367.54	2,012.66	1,989.02	23.64	85.124	
4,500.00	3,953.04	3,671.02	3,629.69	37.47	11.53	169.19	238.72	381.52	2,066.81	2,042.49	24.33	84.959	
4,600.00	4,045.97	3,757.24	3,714.29	38.15	11.88	169.34	247.14	395.85	2,117.32	2,092.35	24.97	84.789	
4,700.00	4,140.43	3,845.49	3,800.89	38.75	12.25	169.44	255.76	410.53	2,164.09	2,138.51	25.57	84.621	
4,800.00	4,236.23	3,935.63	3,889.33	39.26	12.63	169.50	264.57	425.52	2,207.04	2,180.90	26.13	84.461	
4,900.00	4,333.18	4,027.46	3,979.44	39.70	13.01	169.52	273.54	440.80	2,246.09	2,219.45	26.64	84.312	
5,000.00	4,431.11	4,120.83	4,071.05	40.06	13.40	169.50	282.67	456.33	2,281.17	2,254.07	27.10	84.177	
5,100.00	4,529.83	4,215.55	4,163.99	40.35	13.80	169.44	291.92	472.08	2,312.24	2,284.73	27.51	84.060	
5,200.00	4,629.15	4,311.44	4,258.08	40.57	14.20	169.35	301.29	488.03	2,339.23	2,311.37	27.86	83.959	
5,300.00	4,728.88	4,408.32	4,353.14	40.72	14.61	169.22	310.76	504.14	2,362.10	2,333.94	28.16	83.876	
5,400.00	4,828.83	4,506.00	4,448.99	40.81	15.02	169.06	320.30	520.39	2,380.82	2,352.41	28.41	83.808	
5,416.17	4,845.00	4,521.86	4,464.55	40.82	15.08	94.23	321.85	523.03	2,383.46	2,355.01	28.44	83.799	
5,500.00	4,928.83	4,604.12	4,545.26	40.87	15.43	94.01	329.89	536.71	2,396.86	2,368.01	28.84	83.099	
5,600.00	5,028.83	4,702.24	4,641.54	40.92	15.84	93.76	339.48	553.03	2,412.88	2,383.56	29.33	82.275	
5,700.00	5,128.83	4,800.36	4,737.82	40.98	16.25	93.50	349.07	569.35	2,428.96	2,399.15	29.81	81.478	
5,800.00	5,228.83	4,898.48	4,834.10	41.04	16.67	93.25	358.65	585.67	2,445.08	2,414.78	30.30	80.707	
5,900.00	5,328.83	4,996.60	4,930.38	41.10	17.08	93.00	368.24	601.99	2,461.24	2,430.46	30.78	79.961	
6,000.00	5,428.83	5,094.73	5,026.66	41.16	17.49	92.76	377.83	618.31	2,477.46	2,446.19	31.27	79.239	
6,100.00	5,528.83	5,192.85	5,122.94	41.22	17.91	92.52	387.42	634.63	2,493.71	2,461.96	31.75	78.540	
6,200.00	5,628.83	5,290.97	5,219.21	41.29	18.32	92.28	397.00	650.95	2,510.01	2,477.77	32.24	77.863	

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

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Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 1-36 - P_NORTHGLENN STATE 1-36													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		
6,300.00	5,728.83	5,389.09	5,315.49	41.35	18.73	92.04	406.59	667.27	2,526.35	2,493.63	32.72	77.207		
6,400.00	5,828.83	5,487.21	5,411.77	41.42	19.15	91.81	416.18	683.59	2,542.73	2,509.52	33.21	76.571		
6,500.00	5,928.83	5,585.33	5,508.05	41.49	19.56	91.58	425.77	699.91	2,559.15	2,525.46	33.69	75.955		
6,600.00	6,028.83	5,683.46	5,604.33	41.55	19.98	91.36	435.36	716.23	2,575.61	2,541.44	34.18	75.358		
6,700.00	6,128.83	5,781.58	5,700.61	41.62	20.39	91.13	444.94	732.55	2,592.12	2,557.45	34.66	74.779		
6,800.00	6,228.83	5,879.70	5,796.89	41.69	20.81	90.91	454.53	748.87	2,608.65	2,573.51	35.15	74.217		
6,900.00	6,328.83	5,977.82	5,893.17	41.77	21.22	90.69	464.12	765.19	2,625.23	2,589.60	35.63	73.672		
7,000.00	6,428.83	6,075.94	5,989.29	41.84	21.63	90.47	473.71	781.70	2,641.74	2,605.11	36.11	73.127		
7,100.00	6,528.83	6,174.06	6,086.41	41.91	22.04	90.25	483.30	798.21	2,658.25	2,620.62	36.59	72.582		
7,200.00	6,628.83	6,272.18	6,182.53	41.99	22.45	90.03	492.89	814.72	2,674.76	2,636.13	37.07	72.037		
7,300.00	6,728.83	6,370.30	6,278.65	42.06	22.86	89.81	502.48	831.23	2,691.27	2,651.64	37.55	71.492		
7,400.00	6,828.83	6,468.42	6,374.77	42.14	23.27	89.59	512.07	847.74	2,707.78	2,667.15	38.03	70.947		
7,500.00	6,928.83	6,566.54	6,470.89	42.22	23.68	89.37	521.66	864.25	2,724.29	2,682.66	38.51	70.402		
7,600.00	7,028.83	6,664.66	6,567.01	42.30	24.09	89.15	531.25	880.76	2,740.80	2,698.17	38.99	69.857		
7,700.00	7,128.83	6,762.78	6,663.13	42.38	24.50	88.93	540.84	897.27	2,757.31	2,713.68	39.47	69.312		
7,800.00	7,228.83	6,860.90	6,759.25	42.46	24.91	88.71	550.43	913.78	2,773.82	2,729.19	39.95	68.767		
7,900.00	7,328.83	6,959.02	6,855.37	42.54	25.32	88.49	560.02	930.29	2,790.33	2,744.70	40.43	68.222		
8,000.00	7,428.83	7,057.14	6,951.49	42.62	25.73	88.27	569.61	946.80	2,806.84	2,760.21	40.91	67.677		
8,100.00	7,528.83	7,155.26	7,047.61	42.71	26.14	88.05	579.20	963.31	2,823.35	2,775.72	41.39	67.132		
8,200.00	7,628.83	7,253.38	7,143.73	42.79	26.55	87.83	588.79	979.82	2,839.86	2,791.23	41.87	66.587		
8,300.00	7,728.83	7,351.50	7,239.85	42.88	26.96	87.61	598.38	996.33	2,856.37	2,806.74	42.35	66.042		
8,400.00	7,828.83	7,449.62	7,335.97	42.97	27.37	87.39	607.97	1,012.84	2,872.88	2,822.25	42.83	65.497		
8,500.00	7,928.83	7,547.74	7,432.09	43.05	27.78	87.17	617.56	1,029.35	2,889.39	2,837.76	43.31	64.952		
8,600.00	8,028.83	7,645.86	7,528.21	43.14	28.19	86.95	627.15	1,045.86	2,905.90	2,853.27	43.79	64.407		
8,700.00	8,128.83	7,743.98	7,624.33	43.23	28.60	86.73	636.74	1,062.37	2,922.41	2,868.78	44.27	63.862		
8,800.00	8,228.83	7,842.10	7,720.45	43.32	29.01	86.51	646.33	1,078.88	2,938.92	2,884.29	44.75	63.317		
8,900.00	8,328.83	7,940.22	7,816.57	43.42	29.42	86.29	655.92	1,095.39	2,955.43	2,899.80	45.23	62.772		
9,000.00	8,428.83	8,038.34	7,912.69	43.51	29.83	86.07	665.51	1,111.90	2,971.94	2,915.31	45.71	62.227		
9,011.17	8,440.00	8,528.22	8,440.00	43.52	25.44	90.08	491.79	812.29	2,635.75	2,592.01	43.74	60.266		

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	-180.00	-32.79	0.00	32.79				
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-32.79	0.00	32.79	32.60	0.19	171.624	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-32.79	0.00	32.79	32.15	0.64	51.186	
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-32.79	0.00	32.79	31.70	1.09	30.078	
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-32.79	0.00	32.79	31.25	1.54	21.296	
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-32.79	0.00	32.79	30.80	1.99	16.484	
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-32.79	0.00	32.79	30.35	2.44	13.445	
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-32.79	0.00	32.79	29.90	2.89	11.353	
800.00	800.00	800.00	800.00	1.67	1.67	-180.00	-32.79	0.00	32.79	29.45	3.34	9.824	
900.00	900.00	900.00	900.00	1.89	1.89	-180.00	-32.79	0.00	32.79	29.00	3.79	8.658	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-180.00	-32.79	0.00	32.79	28.55	4.24	7.739	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-180.00	-32.79	0.00	32.79	28.10	4.69	6.997 CC, ES	
1,200.00	1,199.95	1,199.85	1,199.83	2.56	2.55	-106.53	-33.01	-1.73	33.71	28.59	5.11	6.594 SF	
1,300.00	1,299.63	1,299.69	1,299.53	2.78	2.75	-110.10	-33.67	-6.90	36.56	31.03	5.53	6.613	
1,400.00	1,398.77	1,399.51	1,398.97	3.02	2.97	-114.91	-34.78	-15.52	41.57	35.60	5.97	6.958	
1,500.00	1,497.08	1,499.30	1,498.01	3.30	3.21	-119.91	-36.33	-27.56	48.96	42.50	6.46	7.575	
1,600.00	1,594.31	1,599.04	1,596.52	3.63	3.47	-124.41	-38.31	-43.00	58.85	51.84	7.01	8.398	
1,700.00	1,690.18	1,698.74	1,694.39	4.05	3.78	-128.15	-40.73	-61.83	71.26	63.65	7.62	9.356	
1,800.00	1,784.43	1,798.11	1,791.24	4.57	4.13	-131.18	-43.55	-83.84	86.23	77.92	8.30	10.385	
1,900.00	1,876.81	1,896.17	1,886.62	5.19	4.51	-134.75	-46.46	-106.46	104.63	95.61	9.02	11.600	
2,000.00	1,967.06	1,993.19	1,980.98	5.93	4.91	-138.67	-49.33	-128.85	127.20	117.47	9.73	13.075	
2,100.00	2,054.93	2,088.91	2,074.07	6.79	5.32	-142.43	-52.16	-150.93	154.28	143.87	10.42	14.813	
2,200.00	2,140.18	2,183.05	2,165.63	7.78	5.73	-145.80	-54.95	-172.65	186.07	174.99	11.08	16.794	
2,300.00	2,222.59	2,275.36	2,255.41	8.89	6.14	-148.70	-57.68	-193.94	222.63	210.91	11.72	18.991	
2,400.00	2,301.91	2,365.59	2,343.16	10.13	6.55	-151.15	-60.36	-214.76	263.96	251.61	12.35	21.369	
2,466.34	2,352.73	2,424.17	2,400.14	11.01	6.82	-152.55	-62.09	-228.27	293.98	281.21	12.77	23.029	
2,500.00	2,378.14	2,453.63	2,428.79	11.48	6.96	-153.41	-62.96	-235.07	309.76	296.75	13.01	23.817	
2,600.00	2,453.62	2,541.14	2,513.89	12.88	7.37	-155.54	-65.56	-255.26	356.90	343.16	13.74	25.983	
2,700.00	2,529.11	2,628.64	2,599.00	14.30	7.78	-157.17	-68.15	-275.44	404.34	389.85	14.49	27.911	
2,800.00	2,604.59	2,716.15	2,684.11	15.74	8.20	-158.47	-70.74	-295.63	451.99	436.73	15.25	29.632	
2,900.00	2,680.07	2,803.65	2,769.21	17.18	8.61	-159.52	-73.33	-315.82	499.78	483.75	16.03	31.174	
3,000.00	2,755.55	2,891.16	2,854.32	18.64	9.03	-160.38	-75.92	-336.01	547.68	530.86	16.82	32.561	
3,100.00	2,831.04	2,978.66	2,939.42	20.10	9.46	-161.11	-78.51	-356.20	595.66	578.04	17.62	33.814	
3,200.00	2,906.52	3,066.17	3,024.53	21.56	9.88	-161.73	-81.10	-376.38	643.70	625.28	18.42	34.950	
3,300.00	2,982.00	3,153.67	3,109.63	23.03	10.31	-162.26	-83.70	-396.57	691.79	672.57	19.22	35.985	
3,400.00	3,057.48	3,241.18	3,194.74	24.50	10.73	-162.73	-86.29	-416.76	739.92	719.89	20.04	36.931	
3,500.00	3,132.96	3,328.69	3,279.85	25.98	11.16	-163.14	-88.88	-436.95	788.09	767.24	20.85	37.799	
3,600.00	3,208.45	3,416.19	3,364.95	27.46	11.59	-163.50	-91.47	-457.13	836.28	814.62	21.67	38.598	
3,700.00	3,283.93	3,503.70	3,450.06	28.94	12.02	-163.82	-94.06	-477.32	884.50	862.02	22.49	39.336	
3,776.57	3,341.72	3,570.70	3,515.22	30.07	12.35	-164.04	-96.05	-492.78	921.43	898.32	23.11	39.864	
3,800.00	3,359.49	3,591.26	3,535.22	30.40	12.45	-164.19	-96.65	-497.52	932.64	909.31	23.32	39.987	
3,900.00	3,437.03	3,680.24	3,621.75	31.65	12.89	-164.74	-99.29	-518.05	978.16	953.96	24.19	40.430	
4,000.00	3,517.25	3,771.08	3,710.11	32.82	13.34	-165.15	-101.98	-539.01	1,019.90	994.83	25.07	40.688	
4,100.00	3,599.99	3,863.62	3,800.11	33.92	13.80	-165.45	-104.72	-560.36	1,057.77	1,031.84	25.93	40.787	
4,200.00	3,685.11	3,957.68	3,891.59	34.93	14.27	-165.65	-107.51	-582.05	1,091.71	1,064.92	26.79	40.750	
4,300.00	3,772.43	4,053.07	3,984.37	35.86	14.74	-165.76	-110.33	-604.06	1,121.64	1,094.01	27.63	40.593	
4,400.00	3,861.80	4,149.63	4,078.27	36.71	15.22	-165.80	-113.19	-626.34	1,147.51	1,119.06	28.45	40.329	
4,500.00	3,953.04	4,247.15	4,173.12	37.47	15.71	-165.75	-116.08	-648.84	1,169.29	1,140.03	29.25	39.970	
4,600.00	4,045.97	4,345.47	4,268.74	38.15	16.20	-165.63	-118.99	-671.52	1,186.93	1,156.90	30.03	39.521	
4,700.00	4,140.43	4,444.38	4,364.94	38.75	16.69	-165.44	-121.92	-694.34	1,200.42	1,169.63	30.79	38.989	
4,800.00	4,236.23	4,543.71	4,461.55	39.26	17.19	-165.18	-124.86	-717.25	1,209.75	1,178.23	31.52	38.376	
4,900.00	4,333.18	4,643.26	4,558.37	39.70	17.68	-164.85	-127.81	-740.22	1,214.92	1,182.68	32.24	37.684	

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_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	4,431.11	4,742.84	4,655.22	40.06	18.18	-164.43	-130.76	-763.19	1,215.93	1,183.00	32.94	36.914	
5,100.00	4,529.83	4,842.27	4,751.92	40.35	18.68	-163.94	-133.70	-786.13	1,212.82	1,179.19	33.63	36.064	
5,200.00	4,629.15	4,941.36	4,848.29	40.57	19.17	-163.35	-136.64	-808.99	1,205.62	1,171.30	34.32	35.132	
5,300.00	4,728.88	5,039.91	4,944.14	40.72	19.67	-162.66	-139.56	-831.73	1,194.38	1,159.37	35.01	34.115	
5,400.00	4,828.83	5,137.74	5,039.28	40.81	20.16	-161.87	-142.45	-854.30	1,179.15	1,143.43	35.72	33.008	
5,416.17	4,845.00	5,153.48	5,054.59	40.82	20.24	123.47	-142.92	-857.93	1,176.32	1,140.48	35.84	32.821	
5,500.00	4,928.83	5,235.01	5,133.88	40.87	20.65	124.09	-145.33	-876.74	1,161.45	1,124.82	36.63	31.706	
5,600.00	5,028.83	5,332.26	5,228.47	40.92	21.13	124.85	-148.21	-899.17	1,143.90	1,106.30	37.60	30.421	
5,700.00	5,128.83	5,429.52	5,323.07	40.98	21.62	125.64	-151.09	-921.61	1,126.55	1,087.96	38.60	29.188	
5,800.00	5,228.83	5,526.78	5,417.66	41.04	22.11	126.45	-153.97	-944.05	1,109.42	1,069.81	39.61	28.005	
5,900.00	5,328.83	5,624.04	5,512.25	41.10	22.60	127.28	-156.85	-966.49	1,092.52	1,051.86	40.66	26.872	
6,000.00	5,428.83	5,721.29	5,606.84	41.16	23.09	128.14	-159.74	-988.92	1,075.85	1,034.13	41.72	25.786	
6,100.00	5,528.83	5,818.55	5,701.43	41.22	23.57	129.02	-162.62	-1,011.36	1,059.43	1,016.62	42.81	24.746	
6,200.00	5,628.83	5,911.20	5,791.55	41.29	24.02	129.89	-165.35	-1,032.68	1,043.32	999.46	43.86	23.788	
6,300.00	5,728.83	5,989.54	5,868.09	41.35	24.29	130.57	-167.48	-1,049.23	1,028.76	984.10	44.65	23.038	
6,400.00	5,828.83	6,068.76	5,945.92	41.42	24.54	131.19	-169.35	-1,063.85	1,016.23	970.84	45.39	22.388	
6,500.00	5,928.83	6,148.76	6,024.91	41.49	24.77	131.74	-170.97	-1,076.44	1,005.70	959.63	46.06	21.833	
6,600.00	6,028.83	6,229.42	6,104.87	41.55	24.98	132.20	-172.31	-1,086.92	997.11	950.45	46.66	21.368	
6,700.00	6,128.83	6,310.62	6,185.63	41.62	25.16	132.57	-173.38	-1,095.20	990.43	943.25	47.19	20.990	
6,800.00	6,228.83	6,400.00	6,274.77	41.69	25.32	132.86	-174.21	-1,101.70	985.67	938.02	47.65	20.685	
6,900.00	6,328.83	6,474.12	6,348.81	41.77	25.43	133.01	-174.63	-1,104.99	982.68	934.71	47.97	20.485	
7,000.00	6,428.83	6,556.16	6,430.83	41.84	25.53	133.07	-174.82	-1,106.41	981.56	933.33	48.24	20.349	
7,037.52	6,466.35	6,591.68	6,466.35	41.87	25.57	133.07	-174.82	-1,106.43	981.55	933.23	48.32	20.311	
7,100.00	6,528.83	6,654.15	6,528.83	41.91	25.64	133.07	-174.82	-1,106.43	981.55	933.07	48.48	20.247	
7,200.00	6,628.83	6,754.15	6,628.83	41.99	25.76	133.07	-174.82	-1,106.43	981.55	932.83	48.73	20.145	
7,300.00	6,728.83	6,854.15	6,728.83	42.06	25.88	133.07	-174.82	-1,106.43	981.55	932.57	48.98	20.042	
7,400.00	6,828.83	6,954.15	6,828.83	42.14	26.00	133.07	-174.82	-1,106.43	981.55	932.32	49.23	19.939	
7,500.00	6,928.83	7,054.15	6,928.83	42.22	26.12	133.07	-174.82	-1,106.43	981.55	932.07	49.48	19.835	
7,600.00	7,028.83	7,154.15	7,028.83	42.30	26.25	133.07	-174.82	-1,106.43	981.55	931.81	49.74	19.732	
7,700.00	7,128.83	7,254.15	7,128.83	42.38	26.37	133.07	-174.82	-1,106.43	981.55	931.54	50.01	19.629	
7,800.00	7,228.83	7,354.15	7,228.83	42.46	26.50	133.07	-174.82	-1,106.43	981.55	931.28	50.27	19.526	
7,900.00	7,328.83	7,454.15	7,328.83	42.54	26.62	133.07	-174.82	-1,106.43	981.55	931.01	50.54	19.422	
8,000.00	7,428.83	7,554.15	7,428.83	42.62	26.75	133.07	-174.82	-1,106.43	981.55	930.74	50.81	19.319	
8,100.00	7,528.83	7,654.15	7,528.83	42.71	26.88	133.07	-174.82	-1,106.43	981.55	930.47	51.08	19.216	
8,200.00	7,628.83	7,754.15	7,628.83	42.79	27.01	133.07	-174.82	-1,106.43	981.55	930.20	51.35	19.113	
8,300.00	7,728.83	7,854.15	7,728.83	42.88	27.15	133.07	-174.82	-1,106.43	981.55	929.92	51.63	19.011	
8,400.00	7,828.83	7,954.15	7,828.83	42.97	27.28	133.07	-174.82	-1,106.43	981.55	929.64	51.91	18.908	
8,500.00	7,928.83	8,054.15	7,928.83	43.05	27.42	133.07	-174.82	-1,106.43	981.55	929.36	52.19	18.806	
8,600.00	8,028.83	8,154.15	8,028.83	43.14	27.55	133.07	-174.82	-1,106.43	981.55	929.07	52.48	18.704	
8,700.00	8,128.83	8,165.32	8,040.00	43.23	27.57	133.07	-174.82	-1,106.43	985.56	932.93	52.63	18.726	
8,800.00	8,228.83	8,165.32	8,040.00	43.32	27.57	133.07	-174.82	-1,106.43	999.55	946.78	52.77	18.942	
8,900.00	8,328.83	8,165.32	8,040.00	43.42	27.57	133.07	-174.82	-1,106.43	1,023.16	970.26	52.91	19.338	
9,000.00	8,428.83	8,165.32	8,040.00	43.51	27.57	133.07	-174.82	-1,106.43	1,055.76	1,002.71	53.05	19.902	
9,011.17	8,440.00	8,165.32	8,040.00	43.52	27.57	133.07	-174.82	-1,106.43	1,059.93	1,006.86	53.06	19.974	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	0.00	32.78	0.00	32.78				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	32.78	0.00	32.78	32.59	0.19	171.602	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	32.78	0.00	32.78	32.14	0.64	51.180	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	32.78	0.00	32.78	31.69	1.09	30.075	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	32.78	0.00	32.78	31.25	1.54	21.294	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	32.78	0.00	32.78	30.80	1.99	16.482	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	32.78	0.00	32.78	30.35	2.44	13.443	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	32.78	0.00	32.78	29.90	2.89	11.351	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	32.78	0.00	32.78	29.45	3.34	9.822	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	32.78	0.00	32.78	29.00	3.79	8.656	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	32.78	0.00	32.78	28.55	4.24	7.738	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	32.78	0.00	32.78	28.10	4.69	6.996 CC, ES	
1,200.00	1,199.95	1,199.22	1,199.20	2.56	2.56	76.93	33.95	-1.26	33.30	28.18	5.12	6.502	
1,300.00	1,299.63	1,298.41	1,298.25	2.78	2.78	82.90	37.46	-5.03	35.11	29.56	5.56	6.319 SF	
1,400.00	1,398.77	1,397.54	1,397.00	3.02	3.01	91.41	43.30	-11.31	38.88	32.85	6.02	6.455	
1,500.00	1,497.08	1,496.57	1,495.30	3.30	3.25	100.61	51.44	-20.07	45.30	38.76	6.53	6.931	
1,600.00	1,594.31	1,595.47	1,593.01	3.63	3.52	108.93	61.89	-31.30	54.80	47.70	7.10	7.717	
1,700.00	1,690.18	1,694.22	1,689.97	4.05	3.82	115.69	74.60	-44.97	67.49	59.76	7.73	8.732	
1,800.00	1,784.43	1,792.80	1,786.06	4.57	4.16	120.87	89.55	-61.05	83.28	74.85	8.43	9.880	
1,900.00	1,876.81	1,891.16	1,881.14	5.19	4.56	124.74	106.70	-79.50	102.04	92.83	9.22	11.073	
2,000.00	1,967.06	1,989.16	1,974.97	5.93	5.00	127.63	125.96	-100.22	123.65	113.55	10.10	12.245	
2,100.00	2,054.93	2,085.66	2,067.01	6.79	5.48	130.55	145.70	-121.45	148.55	137.53	11.02	13.477	
2,200.00	2,140.18	2,180.87	2,157.82	7.78	5.98	133.65	165.17	-142.39	177.31	165.37	11.94	14.853	
2,300.00	2,222.59	2,274.53	2,247.16	8.89	6.48	136.65	184.33	-162.99	210.21	197.37	12.83	16.380	
2,400.00	2,301.91	2,366.38	2,334.77	10.13	6.98	139.40	203.11	-183.20	247.43	233.73	13.71	18.054	
2,466.34	2,352.73	2,426.19	2,391.81	11.01	7.32	141.06	215.35	-196.35	274.56	260.29	14.27	19.239	
2,500.00	2,378.14	2,456.29	2,420.53	11.48	7.49	142.10	221.50	-202.97	288.86	274.29	14.57	19.825	
2,600.00	2,453.62	2,545.73	2,505.84	12.88	7.99	144.69	239.79	-222.65	331.74	316.26	15.48	21.432	
2,700.00	2,529.11	2,635.17	2,591.15	14.30	8.51	146.68	258.09	-242.32	375.05	358.65	16.41	22.858	
2,800.00	2,604.59	2,724.61	2,676.46	15.74	9.02	148.27	276.38	-262.00	418.66	401.31	17.35	24.124	
2,900.00	2,680.07	2,814.05	2,761.76	17.18	9.55	149.56	294.67	-281.67	462.49	444.17	18.32	25.251	
3,000.00	2,755.55	2,903.49	2,847.07	18.64	10.07	150.63	312.96	-301.34	506.47	487.18	19.29	26.259	
3,100.00	2,831.04	2,992.92	2,932.38	20.10	10.60	151.53	331.25	-321.02	550.57	530.31	20.27	27.163	
3,200.00	2,906.52	3,082.36	3,017.69	21.56	11.13	152.30	349.55	-340.69	594.77	573.51	21.26	27.978	
3,300.00	2,982.00	3,171.80	3,103.00	23.03	11.67	152.96	367.84	-360.36	639.04	616.79	22.25	28.715	
3,400.00	3,057.48	3,261.24	3,188.31	24.50	12.20	153.53	386.13	-380.04	683.37	660.12	23.26	29.385	
3,500.00	3,132.96	3,350.68	3,273.62	25.98	12.74	154.04	404.42	-399.71	727.75	703.49	24.26	29.996	
3,600.00	3,208.45	3,440.12	3,358.92	27.46	13.28	154.49	422.71	-419.39	772.17	746.90	25.27	30.555	
3,700.00	3,283.93	3,529.55	3,444.23	28.94	13.82	154.89	441.01	-439.06	816.63	790.34	26.28	31.068	
3,776.57	3,341.72	3,598.03	3,509.55	30.07	14.23	155.16	455.01	-454.12	850.68	823.62	27.06	31.434	
3,800.00	3,359.49	3,619.04	3,529.59	30.40	14.36	155.36	459.31	-458.74	861.01	833.71	27.31	31.531	
3,900.00	3,437.03	3,709.79	3,616.15	31.65	14.91	156.07	477.87	-478.71	902.88	874.54	28.34	31.857	
4,000.00	3,517.25	3,802.18	3,704.27	32.82	15.47	156.57	496.76	-499.03	941.11	911.70	29.41	32.004	
4,100.00	3,599.99	3,896.03	3,793.79	33.92	16.04	156.91	515.96	-519.67	975.60	945.11	30.49	31.999	
4,200.00	3,685.11	3,991.17	3,884.53	34.93	16.62	157.10	535.42	-540.60	1,006.30	974.72	31.58	31.863	
4,300.00	3,772.43	4,087.05	3,975.99	35.86	17.21	157.16	555.03	-561.69	1,033.17	1,000.49	32.68	31.614	
4,400.00	3,861.80	4,165.34	4,050.98	36.71	17.57	157.20	570.31	-578.13	1,057.06	1,023.49	33.57	31.491	
4,500.00	3,953.04	4,243.78	4,126.72	37.47	17.91	157.25	584.22	-593.10	1,078.79	1,044.43	34.36	31.393	
4,600.00	4,045.97	4,322.37	4,203.13	38.15	18.22	157.29	596.74	-606.56	1,098.35	1,063.27	35.08	31.314	
4,700.00	4,140.43	4,400.00	4,279.06	38.75	18.51	157.33	607.70	-618.35	1,115.70	1,080.01	35.69	31.257	
4,800.00	4,236.23	4,479.94	4,357.69	39.26	18.77	157.36	617.52	-628.91	1,130.85	1,094.62	36.23	31.217	
4,900.00	4,333.18	4,558.89	4,435.71	39.70	19.00	157.39	625.74	-637.75	1,143.77	1,107.11	36.66	31.198	

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_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	4,431.11	4,637.93	4,514.12	40.06	19.20	157.42	632.51	-645.03	1,154.46	1,117.45	37.01	31.196	
5,100.00	4,529.83	4,717.03	4,592.84	40.35	19.38	157.45	637.80	-650.72	1,162.90	1,125.64	37.26	31.209	
5,200.00	4,629.15	4,800.00	4,675.60	40.57	19.54	157.46	641.76	-654.98	1,169.10	1,131.66	37.43	31.231	
5,300.00	4,728.88	4,875.39	4,750.91	40.72	19.65	157.48	643.94	-657.33	1,173.02	1,135.53	37.50	31.283	
5,400.00	4,828.83	4,959.49	4,835.00	40.81	19.75	157.50	644.78	-658.23	1,174.71	1,137.22	37.49	31.333	
5,416.17	4,845.00	4,969.49	4,845.00	40.82	19.76	82.70	644.78	-658.23	1,174.75	1,137.27	37.48	31.344	
5,500.00	4,928.83	5,053.32	4,928.83	40.87	19.86	82.70	644.78	-658.23	1,174.75	1,137.08	37.67	31.189	
5,600.00	5,028.83	5,153.32	5,028.83	40.92	19.97	82.70	644.78	-658.23	1,174.75	1,136.85	37.90	30.997	
5,700.00	5,128.83	5,253.32	5,128.83	40.98	20.09	82.70	644.78	-658.23	1,174.75	1,136.61	38.14	30.804	
5,800.00	5,228.83	5,353.32	5,228.83	41.04	20.21	82.70	644.78	-658.23	1,174.75	1,136.37	38.38	30.610	
5,900.00	5,328.83	5,453.32	5,328.83	41.10	20.34	82.70	644.78	-658.23	1,174.75	1,136.12	38.62	30.416	
6,000.00	5,428.83	5,553.32	5,428.83	41.16	20.46	82.70	644.78	-658.23	1,174.75	1,135.88	38.87	30.222	
6,100.00	5,528.83	5,653.32	5,528.83	41.22	20.59	82.70	644.78	-658.23	1,174.75	1,135.62	39.12	30.028	
6,200.00	5,628.83	5,753.32	5,628.83	41.29	20.72	82.70	644.78	-658.23	1,174.75	1,135.37	39.38	29.833	
6,300.00	5,728.83	5,853.32	5,728.83	41.35	20.85	82.70	644.78	-658.23	1,174.75	1,135.11	39.64	29.638	
6,400.00	5,828.83	5,953.32	5,828.83	41.42	20.98	82.70	644.78	-658.23	1,174.75	1,134.85	39.90	29.443	
6,500.00	5,928.83	6,053.32	5,928.83	41.49	21.11	82.70	644.78	-658.23	1,174.75	1,134.58	40.16	29.249	
6,600.00	6,028.83	6,153.32	6,028.83	41.55	21.25	82.70	644.78	-658.23	1,174.75	1,134.31	40.43	29.055	
6,700.00	6,128.83	6,253.32	6,128.83	41.62	21.38	82.70	644.78	-658.23	1,174.75	1,134.04	40.70	28.861	
6,800.00	6,228.83	6,353.32	6,228.83	41.69	21.52	82.70	644.78	-658.23	1,174.75	1,133.77	40.98	28.667	
6,900.00	6,328.83	6,453.32	6,328.83	41.77	21.66	82.70	644.78	-658.23	1,174.75	1,133.49	41.26	28.474	
7,000.00	6,428.83	6,553.32	6,428.83	41.84	21.80	82.70	644.78	-658.23	1,174.75	1,133.21	41.54	28.281	
7,100.00	6,528.83	6,653.32	6,528.83	41.91	21.94	82.70	644.78	-658.23	1,174.75	1,132.93	41.82	28.089	
7,200.00	6,628.83	6,753.32	6,628.83	41.99	22.09	82.70	644.78	-658.23	1,174.75	1,132.64	42.11	27.898	
7,300.00	6,728.83	6,853.32	6,728.83	42.06	22.23	82.70	644.78	-658.23	1,174.75	1,132.35	42.40	27.708	
7,400.00	6,828.83	6,953.32	6,828.83	42.14	22.38	82.70	644.78	-658.23	1,174.75	1,132.06	42.69	27.518	
7,500.00	6,928.83	7,053.32	6,928.83	42.22	22.53	82.70	644.78	-658.23	1,174.75	1,131.76	42.98	27.329	
7,600.00	7,028.83	7,153.32	7,028.83	42.30	22.67	82.70	644.78	-658.23	1,174.75	1,131.46	43.28	27.142	
7,700.00	7,128.83	7,253.32	7,128.83	42.38	22.82	82.70	644.78	-658.23	1,174.75	1,131.16	43.58	26.955	
7,800.00	7,228.83	7,353.32	7,228.83	42.46	22.97	82.70	644.78	-658.23	1,174.75	1,130.86	43.88	26.769	
7,900.00	7,328.83	7,453.32	7,328.83	42.54	23.13	82.70	644.78	-658.23	1,174.75	1,130.56	44.19	26.584	
8,000.00	7,428.83	7,553.32	7,428.83	42.62	23.28	82.70	644.78	-658.23	1,174.75	1,130.25	44.50	26.401	
8,100.00	7,528.83	7,653.32	7,528.83	42.71	23.44	82.70	644.78	-658.23	1,174.75	1,129.94	44.81	26.218	
8,200.00	7,628.83	7,753.32	7,628.83	42.79	23.59	82.70	644.78	-658.23	1,174.75	1,129.63	45.12	26.037	
8,300.00	7,728.83	7,853.32	7,728.83	42.88	23.75	82.70	644.78	-658.23	1,174.75	1,129.31	45.43	25.857	
8,400.00	7,828.83	7,953.32	7,828.83	42.97	23.91	82.70	644.78	-658.23	1,174.75	1,129.00	45.75	25.678	
8,500.00	7,928.83	8,053.32	7,928.83	43.05	24.06	82.70	644.78	-658.23	1,174.75	1,128.68	46.07	25.500	
8,600.00	8,028.83	8,153.32	8,028.83	43.14	24.22	82.70	644.78	-658.23	1,174.75	1,128.36	46.39	25.324	
8,700.00	8,128.83	8,253.32	8,128.83	43.23	24.39	82.70	644.78	-658.23	1,174.75	1,128.03	46.71	25.148	
8,800.00	8,228.83	8,353.32	8,228.83	43.32	24.55	82.70	644.78	-658.23	1,174.75	1,127.71	47.04	24.975	
8,900.00	8,328.83	8,453.32	8,328.83	43.42	24.71	82.70	644.78	-658.23	1,174.75	1,127.38	47.36	24.802	
9,000.00	8,428.83	8,553.32	8,428.83	43.51	24.88	82.70	644.78	-658.23	1,174.75	1,127.05	47.69	24.631	
9,011.17	8,440.00	8,554.49	8,430.00	43.52	24.88	82.70	644.78	-658.23	1,174.79	1,127.08	47.71	24.622	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	180.00	-14.58	0.00	14.58				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-14.58	0.00	14.58	14.38	0.19	76.290	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-14.58	0.00	14.58	13.93	0.64	22.753	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-14.58	0.00	14.58	13.49	1.09	13.370	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-14.58	0.00	14.58	13.04	1.54	9.467	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-14.58	0.00	14.58	12.59	1.99	7.327	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-14.58	0.00	14.58	12.14	2.44	5.977	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-14.58	0.00	14.58	11.69	2.89	5.046	
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-14.58	0.00	14.58	11.24	3.34	4.367	
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-14.58	0.00	14.58	10.79	3.79	3.848	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-14.58	0.00	14.58	10.34	4.24	3.440	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-14.58	0.00	14.58	9.89	4.69	3.110	CC, ES, SF
1,200.00	1,199.95	1,199.77	1,199.75	2.56	2.55	-120.51	-14.77	1.73	16.04	10.93	5.11	3.138	
1,300.00	1,299.63	1,298.48	1,298.32	2.78	2.75	-147.96	-15.36	6.83	24.82	19.32	5.50	4.515	
1,400.00	1,398.77	1,395.14	1,394.62	3.02	2.96	-164.03	-16.31	15.09	44.16	38.30	5.86	7.535	
1,500.00	1,497.08	1,488.81	1,487.62	3.30	3.18	-171.55	-17.59	26.17	72.93	66.72	6.21	11.751	
1,600.00	1,594.31	1,578.67	1,576.45	3.63	3.42	-175.38	-19.14	39.63	110.10	103.57	6.53	16.850	
1,700.00	1,690.18	1,664.01	1,660.37	4.05	3.67	-177.56	-20.91	54.98	155.01	148.17	6.84	22.649	
1,800.00	1,784.43	1,744.27	1,738.86	4.57	3.94	-178.92	-22.83	71.67	207.10	199.97	7.13	29.028	
1,900.00	1,876.81	1,819.04	1,811.51	5.19	4.21	-179.84	-24.84	89.17	265.83	258.42	7.41	35.892	
2,000.00	1,967.06	1,888.01	1,878.11	5.93	4.50	-179.51	-26.90	106.99	330.66	322.99	7.66	43.160	
2,100.00	2,054.93	1,951.03	1,938.57	6.79	4.79	179.00	-28.93	124.65	401.03	393.13	7.90	50.756	
2,200.00	2,140.18	2,008.53	1,993.38	7.78	5.07	178.59	-30.92	141.92	476.42	468.29	8.13	58.622	
2,300.00	2,222.59	2,069.47	2,051.30	8.89	5.39	178.21	-33.08	160.73	555.69	547.33	8.36	66.484	
2,400.00	2,301.91	2,126.17	2,105.20	10.13	5.69	177.88	-35.10	178.23	638.03	629.45	8.58	74.352	
2,466.34	2,352.73	2,161.38	2,138.66	11.01	5.88	177.68	-36.35	189.09	694.25	685.52	8.73	79.560	
2,500.00	2,378.14	2,178.75	2,155.17	11.48	5.98	177.65	-36.97	194.46	723.08	714.19	8.90	81.281	
2,600.00	2,453.62	2,230.35	2,204.22	12.88	6.27	177.57	-38.80	210.38	808.74	799.33	9.41	85.932	
2,700.00	2,529.11	2,281.95	2,253.27	14.30	6.56	177.50	-40.64	226.31	894.40	884.46	9.94	89.994	
2,800.00	2,604.59	2,333.55	2,302.32	15.74	6.86	177.45	-42.47	242.23	980.06	969.58	10.48	93.558	
2,900.00	2,680.07	2,385.15	2,351.36	17.18	7.16	177.40	-44.31	258.16	1,065.71	1,054.69	11.02	96.706	
3,000.00	2,755.55	2,436.75	2,400.41	18.64	7.47	177.36	-46.14	274.08	1,151.37	1,139.80	11.57	99.498	
3,100.00	2,831.04	2,488.35	2,449.46	20.10	7.77	177.33	-47.97	290.01	1,237.03	1,224.90	12.13	101.992	
3,200.00	2,906.52	2,539.95	2,498.51	21.56	8.08	177.30	-49.81	305.93	1,322.69	1,310.00	12.69	104.225	
3,300.00	2,982.00	2,591.55	2,547.55	23.03	8.40	177.27	-51.64	321.86	1,408.34	1,395.09	13.26	106.240	
3,400.00	3,057.48	2,643.15	2,596.60	24.50	8.71	177.25	-53.48	337.78	1,494.00	1,480.18	13.83	108.058	
3,500.00	3,132.96	2,694.76	2,645.65	25.98	9.02	177.23	-55.31	353.71	1,579.66	1,565.26	14.40	109.715	
3,600.00	3,208.45	2,746.36	2,694.70	27.46	9.34	177.21	-57.14	369.63	1,665.32	1,650.35	14.97	111.220	
3,700.00	3,283.93	2,797.96	2,743.74	28.94	9.66	177.20	-58.98	385.56	1,750.98	1,735.43	15.55	112.602	
3,776.57	3,341.72	2,837.47	2,781.30	30.07	9.90	177.19	-60.38	397.75	1,816.56	1,800.57	15.99	113.579	
3,800.00	3,359.49	2,849.66	2,792.89	30.40	9.98	177.23	-60.81	401.52	1,836.57	1,820.38	16.19	113.415	
3,900.00	3,437.03	2,903.97	2,844.51	31.65	10.32	177.39	-62.75	418.28	1,920.53	1,903.51	17.02	112.845	
4,000.00	3,517.25	2,961.88	2,899.56	32.82	10.68	177.51	-64.80	436.15	2,002.04	1,984.22	17.82	112.363	
4,100.00	3,599.99	3,023.29	2,957.93	33.92	11.06	177.61	-66.99	455.11	2,080.95	2,062.36	18.58	111.970	
4,200.00	3,685.11	3,088.08	3,019.51	34.93	11.47	177.69	-69.29	475.10	2,157.11	2,137.79	19.32	111.654	
4,300.00	3,772.43	3,156.12	3,084.18	35.86	11.90	177.75	-71.71	496.10	2,230.37	2,210.35	20.02	111.411	
4,400.00	3,861.80	3,227.29	3,151.83	36.71	12.35	177.80	-74.24	518.06	2,300.60	2,279.91	20.68	111.238	
4,500.00	3,953.04	3,301.44	3,222.32	37.47	12.82	177.83	-76.87	540.95	2,367.66	2,346.35	21.31	111.130	
4,600.00	4,045.97	3,378.45	3,295.51	38.15	13.30	177.86	-79.61	564.72	2,431.42	2,409.53	21.89	111.083	
4,700.00	4,140.43	3,458.15	3,371.27	38.75	13.81	177.87	-82.44	589.31	2,491.77	2,469.34	22.43	111.098	
4,800.00	4,236.23	3,540.41	3,449.46	39.26	14.34	177.88	-85.37	614.70	2,548.58	2,525.66	22.92	111.174	
4,900.00	4,333.18	3,625.06	3,529.92	39.70	14.88	177.88	-88.37	640.83	2,601.76	2,578.38	23.37	111.310	

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_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	4,431.11	3,711.94	3,612.50	40.06	15.43	177.87	-91.46	667.64	2,651.20	2,627.42	23.78	111.507	
5,100.00	4,529.83	3,800.89	3,697.04	40.35	16.00	177.85	-94.62	695.09	2,696.80	2,672.67	24.13	111.766	
5,200.00	4,629.15	3,891.73	3,783.39	40.57	16.58	177.83	-97.85	723.13	2,738.49	2,714.05	24.43	112.087	
5,300.00	4,728.88	3,984.30	3,871.38	40.72	17.18	177.80	-101.14	751.70	2,776.17	2,751.49	24.68	112.473	
5,400.00	4,828.83	4,078.42	3,960.84	40.81	17.78	177.77	-104.49	780.75	2,809.79	2,784.91	24.88	112.926	
5,416.17	4,845.00	4,093.77	3,975.44	40.82	17.88	102.96	-105.03	785.48	2,814.84	2,789.93	24.91	113.007	
5,500.00	4,928.83	4,173.45	4,051.18	40.87	18.40	102.90	-107.87	810.08	2,840.74	2,815.49	25.25	112.490	
5,600.00	5,028.83	4,268.50	4,141.53	40.92	19.01	102.84	-111.24	839.41	2,871.64	2,845.96	25.67	111.860	
5,700.00	5,128.83	4,363.56	4,231.87	40.98	19.62	102.77	-114.62	868.75	2,902.54	2,876.44	26.09	111.239	
5,800.00	5,228.83	4,458.61	4,322.22	41.04	20.23	102.70	-118.00	898.08	2,933.44	2,906.92	26.52	110.629	
5,900.00	5,328.83	4,553.66	4,412.57	41.10	20.85	102.64	-121.38	927.42	2,964.35	2,937.41	26.94	110.029	
6,000.00	5,428.83	4,648.71	4,502.92	41.16	21.46	102.58	-124.76	956.75	2,995.26	2,967.89	27.37	109.439	
6,100.00	5,528.83	4,743.76	4,593.27	41.22	22.08	102.51	-128.14	986.09	3,026.17	2,998.37	27.80	108.860	
6,200.00	5,628.83	4,838.82	4,683.62	41.29	22.69	102.45	-131.51	1,015.43	3,057.09	3,028.86	28.23	108.290	
6,300.00	5,728.83	4,933.87	4,773.97	41.35	23.31	102.40	-134.89	1,044.76	3,088.01	3,059.35	28.66	107.731	
6,400.00	5,828.83	5,028.92	4,864.31	41.42	23.92	102.34	-138.27	1,074.10	3,118.93	3,089.83	29.10	107.181	
6,500.00	5,928.83	5,123.97	4,954.66	41.49	24.54	102.28	-141.65	1,103.43	3,149.86	3,120.32	29.54	106.642	
6,600.00	6,028.83	5,219.02	5,045.01	41.55	25.16	102.23	-145.03	1,132.77	3,180.79	3,150.81	29.98	106.112	
6,700.00	6,128.83	5,314.07	5,135.36	41.62	25.77	102.17	-148.41	1,162.10	3,211.72	3,181.30	30.42	105.591	
6,800.00	6,228.83	5,409.13	5,225.71	41.69	26.39	102.12	-151.78	1,191.44	3,242.65	3,211.79	30.86	105.080	
6,900.00	6,328.83	5,504.18	5,316.06	41.77	27.01	102.06	-155.16	1,220.78	3,273.59	3,242.29	31.30	104.579	
7,000.00	6,428.83	5,599.23	5,406.40	41.84	27.62	102.01	-158.54	1,250.11	3,304.53	3,272.78	31.75	104.086	
7,100.00	6,528.83	5,694.28	5,496.83	41.91	28.23	101.95	-161.92	1,279.44	3,335.46	3,302.67	32.19	103.593	
7,200.00	6,628.83	5,789.33	5,587.26	41.99	28.84	101.89	-165.30	1,308.77	3,366.39	3,333.60	32.63	103.100	
7,300.00	6,728.83	5,884.38	5,677.69	42.06	29.45	101.83	-168.68	1,338.10	3,397.32	3,364.53	33.07	102.607	
7,400.00	6,828.83	5,979.43	5,768.12	42.14	30.06	101.77	-172.06	1,367.43	3,428.25	3,395.46	33.51	102.114	
7,500.00	6,928.83	6,074.48	5,858.55	42.22	30.67	101.71	-175.44	1,396.76	3,459.18	3,426.39	33.95	101.621	
7,600.00	7,028.83	6,169.53	5,948.98	42.30	31.28	101.65	-178.82	1,426.09	3,490.11	3,457.32	34.39	101.128	
7,700.00	7,128.83	6,264.58	6,039.41	42.38	31.89	101.59	-182.20	1,455.42	3,521.04	3,488.25	34.83	100.635	
7,800.00	7,228.83	6,359.63	6,129.84	42.46	32.50	101.53	-185.58	1,484.75	3,551.97	3,519.18	35.27	100.142	
7,900.00	7,328.83	6,454.68	6,220.27	42.54	33.11	101.47	-188.96	1,514.08	3,582.90	3,550.11	35.71	99.649	
8,000.00	7,428.83	6,549.73	6,310.70	42.62	33.72	101.41	-192.34	1,543.41	3,613.83	3,581.04	36.15	99.156	
8,100.00	7,528.83	6,644.78	6,401.13	42.71	34.33	101.35	-195.72	1,572.74	3,644.76	3,611.97	36.59	98.663	
8,200.00	7,628.83	6,739.83	6,491.56	42.79	34.94	101.29	-199.10	1,602.07	3,675.69	3,642.90	37.03	98.170	
8,300.00	7,728.83	6,834.88	6,581.99	42.88	35.55	101.23	-202.48	1,631.40	3,706.62	3,673.83	37.47	97.677	
8,400.00	7,828.83	6,929.93	6,672.42	42.97	36.16	101.17	-205.86	1,660.73	3,737.55	3,704.76	37.91	97.184	
8,500.00	7,928.83	7,024.98	6,762.85	43.05	36.77	101.11	-209.24	1,690.06	3,768.48	3,735.69	38.35	96.691	
8,549.62	7,978.45	7,074.50	6,812.28	43.10	37.38	101.05	-212.62	1,719.39	3,799.41	3,766.62	38.79	96.198	
8,600.00	8,028.83	7,169.53	6,902.71	43.14	37.99	101.00	-216.00	1,748.72	3,830.34	3,797.55	39.23	95.705	
8,700.00	8,128.83	7,264.58	6,993.14	43.23	38.60	100.94	-219.38	1,778.05	3,861.27	3,828.48	39.67	95.212	
8,800.00	8,228.83	7,359.63	7,083.57	43.32	39.21	100.88	-222.76	1,807.38	3,892.20	3,859.41	40.11	94.719	
8,900.00	8,328.83	7,454.68	7,173.99	43.42	39.82	100.82	-226.14	1,836.71	3,923.13	3,890.34	40.55	94.226	
9,000.00	8,428.83	7,549.73	7,264.42	43.51	40.43	100.76	-229.52	1,866.04	3,954.06	3,921.27	40.99	93.733	
9,011.17	8,440.00	7,560.00	7,275.00	43.52	40.50	100.75	-230.00	1,870.00	3,960.00	3,927.00	41.00	93.700	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 7-36 - P_NORTHGLENN STATE 7-36													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	180.00	-65.57	0.00	65.57					
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-65.57	0.00	65.57	65.38	0.19	343.204		
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-65.57	0.00	65.57	64.93	0.64	102.359		
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-65.57	0.00	65.57	64.48	1.09	60.149		
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-65.57	0.00	65.57	64.03	1.54	42.587		
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-65.57	0.00	65.57	63.58	1.99	32.963		
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-65.57	0.00	65.57	63.13	2.44	26.887		
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-65.57	0.00	65.57	62.68	2.89	22.702		
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-65.57	0.00	65.57	62.23	3.34	19.645		
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-65.57	0.00	65.57	61.78	3.79	17.313		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-65.57	0.00	65.57	61.33	4.24	15.476		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-65.57	0.00	65.57	60.88	4.69	13.992 CC, ES		
1,200.00	1,199.95	1,198.07	1,198.05	2.56	2.54	-106.45	-66.97	-0.93	67.70	62.60	5.10	13.282 SF		
1,300.00	1,299.63	1,295.81	1,295.66	2.78	2.71	-109.75	-71.15	-3.69	74.27	68.79	5.49	13.534		
1,400.00	1,398.77	1,392.89	1,392.38	3.02	2.90	-114.04	-78.04	-8.26	85.67	79.77	5.90	14.509		
1,500.00	1,497.08	1,489.00	1,487.80	3.30	3.11	-118.33	-87.55	-14.56	102.22	95.86	6.36	16.071		
1,600.00	1,594.31	1,583.82	1,581.52	3.63	3.34	-122.03	-99.55	-22.51	124.04	117.17	6.87	18.058		
1,700.00	1,690.18	1,677.08	1,673.18	4.05	3.61	-124.96	-113.87	-31.99	151.08	143.64	7.44	20.295		
1,800.00	1,784.43	1,768.51	1,762.46	4.57	3.91	-127.16	-130.31	-42.87	183.21	175.10	8.10	22.614		
1,900.00	1,876.81	1,857.87	1,849.06	5.19	4.24	-128.74	-148.66	-55.03	220.22	211.37	8.85	24.877		
2,000.00	1,967.06	1,944.94	1,932.74	5.93	4.62	-129.80	-168.70	-68.30	261.94	252.23	9.71	26.986		
2,100.00	2,054.93	2,031.49	2,015.28	6.79	5.03	-130.57	-190.44	-82.70	308.00	297.33	10.67	28.861		
2,200.00	2,140.18	2,117.70	2,097.39	7.78	5.47	-131.40	-212.32	-97.19	357.50	345.77	11.73	30.486		
2,300.00	2,222.59	2,201.61	2,177.31	8.89	5.91	-132.23	-233.63	-111.30	410.37	397.51	12.86	31.921		
2,400.00	2,301.91	2,282.99	2,254.83	10.13	6.36	-132.98	-254.29	-124.98	466.63	452.57	14.06	33.197		
2,466.34	2,352.73	2,335.47	2,304.82	11.01	6.65	-133.41	-267.61	-133.81	505.83	490.94	14.89	33.969		
2,500.00	2,378.14	2,361.79	2,329.89	11.48	6.80	-134.14	-274.29	-138.23	526.14	510.82	15.31	34.357		
2,600.00	2,453.62	2,439.96	2,404.35	12.88	7.24	-136.02	-294.14	-151.38	586.73	570.16	16.57	35.404		
2,700.00	2,529.11	2,518.14	2,478.81	14.30	7.69	-137.55	-313.98	-164.52	647.66	629.83	17.84	36.314		
2,800.00	2,604.59	2,596.31	2,553.27	15.74	8.14	-138.83	-333.83	-177.66	708.84	689.74	19.10	37.111		
2,900.00	2,680.07	2,674.49	2,627.74	17.18	8.60	-139.91	-353.68	-190.81	770.21	749.84	20.37	37.815		
3,000.00	2,755.55	2,752.66	2,702.20	18.64	9.06	-140.83	-373.52	-203.95	831.73	810.09	21.64	38.440		
3,100.00	2,831.04	2,830.83	2,776.66	20.10	9.52	-141.62	-393.37	-217.09	893.36	870.45	22.91	39.000		
3,200.00	2,906.52	2,909.01	2,851.12	21.56	9.99	-142.32	-413.21	-230.24	955.09	930.91	24.18	39.504		
3,300.00	2,982.00	2,987.18	2,925.58	23.03	10.45	-142.93	-433.06	-243.38	1,016.89	991.44	25.45	39.960		
3,400.00	3,057.48	3,065.35	3,000.04	24.50	10.92	-143.47	-452.90	-256.52	1,078.76	1,052.04	26.72	40.374		
3,500.00	3,132.96	3,143.53	3,074.50	25.98	11.40	-143.95	-472.75	-269.67	1,140.68	1,112.69	27.99	40.752		
3,600.00	3,208.45	3,221.70	3,148.97	27.46	11.87	-144.39	-492.60	-282.81	1,202.65	1,173.39	29.26	41.099		
3,700.00	3,283.93	3,299.88	3,223.43	28.94	12.35	-144.78	-512.44	-295.95	1,264.66	1,234.12	30.53	41.418		
3,776.57	3,341.72	3,359.73	3,280.44	30.07	12.71	-145.05	-527.64	-306.02	1,312.16	1,280.65	31.51	41.646		
3,800.00	3,359.49	3,378.12	3,297.95	30.40	12.82	-145.39	-532.30	-309.11	1,326.62	1,294.86	31.76	41.772		
3,900.00	3,437.03	3,458.01	3,374.06	31.65	13.31	-146.67	-552.59	-322.54	1,386.58	1,353.80	32.79	42.291		
4,000.00	3,517.25	3,540.13	3,452.28	32.82	13.81	-147.71	-573.44	-336.35	1,443.60	1,409.76	33.84	42.665		
4,100.00	3,599.99	3,624.32	3,532.47	33.92	14.33	-148.53	-594.81	-350.50	1,497.55	1,462.65	34.90	42.914		
4,200.00	3,685.11	3,710.42	3,614.47	34.93	14.86	-149.18	-616.67	-364.98	1,548.33	1,512.37	35.97	43.050		
4,300.00	3,772.43	3,798.26	3,698.14	35.86	15.40	-149.66	-638.97	-379.75	1,595.86	1,558.83	37.04	43.090		
4,400.00	3,861.80	3,887.67	3,783.31	36.71	15.95	-150.01	-661.67	-394.78	1,640.07	1,601.97	38.10	43.043		
4,500.00	3,953.04	3,978.49	3,869.82	37.47	16.51	-150.22	-684.72	-410.05	1,680.90	1,641.74	39.16	42.923		
4,600.00	4,045.97	4,070.54	3,957.50	38.15	17.08	-150.32	-708.09	-425.53	1,718.30	1,678.10	40.21	42.737		
4,700.00	4,140.43	4,172.34	4,054.80	38.75	17.56	-150.30	-733.03	-442.05	1,752.08	1,710.92	41.15	42.574		
4,800.00	4,236.23	4,278.98	4,157.78	39.26	18.00	-150.26	-756.12	-457.33	1,781.74	1,739.76	41.98	42.438		
4,900.00	4,333.18	4,387.82	4,263.86	39.70	18.40	-150.23	-776.36	-470.74	1,807.17	1,764.46	42.71	42.311		

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_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	4,431.11	4,498.56	4,372.67	40.06	18.76	-150.20	-793.50	-482.10	1,828.26	1,784.94	43.33	42.195	
5,100.00	4,529.83	4,610.88	4,483.76	40.35	19.07	-150.18	-807.29	-491.23	1,844.94	1,801.11	43.82	42.098	
5,200.00	4,629.15	4,724.45	4,596.65	40.57	19.33	-150.16	-817.53	-498.01	1,857.12	1,812.93	44.20	42.017	
5,300.00	4,728.88	4,838.87	4,710.80	40.72	19.54	-150.15	-824.07	-502.34	1,864.77	1,820.32	44.45	41.951	
5,400.00	4,828.83	4,953.78	4,825.65	40.81	19.70	-150.14	-826.80	-504.15	1,867.85	1,823.26	44.59	41.893	
5,416.17	4,845.00	4,972.38	4,844.25	40.82	19.72	135.07	-826.89	-504.20	1,867.91	1,823.31	44.60	41.883	
5,500.00	4,928.83	5,056.96	4,928.83	40.87	19.81	135.07	-826.89	-504.21	1,867.91	1,823.16	44.76	41.734	
5,600.00	5,028.83	5,156.96	5,028.83	40.92	19.92	135.07	-826.89	-504.21	1,867.91	1,822.96	44.95	41.554	
5,700.00	5,128.83	5,256.96	5,128.83	40.98	20.02	135.07	-826.89	-504.21	1,867.91	1,822.76	45.15	41.372	
5,800.00	5,228.83	5,356.96	5,228.83	41.04	20.13	135.07	-826.89	-504.21	1,867.91	1,822.56	45.35	41.189	
5,900.00	5,328.83	5,456.96	5,328.83	41.10	20.24	135.07	-826.89	-504.21	1,867.91	1,822.36	45.56	41.003	
6,000.00	5,428.83	5,556.96	5,428.83	41.16	20.35	135.07	-826.89	-504.21	1,867.91	1,822.15	45.76	40.816	
6,100.00	5,528.83	5,656.96	5,528.83	41.22	20.47	135.07	-826.89	-504.21	1,867.91	1,821.94	45.98	40.628	
6,200.00	5,628.83	5,756.96	5,628.83	41.29	20.58	135.07	-826.89	-504.21	1,867.91	1,821.72	46.19	40.438	
6,300.00	5,728.83	5,856.96	5,728.83	41.35	20.70	135.07	-826.89	-504.21	1,867.91	1,821.50	46.41	40.248	
6,400.00	5,828.83	5,956.96	5,828.83	41.42	20.82	135.07	-826.89	-504.21	1,867.91	1,821.28	46.63	40.056	
6,500.00	5,928.83	6,056.96	5,928.83	41.49	20.94	135.07	-826.89	-504.21	1,867.91	1,821.05	46.86	39.863	
6,600.00	6,028.83	6,156.96	6,028.83	41.55	21.06	135.07	-826.89	-504.21	1,867.91	1,820.83	47.09	39.669	
6,700.00	6,128.83	6,256.96	6,128.83	41.62	21.19	135.07	-826.89	-504.21	1,867.91	1,820.59	47.32	39.474	
6,800.00	6,228.83	6,356.96	6,228.83	41.69	21.31	135.07	-826.89	-504.21	1,867.91	1,820.36	47.56	39.279	
6,900.00	6,328.83	6,456.96	6,328.83	41.77	21.44	135.07	-826.89	-504.21	1,867.91	1,820.12	47.79	39.082	
7,000.00	6,428.83	6,556.96	6,428.83	41.84	21.57	135.07	-826.89	-504.21	1,867.91	1,819.88	48.04	38.886	
7,100.00	6,528.83	6,656.96	6,528.83	41.91	21.70	135.07	-826.89	-504.21	1,867.91	1,819.63	48.28	38.689	
7,200.00	6,628.83	6,756.96	6,628.83	41.99	21.83	135.07	-826.89	-504.21	1,867.91	1,819.38	48.53	38.491	
7,300.00	6,728.83	6,856.96	6,728.83	42.06	21.97	135.07	-826.89	-504.21	1,867.91	1,819.13	48.78	38.294	
7,400.00	6,828.83	6,956.96	6,828.83	42.14	22.10	135.07	-826.89	-504.21	1,867.91	1,818.88	49.03	38.096	
7,500.00	6,928.83	7,056.96	6,928.83	42.22	22.24	135.07	-826.89	-504.21	1,867.91	1,818.62	49.29	37.897	
7,600.00	7,028.83	7,156.96	7,028.83	42.30	22.38	135.07	-826.89	-504.21	1,867.91	1,818.37	49.55	37.699	
7,700.00	7,128.83	7,256.96	7,128.83	42.38	22.52	135.07	-826.89	-504.21	1,867.91	1,818.10	49.81	37.501	
7,800.00	7,228.83	7,356.96	7,228.83	42.46	22.66	135.07	-826.89	-504.21	1,867.91	1,817.84	50.07	37.303	
7,900.00	7,328.83	7,456.96	7,328.83	42.54	22.80	135.07	-826.89	-504.21	1,867.91	1,817.57	50.34	37.105	
8,000.00	7,428.83	7,556.96	7,428.83	42.62	22.94	135.07	-826.89	-504.21	1,867.91	1,817.30	50.61	36.907	
8,100.00	7,528.83	7,656.96	7,528.83	42.71	23.09	135.07	-826.89	-504.21	1,867.91	1,817.03	50.88	36.709	
8,200.00	7,628.83	7,756.96	7,628.83	42.79	23.23	135.07	-826.89	-504.21	1,867.91	1,816.75	51.16	36.512	
8,300.00	7,728.83	7,856.96	7,728.83	42.88	23.38	135.07	-826.89	-504.21	1,867.91	1,816.48	51.44	36.315	
8,400.00	7,828.83	7,956.96	7,828.83	42.97	23.53	135.07	-826.89	-504.21	1,867.91	1,816.20	51.72	36.118	
8,500.00	7,928.83	8,056.96	7,928.83	43.05	23.68	135.07	-826.89	-504.21	1,867.91	1,815.91	52.00	35.922	
8,600.00	8,028.83	8,156.96	8,028.83	43.14	23.83	135.07	-826.89	-504.21	1,867.91	1,815.63	52.28	35.726	
8,700.00	8,128.83	8,256.96	8,128.83	43.23	23.98	135.07	-826.89	-504.21	1,867.91	1,815.34	52.57	35.531	
8,800.00	8,228.83	8,356.96	8,228.83	43.32	24.14	135.07	-826.89	-504.21	1,867.91	1,815.05	52.86	35.337	
8,900.00	8,328.83	8,456.96	8,328.83	43.42	24.29	135.07	-826.89	-504.21	1,867.91	1,814.76	53.15	35.143	
9,000.00	8,428.83	8,556.96	8,428.83	43.51	24.45	135.07	-826.89	-504.21	1,867.91	1,814.47	53.45	34.950	
9,011.17	8,440.00	8,568.13	8,440.00	43.52	24.46	135.07	-826.89	-504.21	1,867.91	1,814.43	53.48	34.928	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 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	180.00	-47.36	0.00	47.36				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-47.36	0.00	47.36	47.17	0.19	247.891	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-47.36	0.00	47.36	46.72	0.64	73.933	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-47.36	0.00	47.36	46.27	1.09	43.445	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-47.36	0.00	47.36	45.82	1.54	30.760	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-47.36	0.00	47.36	45.37	1.99	23.809	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-47.36	0.00	47.36	44.92	2.44	19.420	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-47.36	0.00	47.36	44.47	2.89	16.397	
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-47.36	0.00	47.36	44.02	3.34	14.189	
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-47.36	0.00	47.36	43.57	3.79	12.505	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-47.36	0.00	47.36	43.12	4.24	11.178	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-47.36	0.00	47.36	42.67	4.69	10.106 CC, ES	
1,200.00	1,199.95	1,198.71	1,198.69	2.56	2.54	-109.47	-48.54	1.23	49.38	44.28	5.10	9.681 SF	
1,300.00	1,299.63	1,296.45	1,296.29	2.78	2.72	-120.04	-52.01	4.87	56.86	51.37	5.49	10.359	
1,400.00	1,398.77	1,392.28	1,391.78	3.02	2.92	-131.86	-57.66	10.77	72.40	66.52	5.87	12.324	
1,500.00	1,497.08	1,485.35	1,484.19	3.30	3.12	-141.32	-65.25	18.70	97.21	90.96	6.25	15.564	
1,600.00	1,594.31	1,574.87	1,572.70	3.63	3.35	-147.86	-74.50	28.38	131.01	124.41	6.60	19.842	
1,700.00	1,690.18	1,660.18	1,656.61	4.05	3.59	-152.17	-85.09	39.46	173.06	166.11	6.95	24.889	
1,800.00	1,784.43	1,740.73	1,735.40	4.57	3.85	-154.99	-96.68	51.57	222.62	215.31	7.30	30.483	
1,900.00	1,876.81	1,816.11	1,808.68	5.19	4.12	-156.81	-108.90	64.35	279.00	271.34	7.66	36.437	
2,000.00	1,967.06	1,886.03	1,876.20	5.93	4.41	-157.95	-121.42	77.44	341.61	333.58	8.02	42.569	
2,100.00	2,054.93	1,950.28	1,937.85	6.79	4.70	-158.59	-133.93	90.53	409.87	401.45	8.42	48.699	
2,200.00	2,140.18	2,008.79	1,993.62	7.78	4.99	-158.84	-146.15	103.31	483.22	474.38	8.84	54.670	
2,300.00	2,222.59	2,061.55	2,043.60	8.89	5.27	-158.74	-157.85	115.53	561.13	551.82	9.31	60.244	
2,400.00	2,301.91	2,100.00	2,079.82	10.13	5.48	-158.08	-166.77	124.86	643.18	633.30	9.87	65.145	
2,466.34	2,352.73	2,136.80	2,114.32	11.01	5.71	-157.83	-175.62	134.12	699.48	689.20	10.28	68.042	
2,500.00	2,378.14	2,150.38	2,127.00	11.48	5.79	-158.17	-178.96	137.62	728.50	718.00	10.50	69.383	
2,600.00	2,453.62	2,200.00	2,173.17	12.88	6.10	-159.24	-191.53	150.76	815.31	804.17	11.14	73.200	
2,700.00	2,529.11	2,226.92	2,198.08	14.30	6.29	-159.72	-198.59	158.13	902.62	890.79	11.83	76.302	
2,800.00	2,604.59	2,262.73	2,231.07	15.74	6.53	-160.27	-208.21	168.20	990.65	978.14	12.51	79.197	
2,900.00	2,680.07	2,300.00	2,265.21	17.18	6.79	-160.76	-218.54	179.00	1,079.25	1,066.06	13.19	81.836	
3,000.00	2,755.55	2,329.85	2,292.42	18.64	7.01	-161.09	-227.03	187.88	1,168.37	1,154.49	13.88	84.151	
3,100.00	2,831.04	2,368.25	2,327.27	20.10	7.31	-161.46	-238.18	199.53	1,257.93	1,243.35	14.57	86.319	
3,200.00	2,906.52	2,412.46	2,367.37	21.56	7.65	-161.83	-251.04	212.98	1,347.55	1,332.29	15.26	88.314	
3,300.00	2,982.00	2,456.66	2,407.47	23.03	8.00	-162.15	-263.90	226.43	1,437.18	1,421.23	15.95	90.113	
3,400.00	3,057.48	2,500.87	2,447.56	24.50	8.35	-162.44	-276.76	239.88	1,526.82	1,510.18	16.64	91.765	
3,500.00	3,132.96	2,545.07	2,487.66	25.98	8.70	-162.69	-289.62	253.33	1,616.46	1,599.13	17.33	93.251	
3,600.00	3,208.45	2,589.28	2,527.76	27.46	9.06	-162.92	-302.48	266.78	1,706.11	1,688.08	18.03	94.625	
3,700.00	3,283.93	2,633.49	2,567.86	28.94	9.42	-163.13	-315.35	280.23	1,795.77	1,777.04	18.73	95.878	
3,776.57	3,341.72	2,667.33	2,598.56	30.07	9.70	-163.27	-325.19	290.53	1,864.42	1,845.15	19.27	96.772	
3,800.00	3,359.49	2,677.80	2,608.05	30.40	9.78	-163.65	-328.24	293.71	1,885.38	1,866.01	19.37	97.358	
3,900.00	3,437.03	2,724.78	2,650.66	31.65	10.17	-165.03	-341.91	308.00	1,973.63	1,953.81	19.81	99.613	
4,000.00	3,517.25	2,775.46	2,696.64	32.82	10.59	-166.12	-356.65	323.42	2,059.82	2,039.50	20.32	101.366	
4,100.00	3,599.99	2,829.75	2,745.88	33.92	11.04	-167.01	-372.45	339.94	2,143.79	2,122.92	20.86	102.752	
4,200.00	3,685.11	2,887.55	2,798.31	34.93	11.53	-167.72	-389.27	357.53	2,225.37	2,203.95	21.42	103.873	
4,300.00	3,772.43	2,948.74	2,853.81	35.86	12.04	-168.29	-407.07	376.14	2,304.42	2,282.43	21.99	104.794	
4,400.00	3,861.80	3,013.21	2,912.29	36.71	12.59	-168.76	-425.83	395.76	2,380.79	2,358.23	22.55	105.575	
4,500.00	3,953.04	3,080.83	2,973.63	37.47	13.16	-169.13	-445.50	416.33	2,454.32	2,431.22	23.10	106.249	
4,600.00	4,045.97	3,151.48	3,037.72	38.15	13.76	-169.43	-466.06	437.83	2,524.90	2,501.27	23.63	106.849	
4,700.00	4,140.43	3,225.03	3,104.43	38.75	14.39	-169.67	-487.46	460.20	2,592.39	2,568.25	24.14	107.397	
4,800.00	4,236.23	3,301.32	3,173.63	39.26	15.05	-169.85	-509.66	483.42	2,656.67	2,632.05	24.62	107.911	
4,900.00	4,333.18	3,380.22	3,245.20	39.70	15.72	-169.98	-532.61	507.42	2,717.61	2,692.47	25.14	108.089	

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_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design		WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 8-36 - P_NORTHGLENN STATE 8-36										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	4,431.11	3,461.58	3,319.00	40.06	16.42	-170.07	-556.28	532.17	2,775.13	2,749.49	25.64	108.247			
5,100.00	4,529.83	3,545.24	3,394.89	40.35	17.15	-170.12	-580.63	557.63	2,829.10	2,803.00	26.09	108.423			
5,200.00	4,629.15	3,631.05	3,472.72	40.57	17.89	-170.14	-605.59	583.73	2,879.44	2,852.93	26.51	108.624			
5,300.00	4,728.88	3,718.83	3,552.34	40.72	18.65	-170.12	-631.13	610.44	2,926.05	2,899.17	26.88	108.855			
5,400.00	4,828.83	5,037.88	4,828.83	40.81	23.88	-168.58	-826.88	815.14	2,951.35	2,920.89	30.46	96.885			
5,416.17	4,845.00	5,054.05	4,845.00	40.82	23.90	116.62	-826.88	815.14	2,951.41	2,920.93	30.48	96.837			
5,500.00	4,928.83	5,137.88	4,928.83	40.87	23.97	116.62	-826.88	815.14	2,951.41	2,920.71	30.70	96.144			
5,600.00	5,028.83	5,237.88	5,028.83	40.92	24.06	116.62	-826.88	815.14	2,951.41	2,920.44	30.97	95.305			
5,700.00	5,128.83	5,337.88	5,128.83	40.98	24.15	116.62	-826.88	815.14	2,951.41	2,920.17	31.24	94.467			
5,800.00	5,228.83	5,437.88	5,228.83	41.04	24.25	116.62	-826.88	815.14	2,951.41	2,919.89	31.52	93.633			
5,900.00	5,328.83	5,537.88	5,328.83	41.10	24.35	116.62	-826.88	815.14	2,951.41	2,919.61	31.80	92.801			
6,000.00	5,428.83	5,637.88	5,428.83	41.16	24.44	116.62	-826.88	815.14	2,951.41	2,919.32	32.09	91.974			
6,100.00	5,528.83	5,737.88	5,528.83	41.22	24.54	116.62	-826.88	815.14	2,951.41	2,919.03	32.38	91.150			
6,200.00	5,628.83	5,837.88	5,628.83	41.29	24.64	116.62	-826.88	815.14	2,951.41	2,918.74	32.67	90.332			
6,300.00	5,728.83	5,937.88	5,728.83	41.35	24.75	116.62	-826.88	815.14	2,951.41	2,918.44	32.97	89.518			
6,400.00	5,828.83	6,037.88	5,828.83	41.42	24.85	116.62	-826.88	815.14	2,951.41	2,918.14	33.27	88.710			
6,500.00	5,928.83	6,137.88	5,928.83	41.49	24.96	116.62	-826.88	815.14	2,951.41	2,917.84	33.57	87.908			
6,600.00	6,028.83	6,237.88	6,028.83	41.55	25.07	116.62	-826.88	815.14	2,951.41	2,917.53	33.88	87.112			
6,700.00	6,128.83	6,337.88	6,128.83	41.62	25.17	116.62	-826.88	815.14	2,951.41	2,917.22	34.19	86.322			
6,800.00	6,228.83	6,437.88	6,228.83	41.69	25.28	116.62	-826.88	815.14	2,951.41	2,916.91	34.50	85.539			
6,900.00	6,328.83	6,537.88	6,328.83	41.77	25.40	116.62	-826.88	815.14	2,951.41	2,916.59	34.82	84.763			
7,000.00	6,428.83	6,637.88	6,428.83	41.84	25.51	116.62	-826.88	815.14	2,951.41	2,916.27	35.14	83.994			
7,100.00	6,528.83	6,737.88	6,528.83	41.91	25.63	116.62	-826.88	815.14	2,951.41	2,915.95	35.46	83.232			
7,200.00	6,628.83	6,837.88	6,628.83	41.99	25.74	116.62	-826.88	815.14	2,951.41	2,915.63	35.78	82.478			
7,300.00	6,728.83	6,937.88	6,728.83	42.06	25.86	116.62	-826.88	815.14	2,951.41	2,915.30	36.11	81.731			
7,400.00	6,828.83	7,037.88	6,828.83	42.14	25.98	116.62	-826.88	815.14	2,951.41	2,914.97	36.44	80.991			
7,500.00	6,928.83	7,137.88	6,928.83	42.22	26.10	116.62	-826.88	815.14	2,951.41	2,914.64	36.77	80.260			
7,600.00	7,028.83	7,237.88	7,028.83	42.30	26.22	116.62	-826.88	815.14	2,951.41	2,914.30	37.11	79.536			
7,700.00	7,128.83	7,337.88	7,128.83	42.38	26.35	116.62	-826.88	815.14	2,951.41	2,913.97	37.44	78.821			
7,800.00	7,228.83	7,437.88	7,228.83	42.46	26.47	116.62	-826.88	815.14	2,951.41	2,913.63	37.78	78.113			
7,900.00	7,328.83	7,537.88	7,328.83	42.54	26.60	116.62	-826.88	815.14	2,951.41	2,913.28	38.13	77.413			
8,000.00	7,428.83	7,637.88	7,428.83	42.62	26.73	116.62	-826.88	815.14	2,951.41	2,912.94	38.47	76.722			
8,100.00	7,528.83	7,737.88	7,528.83	42.71	26.85	116.62	-826.88	815.14	2,951.41	2,912.60	38.81	76.038			
8,200.00	7,628.83	7,837.88	7,628.83	42.79	26.98	116.62	-826.88	815.14	2,951.41	2,912.25	39.16	75.363			
8,300.00	7,728.83	7,937.88	7,728.83	42.88	27.12	116.62	-826.88	815.14	2,951.41	2,911.90	39.51	74.695			
8,400.00	7,828.83	8,037.88	7,828.83	42.97	27.25	116.62	-826.88	815.14	2,951.41	2,911.55	39.86	74.036			
8,500.00	7,928.83	8,137.88	7,928.83	43.05	27.38	116.62	-826.88	815.14	2,951.41	2,911.19	40.22	73.384			
8,600.00	8,028.83	8,237.88	8,028.83	43.14	27.52	116.62	-826.88	815.14	2,951.41	2,910.84	40.57	72.741			
8,700.00	8,128.83	8,337.88	8,128.83	43.23	27.65	116.62	-826.88	815.14	2,951.41	2,910.48	40.93	72.106			
8,800.00	8,228.83	8,437.88	8,228.83	43.32	27.79	116.62	-826.88	815.14	2,951.41	2,910.12	41.29	71.478			
8,900.00	8,328.83	8,537.88	8,328.83	43.42	27.93	116.62	-826.88	815.14	2,951.41	2,909.76	41.65	70.858			
8,945.51	8,374.34	8,583.38	8,374.34	43.46	27.99	116.62	-826.88	815.14	2,951.41	2,909.59	41.82	70.579			
9,000.00	8,428.83	8,599.05	8,390.00	43.51	28.01	116.62	-826.88	815.14	2,951.67	2,909.72	41.94	70.377			
9,011.17	8,440.00	8,599.05	8,390.00	43.52	28.01	116.62	-826.88	815.14	2,951.83	2,909.87	41.96	70.349			

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis					Distance						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	-57.76	30.35	-48.12	56.89				
100.00	100.00	100.00	100.00	0.10	1.70	-57.76	30.35	-48.12	56.89	55.09	1.80	31.683	
200.00	200.00	200.00	200.00	0.32	5.70	-57.76	30.35	-48.12	56.89	50.87	6.02	9.449	
300.00	300.00	300.00	300.00	0.55	9.70	-57.76	30.35	-48.12	56.89	46.64	10.25	5.553	
400.00	400.00	400.00	400.00	0.77	13.70	-57.76	30.35	-48.12	56.89	42.42	14.47	3.932	
500.00	500.00	500.00	500.00	0.99	17.70	-57.76	30.35	-48.12	56.89	38.19	18.69	3.043	
600.00	600.00	600.00	600.00	1.22	21.70	-57.76	30.35	-48.12	56.89	33.97	22.92	2.482	
700.00	700.00	700.00	700.00	1.44	25.70	-57.76	30.35	-48.12	56.89	29.74	27.14	2.096	
800.00	800.00	800.00	800.00	1.67	29.70	-57.76	30.35	-48.12	56.89	25.52	31.37	1.814	
900.00	900.00	900.00	900.00	1.89	33.70	-57.76	30.35	-48.12	56.89	21.29	35.59	1.598	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	-57.76	30.35	-48.12	56.89	17.07	39.82	1.429 Level 3	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	41.70	-57.76	30.35	-48.12	56.89	12.85	44.04	1.292 Level 3	
1,200.00	1,199.95	1,199.95	1,199.95	2.56	45.70	17.87	30.35	-48.12	54.39	6.19	48.20	1.129 Level 2	
1,300.00	1,299.63	1,299.63	1,299.63	2.78	49.69	20.88	30.35	-48.12	46.99	-5.22	52.20	0.900 Level 1	
1,400.00	1,398.77	1,398.77	1,398.77	3.02	53.65	28.66	30.35	-48.12	35.09	-21.02	56.11	0.625 Level 1	
1,500.00	1,497.08	1,497.08	1,497.08	3.30	57.58	53.40	30.35	-48.12	20.93	-39.46	60.39	0.347 Level 1	
1,556.90	1,552.55	1,552.55	1,552.55	3.49	59.80	90.00	30.35	-48.12	16.67	-46.62	63.29	0.263 Level 1, CC, ES, SF	
1,600.00	1,594.31	1,594.31	1,594.31	3.63	61.47	121.77	30.35	-48.12	19.80	-44.64	64.44	0.307 Level 1	
1,700.00	1,690.18	1,690.18	1,690.18	4.05	65.31	155.85	30.35	-48.12	42.49	-23.80	66.29	0.641 Level 1	
1,800.00	1,784.43	1,784.43	1,784.43	4.57	69.08	166.16	30.35	-48.12	74.35	5.76	68.59	1.084 Level 2	
1,900.00	1,876.81	1,876.81	1,876.81	5.19	72.77	170.64	30.35	-48.12	111.97	41.27	70.71	1.584	
2,000.00	1,967.06	1,967.06	1,967.06	5.93	76.38	173.06	30.35	-48.12	154.67	82.19	72.48	2.134	
2,100.00	2,054.93	2,054.93	2,054.93	6.79	79.90	174.54	30.35	-48.12	202.17	128.32	73.85	2.738	
2,200.00	2,140.18	2,140.18	2,140.18	7.78	83.31	175.52	30.35	-48.12	254.27	179.49	74.78	3.400	
2,300.00	2,222.59	2,222.59	2,222.59	8.89	86.60	176.20	30.35	-48.12	310.81	235.54	75.27	4.129	
2,400.00	2,301.91	2,301.91	2,301.91	10.13	89.78	176.69	30.35	-48.12	371.60	296.32	75.28	4.936	
2,466.34	2,352.73	2,352.73	2,352.73	11.01	91.81	176.95	30.35	-48.12	414.20	339.17	75.03	5.520	
2,500.00	2,378.14	2,378.14	2,378.14	11.48	92.83	177.10	30.35	-48.12	436.26	360.33	75.94	5.745	
2,600.00	2,453.62	2,453.62	2,453.62	12.88	95.84	177.48	30.35	-48.12	501.81	423.18	78.64	6.381	
2,700.00	2,529.11	2,529.11	2,529.11	14.30	98.86	177.77	30.35	-48.12	567.37	486.02	81.35	6.974	
2,800.00	2,604.59	2,604.59	2,604.59	15.74	101.88	178.00	30.35	-48.12	632.94	548.86	84.08	7.528	
2,900.00	2,680.07	2,680.07	2,680.07	17.18	104.90	178.19	30.35	-48.12	698.51	611.69	86.82	8.045	
3,000.00	2,755.55	2,755.55	2,755.55	18.64	107.92	178.34	30.35	-48.12	764.09	674.52	89.57	8.531	
3,100.00	2,831.04	2,831.04	2,831.04	20.10	110.94	178.48	30.35	-48.12	829.67	737.35	92.32	8.987	
3,200.00	2,906.52	2,906.52	2,906.52	21.56	113.96	178.59	30.35	-48.12	895.25	800.17	95.08	9.416	
3,300.00	2,982.00	2,982.00	2,982.00	23.03	116.98	178.68	30.35	-48.12	960.83	862.99	97.84	9.821	
3,400.00	3,057.48	3,057.48	3,057.48	24.50	120.00	178.77	30.35	-48.12	1,026.41	925.81	100.60	10.202	
3,500.00	3,132.96	3,132.96	3,132.96	25.98	123.02	178.84	30.35	-48.12	1,092.00	988.63	103.37	10.564	
3,600.00	3,208.45	3,208.45	3,208.45	27.46	126.04	178.91	30.35	-48.12	1,157.58	1,051.44	106.14	10.906	
3,700.00	3,283.93	3,283.93	3,283.93	28.94	129.06	178.97	30.35	-48.12	1,223.17	1,114.25	108.92	11.230	
3,776.57	3,341.72	3,341.72	3,341.72	30.07	131.37	179.01	30.35	-48.12	1,273.39	1,162.35	111.04	11.468	
3,800.00	3,359.49	3,359.49	3,359.49	30.40	132.08	179.03	30.35	-48.12	1,288.67	1,176.09	112.57	11.447	
3,900.00	3,437.03	3,437.03	3,437.03	31.65	135.18	179.10	30.35	-48.12	1,351.80	1,232.68	119.12	11.348	
4,000.00	3,517.25	3,517.25	3,517.25	32.82	138.39	179.17	30.35	-48.12	1,411.49	1,285.81	125.68	11.231	
4,100.00	3,599.99	3,599.99	3,599.99	33.92	141.70	179.22	30.35	-48.12	1,467.62	1,335.38	132.24	11.098	
4,200.00	3,685.11	3,685.11	3,685.11	34.93	145.10	179.27	30.35	-48.12	1,520.09	1,381.27	138.83	10.950	
4,300.00	3,772.43	3,772.43	3,772.43	35.86	148.60	179.31	30.35	-48.12	1,568.80	1,423.44	145.36	10.792	
4,400.00	3,861.80	3,861.80	3,861.80	36.71	152.17	179.34	30.35	-48.12	1,613.66	1,461.84	151.81	10.629	
4,500.00	3,953.04	3,953.04	3,953.04	37.47	155.82	179.37	30.35	-48.12	1,654.57	1,496.41	158.16	10.461	
4,600.00	4,045.97	4,045.97	4,045.97	38.15	159.54	179.40	30.35	-48.12	1,691.47	1,527.10	164.37	10.291	
4,700.00	4,140.43	4,140.43	4,140.43	38.75	163.32	179.42	30.35	-48.12	1,724.27	1,553.86	170.42	10.118	
4,800.00	4,236.23	4,236.23	4,236.23	39.26	167.15	179.43	30.35	-48.12	1,752.93	1,576.66	176.27	9.944	

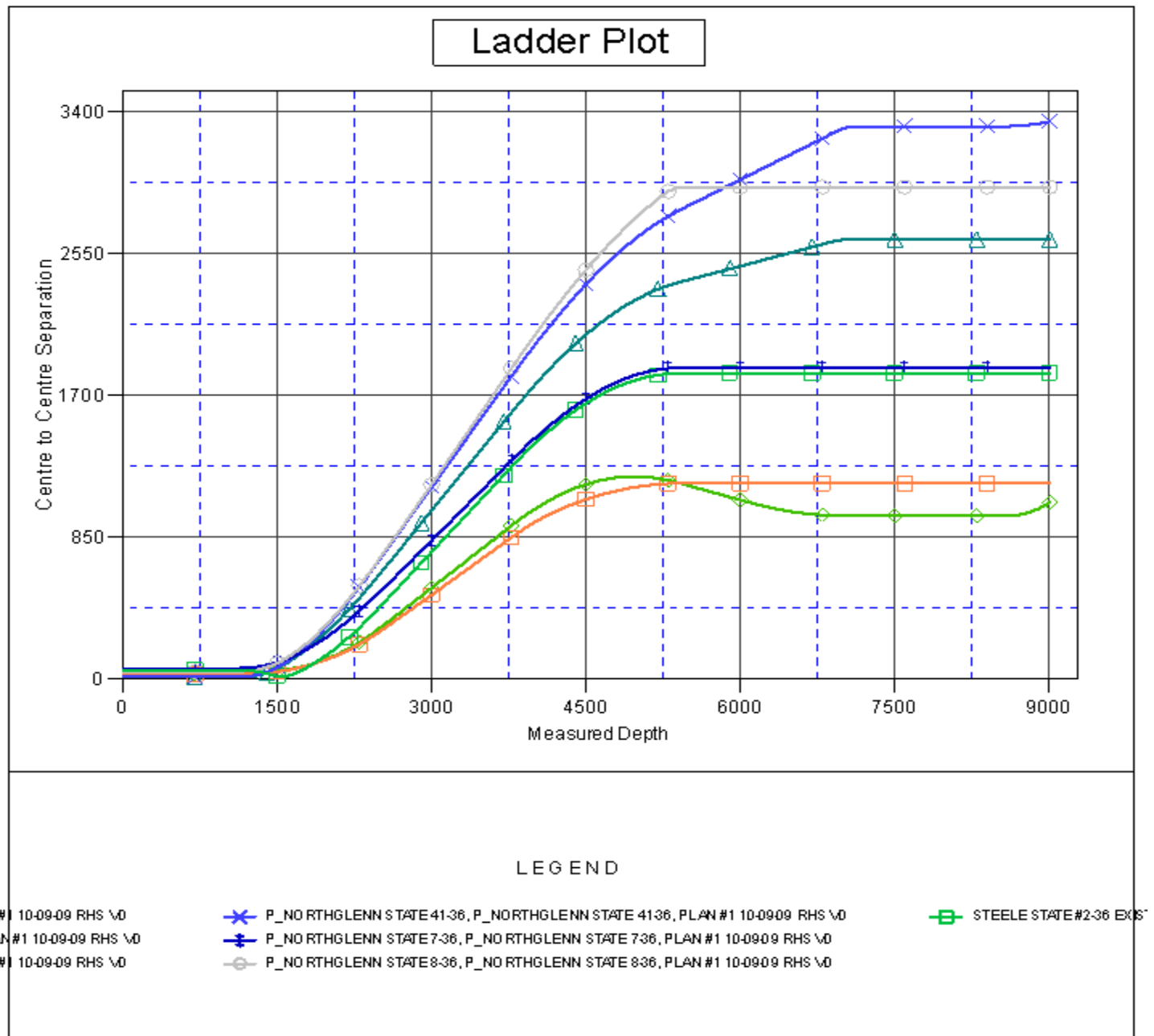
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NORTHGLENN STATE 7 PAD - STEELE STATE #2-36 EXISTING - STEELE STATE #2-36 EXI												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	
4,900.00	4,333.18	4,333.18	4,333.18	39.70	171.03	179.45	30.35	-48.12	1,777.38	1,595.48	181.90	9.771	
5,000.00	4,431.11	4,431.11	4,431.11	40.06	174.94	179.46	30.35	-48.12	1,797.58	1,610.30	187.28	9.598	
5,100.00	4,529.83	4,529.83	4,529.83	40.35	178.89	179.47	30.35	-48.12	1,813.49	1,621.12	192.37	9.427	
5,200.00	4,629.15	4,629.15	4,629.15	40.57	182.87	179.47	30.35	-48.12	1,825.07	1,627.93	197.14	9.258	
5,300.00	4,728.88	4,728.88	4,728.88	40.72	186.86	179.48	30.35	-48.12	1,832.32	1,630.75	201.57	9.090	
5,400.00	4,828.83	4,828.83	4,828.83	40.81	190.85	179.48	30.35	-48.12	1,835.20	1,629.59	205.62	8.925	
5,416.17	4,845.00	4,845.00	4,845.00	40.82	191.50	104.68	30.35	-48.12	1,835.26	1,629.03	206.23	8.899	
5,500.00	4,928.83	4,928.83	4,928.83	40.87	194.85	104.68	30.35	-48.12	1,835.26	1,625.56	209.70	8.752	
5,600.00	5,028.83	5,028.83	5,028.83	40.92	198.85	104.68	30.35	-48.12	1,835.26	1,621.43	213.83	8.583	
5,700.00	5,128.83	5,128.83	5,128.83	40.98	202.85	104.68	30.35	-48.12	1,835.26	1,617.29	217.97	8.420	
5,800.00	5,228.83	5,228.83	5,228.83	41.04	206.85	104.68	30.35	-48.12	1,835.26	1,613.15	222.11	8.263	
5,900.00	5,328.83	5,328.83	5,328.83	41.10	210.85	104.68	30.35	-48.12	1,835.26	1,609.00	226.26	8.111	
6,000.00	5,428.83	5,428.83	5,428.83	41.16	214.85	104.68	30.35	-48.12	1,835.26	1,604.86	230.40	7.966	
6,100.00	5,528.83	5,528.83	5,528.83	41.22	218.85	104.68	30.35	-48.12	1,835.26	1,600.71	234.55	7.825	
6,200.00	5,628.83	5,628.83	5,628.83	41.29	222.85	104.68	30.35	-48.12	1,835.26	1,596.56	238.70	7.689	
6,300.00	5,728.83	5,728.83	5,728.83	41.35	226.85	104.68	30.35	-48.12	1,835.26	1,592.41	242.85	7.557	
6,400.00	5,828.83	5,828.83	5,828.83	41.42	230.85	104.68	30.35	-48.12	1,835.26	1,588.26	247.00	7.430	
6,500.00	5,928.83	5,928.83	5,928.83	41.49	234.85	104.68	30.35	-48.12	1,835.26	1,584.11	251.15	7.307	
6,600.00	6,028.83	6,028.83	6,028.83	41.55	238.85	104.68	30.35	-48.12	1,835.26	1,579.95	255.31	7.188	
6,700.00	6,128.83	6,128.83	6,128.83	41.62	242.85	104.68	30.35	-48.12	1,835.26	1,575.79	259.47	7.073	
6,800.00	6,228.83	6,228.83	6,228.83	41.69	246.85	104.68	30.35	-48.12	1,835.26	1,571.63	263.62	6.962	
6,900.00	6,328.83	6,328.83	6,328.83	41.77	250.85	104.68	30.35	-48.12	1,835.26	1,567.47	267.78	6.853	
7,000.00	6,428.83	6,428.83	6,428.83	41.84	254.85	104.68	30.35	-48.12	1,835.26	1,563.31	271.95	6.749	
7,100.00	6,528.83	6,528.83	6,528.83	41.91	258.85	104.68	30.35	-48.12	1,835.26	1,559.15	276.11	6.647	
7,200.00	6,628.83	6,628.83	6,628.83	41.99	262.85	104.68	30.35	-48.12	1,835.26	1,554.98	280.27	6.548	
7,300.00	6,728.83	6,728.83	6,728.83	42.06	266.85	104.68	30.35	-48.12	1,835.26	1,550.82	284.44	6.452	
7,400.00	6,828.83	6,828.83	6,828.83	42.14	270.85	104.68	30.35	-48.12	1,835.26	1,546.65	288.61	6.359	
7,500.00	6,928.83	6,928.83	6,928.83	42.22	274.85	104.68	30.35	-48.12	1,835.26	1,542.48	292.78	6.268	
7,600.00	7,028.83	7,028.83	7,028.83	42.30	278.85	104.68	30.35	-48.12	1,835.26	1,538.31	296.94	6.180	
7,700.00	7,128.83	7,128.83	7,128.83	42.38	282.85	104.68	30.35	-48.12	1,835.26	1,534.14	301.12	6.095	
7,800.00	7,228.83	7,228.83	7,228.83	42.46	286.85	104.68	30.35	-48.12	1,835.26	1,529.97	305.29	6.012	
7,900.00	7,328.83	7,328.83	7,328.83	42.54	290.85	104.68	30.35	-48.12	1,835.26	1,525.80	309.46	5.931	
8,000.00	7,428.83	7,428.83	7,428.83	42.62	294.85	104.68	30.35	-48.12	1,835.26	1,521.62	313.63	5.852	
8,100.00	7,528.83	7,528.83	7,528.83	42.71	298.85	104.68	30.35	-48.12	1,835.26	1,517.45	317.81	5.775	
8,200.00	7,628.83	7,628.83	7,628.83	42.79	302.85	104.68	30.35	-48.12	1,835.26	1,513.27	321.99	5.700	
8,300.00	7,728.83	7,728.83	7,728.83	42.88	306.85	104.68	30.35	-48.12	1,835.26	1,509.10	326.16	5.627	
8,400.00	7,828.83	7,828.83	7,828.83	42.97	310.85	104.68	30.35	-48.12	1,835.26	1,504.92	330.34	5.556	
8,500.00	7,928.83	7,928.83	7,928.83	43.05	314.85	104.68	30.35	-48.12	1,835.26	1,500.74	334.52	5.486	
8,600.00	8,028.83	8,028.83	8,028.83	43.14	318.85	104.68	30.35	-48.12	1,835.26	1,496.56	338.70	5.419	
8,700.00	8,128.83	8,128.83	8,128.83	43.23	322.85	104.68	30.35	-48.12	1,835.26	1,492.38	342.88	5.352	
8,800.00	8,228.83	8,228.83	8,228.83	43.32	326.85	104.68	30.35	-48.12	1,835.26	1,488.20	347.06	5.288	
8,900.00	8,328.83	8,328.83	8,328.83	43.42	330.85	104.68	30.35	-48.12	1,835.26	1,484.01	351.25	5.225	
9,000.00	8,428.83	8,428.83	8,428.83	43.51	334.85	104.68	30.35	-48.12	1,835.26	1,479.83	355.43	5.163	
9,011.17	8,440.00	8,440.00	8,440.00	43.52	335.30	104.68	30.35	-48.12	1,835.26	1,479.36	355.90	5.157	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5118.00ft (Original Well Elev) Coordinates are relative to: P_NORTHGLENN STATE 3-36
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: 0.36°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NORTHGLENN STATE 3-36
Project:	KERR MCGEE OIL & GAS ONSHORE LP	TVD Reference:	WELL @ 5118.00ft (Original Well Elev)
Reference Site:	WELD_NORTHGLENN STATE 7 PAD	MD Reference:	WELL @ 5118.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NORTHGLENN STATE 3-36	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NORTHGLENN STATE 3-36	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-09-09 RHS	Offset TVD Reference:	Offset Datum

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