



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP  
WELD\_NORTHGLENN STATE 7 PAD  
P\_NORTHGLENN STATE 1-36**

**P\_NORTHGLENN STATE 1-36**

**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 1-36

Ground Level: 5103.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1247612.25	3154667.53	40° 0' 42.336 N	104° 56' 52.152 W

#### FORMATION TOP DETAILS

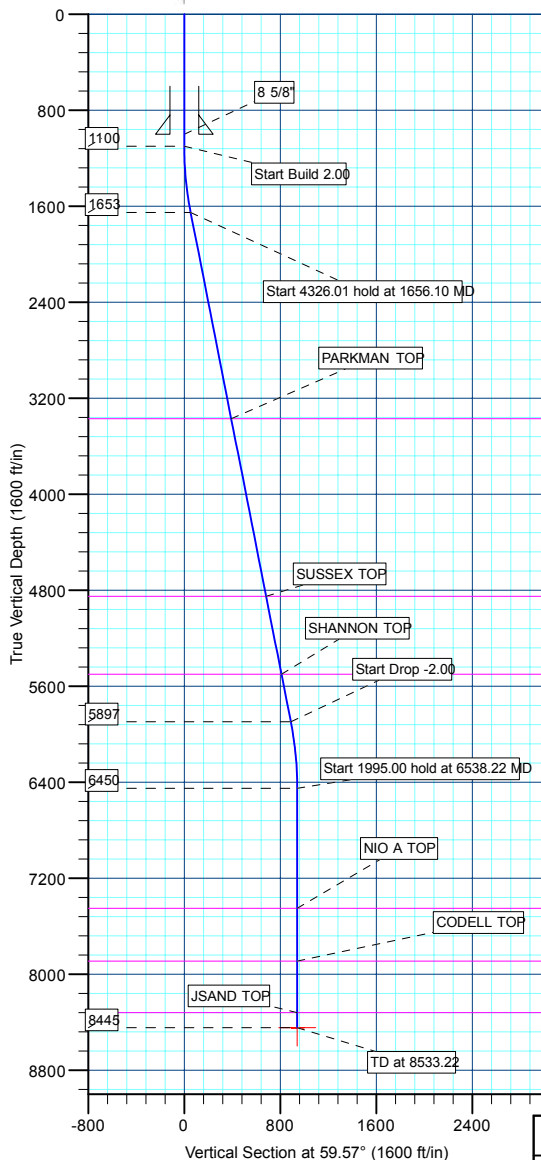
TVDPath	MDPath	Formation
3370.00	3406.36	PARKMAN TOP
4850.00	4914.69	SUSSEX TOP
5500.00	5577.13	SHANNON TOP
7450.00	7538.22	NIO A TOP
7890.00	7978.22	CODELL TOP
8320.00	8408.22	JSAND TOP

#### 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	
1656.10	11.12	59.57	1652.62	27.25	46.39	2.00	59.57	53.81	
5982.12	11.12	59.57	5897.38	449.96	765.90	0.00	0.00	888.29	
6538.22	0.00	0.00	6450.00	477.21	812.29	2.00	180.00	942.10	
8533.22	0.00	0.00	8445.00	477.21	812.29	0.00	0.00	942.10	PBHL_NORTHGLENN STATE 1-36(660 FNL 660 FEL)50' TGT

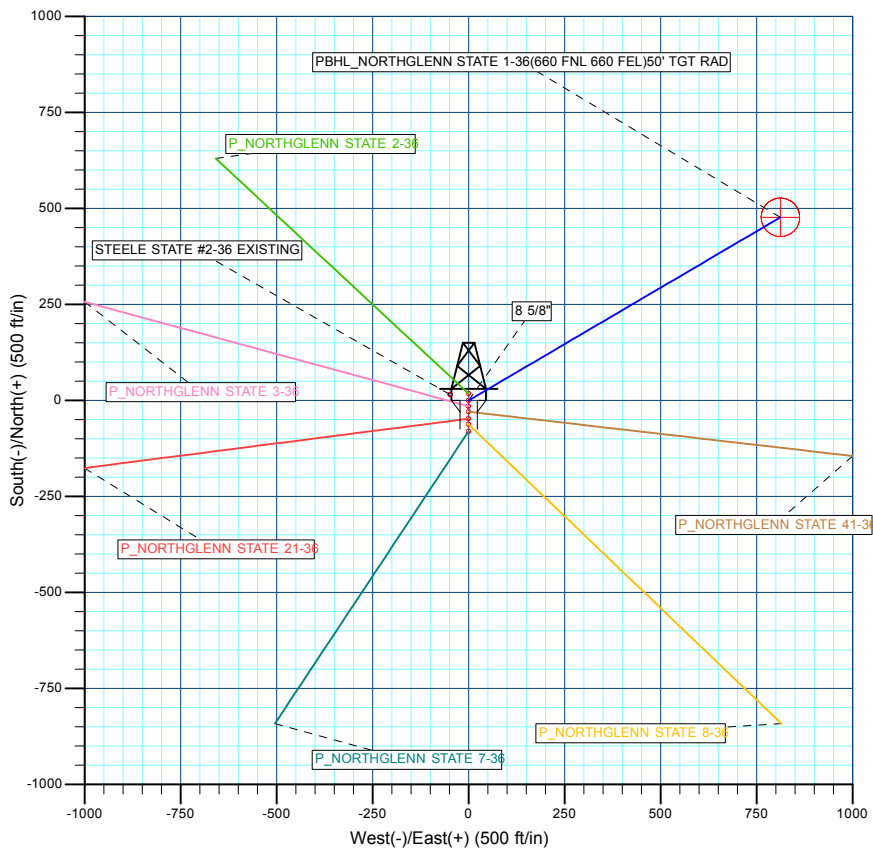


KB ELEV: WELL @ 5118.00ft (Original Well Elev)  
GRD ELEV: 5103.00



#### CASING DETAILS

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



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8445.00	477.21	812.29	1248094.52	3155476.84	40° 0' 47.052 N	104° 56' 41.712 W	Circle (Radius: 50.00)

Plan: PLAN #1 10-09-09 RHS (P\_NORTHGLENN STATE 1-36/P\_NORTHGLENN STATE 1-36)

Created By: Robert H. Scott

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

<b>Project</b>	KERR MCGEE OIL & GAS ONSHORE LP, KERR MCGEE OIL & GAS ONSHORE LP		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 1-36					
Well Position	+N/-S	0.00 ft	Northing:	1,247,612.25 ft	Latitude:	40° 0' 42.336 N
	+E/-W	0.00 ft	Easting:	3,154,667.53 ft	Longitude:	104° 56' 52.152 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,103.00 ft

<b>Wellbore</b>	P_NORTHGLENN STATE 1-36				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	10/9/2009	9.12	66.77	53,101

<b>Design</b>	PLAN #1 10-09-09 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	59.57

<b>Plan Sections</b>										
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	
1,656.10	11.12	59.57	1,652.62	27.25	46.39	2.00	2.00	0.00	59.57	
5,982.12	11.12	59.57	5,897.38	449.96	765.90	0.00	0.00	0.00	0.00	
6,538.22	0.00	0.00	6,450.00	477.21	812.29	2.00	-2.00	0.00	180.00	
8,533.22	0.00	0.00	8,445.00	477.21	812.29	0.00	0.00	0.00	0.00	PBHL_NORTHGLE

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NORTHGLENN STATE 1-36		
<b>Design:</b>	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)
<b>Start Build 2.00</b>									
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	2.00	59.57	1,199.98	0.88	1.50	1.75	2.00	2.00	0.00
1,300.00	4.00	59.57	1,299.84	3.53	6.02	6.98	2.00	2.00	0.00
1,400.00	6.00	59.57	1,399.45	7.95	13.53	15.69	2.00	2.00	0.00
1,500.00	8.00	59.57	1,498.70	14.12	24.04	27.88	2.00	2.00	0.00
1,600.00	10.00	59.57	1,597.47	22.05	37.53	43.52	2.00	2.00	0.00
<b>Start 4326.01 hold at 1656.10 MD</b>									
1,656.10	11.12	59.57	1,652.62	27.25	46.39	53.81	2.00	2.00	0.00
1,700.00	11.12	59.57	1,695.69	31.54	53.69	62.27	0.00	0.00	0.00
1,800.00	11.12	59.57	1,793.81	41.32	70.32	81.56	0.00	0.00	0.00
1,900.00	11.12	59.57	1,891.93	51.09	86.96	100.85	0.00	0.00	0.00
2,000.00	11.12	59.57	1,990.06	60.86	103.59	120.14	0.00	0.00	0.00
2,100.00	11.12	59.57	2,088.18	70.63	120.22	139.43	0.00	0.00	0.00
2,200.00	11.12	59.57	2,186.30	80.40	136.85	158.72	0.00	0.00	0.00
2,300.00	11.12	59.57	2,284.42	90.17	153.49	178.01	0.00	0.00	0.00
2,400.00	11.12	59.57	2,382.54	99.94	170.12	197.30	0.00	0.00	0.00
2,500.00	11.12	59.57	2,480.66	109.71	186.75	216.59	0.00	0.00	0.00
2,600.00	11.12	59.57	2,578.79	119.48	203.38	235.88	0.00	0.00	0.00
2,700.00	11.12	59.57	2,676.91	129.26	220.01	255.17	0.00	0.00	0.00
2,800.00	11.12	59.57	2,775.03	139.03	236.65	274.46	0.00	0.00	0.00
2,900.00	11.12	59.57	2,873.15	148.80	253.28	293.75	0.00	0.00	0.00
3,000.00	11.12	59.57	2,971.27	158.57	269.91	313.04	0.00	0.00	0.00
3,100.00	11.12	59.57	3,069.40	168.34	286.54	332.33	0.00	0.00	0.00
3,200.00	11.12	59.57	3,167.52	178.11	303.17	351.62	0.00	0.00	0.00
3,300.00	11.12	59.57	3,265.64	187.88	319.81	370.91	0.00	0.00	0.00
3,400.00	11.12	59.57	3,363.76	197.65	336.44	390.20	0.00	0.00	0.00
<b>PARKMAN TOP</b>									
3,406.36	11.12	59.57	3,370.00	198.28	337.50	391.43	0.00	0.00	0.00
3,500.00	11.12	59.57	3,461.88	207.43	353.07	409.49	0.00	0.00	0.00
3,600.00	11.12	59.57	3,560.00	217.20	369.70	428.78	0.00	0.00	0.00
3,700.00	11.12	59.57	3,658.13	226.97	386.34	448.07	0.00	0.00	0.00
3,800.00	11.12	59.57	3,756.25	236.74	402.97	467.36	0.00	0.00	0.00
3,900.00	11.12	59.57	3,854.37	246.51	419.60	486.65	0.00	0.00	0.00
4,000.00	11.12	59.57	3,952.49	256.28	436.23	505.94	0.00	0.00	0.00
4,100.00	11.12	59.57	4,050.61	266.05	452.86	525.23	0.00	0.00	0.00
4,200.00	11.12	59.57	4,148.74	275.82	469.50	544.52	0.00	0.00	0.00
4,300.00	11.12	59.57	4,246.86	285.60	486.13	563.81	0.00	0.00	0.00
4,400.00	11.12	59.57	4,344.98	295.37	502.76	583.10	0.00	0.00	0.00
4,500.00	11.12	59.57	4,443.10	305.14	519.39	602.39	0.00	0.00	0.00
4,600.00	11.12	59.57	4,541.22	314.91	536.02	621.68	0.00	0.00	0.00
4,700.00	11.12	59.57	4,639.34	324.68	552.66	640.97	0.00	0.00	0.00
4,800.00	11.12	59.57	4,737.47	334.45	569.29	660.26	0.00	0.00	0.00
4,900.00	11.12	59.57	4,835.59	344.22	585.92	679.55	0.00	0.00	0.00
<b>SUSSEX TOP</b>									
4,914.69	11.12	59.57	4,850.00	345.66	588.36	682.39	0.00	0.00	0.00
5,000.00	11.12	59.57	4,933.71	353.99	602.55	698.84	0.00	0.00	0.00
5,100.00	11.12	59.57	5,031.83	363.77	619.18	718.13	0.00	0.00	0.00
5,200.00	11.12	59.57	5,129.95	373.54	635.82	737.42	0.00	0.00	0.00
5,300.00	11.12	59.57	5,228.08	383.31	652.45	756.71	0.00	0.00	0.00
5,400.00	11.12	59.57	5,326.20	393.08	669.08	776.00	0.00	0.00	0.00
5,500.00	11.12	59.57	5,424.32	402.85	685.71	795.29	0.00	0.00	0.00
<b>SHANNON TOP</b>									
5,577.13	11.12	59.57	5,500.00	410.39	698.54	810.17	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NORTHGLENN STATE 1-36		
<b>Design:</b>	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	11.12	59.57	5,522.44	412.62	702.35	814.58	0.00	0.00	0.00
5,700.00	11.12	59.57	5,620.56	422.39	718.98	833.87	0.00	0.00	0.00
5,800.00	11.12	59.57	5,718.69	432.16	735.61	853.16	0.00	0.00	0.00
5,900.00	11.12	59.57	5,816.81	441.94	752.24	872.45	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,982.12	11.12	59.57	5,897.38	449.96	765.90	888.29	0.00	0.00	0.00
6,000.00	10.76	59.57	5,914.94	451.68	768.83	891.69	2.00	-2.00	0.00
6,100.00	8.76	59.57	6,013.49	460.27	783.45	908.65	2.00	-2.00	0.00
6,200.00	6.76	59.57	6,112.56	467.11	795.10	922.16	2.00	-2.00	0.00
6,300.00	4.76	59.57	6,212.05	472.20	803.76	932.20	2.00	-2.00	0.00
6,400.00	2.76	59.57	6,311.83	475.52	809.42	938.76	2.00	-2.00	0.00
6,500.00	0.76	59.57	6,411.78	477.08	812.07	941.84	2.00	-2.00	0.00
<b>Start 1995.00 hold at 6538.22 MD</b>									
6,538.22	0.00	0.00	6,450.00	477.21	812.29	942.10	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,511.78	477.21	812.29	942.10	0.00	0.00	0.00
6,700.00	0.00	0.00	6,611.78	477.21	812.29	942.10	0.00	0.00	0.00
6,800.00	0.00	0.00	6,711.78	477.21	812.29	942.10	0.00	0.00	0.00
6,900.00	0.00	0.00	6,811.78	477.21	812.29	942.10	0.00	0.00	0.00
7,000.00	0.00	0.00	6,911.78	477.21	812.29	942.10	0.00	0.00	0.00
7,100.00	0.00	0.00	7,011.78	477.21	812.29	942.10	0.00	0.00	0.00
7,200.00	0.00	0.00	7,111.78	477.21	812.29	942.10	0.00	0.00	0.00
7,300.00	0.00	0.00	7,211.78	477.21	812.29	942.10	0.00	0.00	0.00
7,400.00	0.00	0.00	7,311.78	477.21	812.29	942.10	0.00	0.00	0.00
7,500.00	0.00	0.00	7,411.78	477.21	812.29	942.10	0.00	0.00	0.00
<b>NIO A TOP</b>									
7,538.22	0.00	0.00	7,450.00	477.21	812.29	942.10	0.00	0.00	0.00
7,600.00	0.00	0.00	7,511.78	477.21	812.29	942.10	0.00	0.00	0.00
7,700.00	0.00	0.00	7,611.78	477.21	812.29	942.10	0.00	0.00	0.00
7,800.00	0.00	0.00	7,711.78	477.21	812.29	942.10	0.00	0.00	0.00
7,900.00	0.00	0.00	7,811.78	477.21	812.29	942.10	0.00	0.00	0.00
<b>CODELL TOP</b>									
7,978.22	0.00	0.00	7,890.00	477.21	812.29	942.10	0.00	0.00	0.00
8,000.00	0.00	0.00	7,911.78	477.21	812.29	942.10	0.00	0.00	0.00
8,100.00	0.00	0.00	8,011.78	477.21	812.29	942.10	0.00	0.00	0.00
8,200.00	0.00	0.00	8,111.78	477.21	812.29	942.10	0.00	0.00	0.00
8,300.00	0.00	0.00	8,211.78	477.21	812.29	942.10	0.00	0.00	0.00
8,400.00	0.00	0.00	8,311.78	477.21	812.29	942.10	0.00	0.00	0.00
<b>JSAND TOP</b>									
8,408.22	0.00	0.00	8,320.00	477.21	812.29	942.10	0.00	0.00	0.00
8,500.00	0.00	0.00	8,411.78	477.21	812.29	942.10	0.00	0.00	0.00
<b>PBHL_NORTHGLENN STATE 1-36(660 FNL 660 FEL)50' TGT</b>									
8,533.22	0.00	0.00	8,445.00	477.21	812.29	942.10	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NORTHGLENN	0.00	0.00	8,445.00	477.21	812.29	1,248,094.52	3,155,476.84	40° 0' 47.052 N	104° 56' 41.712 W
- plan hits target center									
- Circle (radius 50.00)									



# **US ROCKIES REGION PLANNING**

**KERR MCGEE OIL & GAS ONSHORE LP  
WELD\_NORTHGLENN STATE 7 PAD  
P\_NORTHGLENN STATE 1-36**

**P\_NORTHGLENN STATE 1-36  
PLAN #1 10-09-09 RHS**

## **Anticollision Report**

**09 October, 2009**



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

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

<b>Survey Tool Program</b>	<b>Date</b>	10/9/2009		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,533.22	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 21-36 - P_NORTHGLENN ST	1,100.00	1,100.00	47.37	42.68	10.108	CC, ES
P_NORTHGLENN STATE 21-36 - P_NORTHGLENN ST	1,200.00	1,199.67	48.58	43.47	9.501	SF
P_NORTHGLENN STATE 2-36 - P_NORTHGLENN STA	1,100.00	1,100.00	18.21	13.52	3.885	CC, ES
P_NORTHGLENN STATE 2-36 - P_NORTHGLENN STA	1,200.00	1,199.49	18.71	13.59	3.651	SF
P_NORTHGLENN STATE 3-36 - P_NORTHGLENN STA	1,100.00	1,100.00	14.58	9.89	3.111	CC
P_NORTHGLENN STATE 3-36 - P_NORTHGLENN STA	1,113.30	1,113.33	14.58	9.84	3.074	ES
P_NORTHGLENN STATE 3-36 - P_NORTHGLENN STA	1,200.00	1,200.02	15.32	10.20	2.992	SF
P_NORTHGLENN STATE 41-36 - P_NORTHGLENN ST	1,100.00	1,100.00	29.15	24.47	6.221	CC, ES
P_NORTHGLENN STATE 41-36 - P_NORTHGLENN ST	1,200.00	1,199.87	30.24	25.12	5.913	SF
P_NORTHGLENN STATE 7-36 - P_NORTHGLENN STA	1,100.00	1,100.00	80.15	75.46	17.103	CC, ES
P_NORTHGLENN STATE 7-36 - P_NORTHGLENN STA	1,200.00	1,197.61	82.49	77.39	16.180	SF
P_NORTHGLENN STATE 8-36 - P_NORTHGLENN STA	1,100.00	1,100.00	61.94	57.25	13.217	CC, ES
P_NORTHGLENN STATE 8-36 - P_NORTHGLENN STA	1,200.00	1,198.49	64.01	58.91	12.545	SF
STEELE STATE #2-36 EXISTING - STEELE STATE #2-	1,100.00	1,100.00	50.64	6.59	1.150	Level 2, CC
STEELE STATE #2-36 EXISTING - STEELE STATE #2-	1,300.00	1,299.84	55.50	3.09	1.059	Level 2, ES, SF

Offset Design		WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 21-36 - P_NORTHGLENN STATE 2										Offset Site Error:		0.00 ft	
Survey Program:		0-MWD										Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.00	0.00	0.00	0.00	-180.00	-47.37	0.00	47.37						
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-47.37	0.00	47.37	47.18	0.19	247.935			
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-47.37	0.00	47.37	46.73	0.64	73.946			
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-47.37	0.00	47.37	46.28	1.09	43.453			
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-47.37	0.00	47.37	45.83	1.54	30.766			
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-47.37	0.00	47.37	45.38	1.99	23.813			
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-47.37	0.00	47.37	44.93	2.44	19.424			
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-47.37	0.00	47.37	44.48	2.89	16.400			
800.00	800.00	800.00	800.00	1.67	1.67	-180.00	-47.37	0.00	47.37	44.03	3.34	14.192			
900.00	900.00	900.00	900.00	1.89	1.89	-180.00	-47.37	0.00	47.37	43.58	3.79	12.507			
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-180.00	-47.37	0.00	47.37	43.13	4.24	11.180			
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-180.00	-47.37	0.00	47.37	42.68	4.69	10.108	CC, ES		
1,200.00	1,199.98	1,199.67	1,199.65	2.56	2.55	124.21	-47.59	-1.72	48.58	43.47	5.11	9.501	SF		

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

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

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 21-36 - P_NORTHGLENN STATE 2												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,300.00	1,299.84	1,298.65	1,298.49	2.78	2.75	134.22	-48.25	-6.83	53.37	47.84	5.52	9.661	
1,400.00	1,399.45	1,396.27	1,395.74	3.00	2.96	146.73	-49.32	-15.18	64.17	58.24	5.93	10.814	
1,500.00	1,498.70	1,491.88	1,490.66	3.25	3.19	157.88	-50.78	-26.54	82.67	76.34	6.33	13.053	
1,600.00	1,597.47	1,584.91	1,582.60	3.52	3.44	166.22	-52.58	-40.61	109.07	102.35	6.72	16.231	
1,656.10	1,652.62	1,635.78	1,632.66	3.68	3.59	169.77	-53.73	-49.55	127.13	120.20	6.93	18.341	
1,700.00	1,695.69	1,674.96	1,671.11	3.82	3.71	172.11	-54.69	-57.04	142.48	135.37	7.11	20.032	
1,800.00	1,793.81	1,762.65	1,756.75	4.15	4.00	176.23	-57.08	-75.68	179.92	172.39	7.53	23.893	
1,900.00	1,891.93	1,853.40	1,845.02	4.49	4.35	179.26	-59.77	-96.60	219.50	211.54	7.97	27.556	
2,000.00	1,990.06	1,944.70	1,933.82	4.85	4.71	-178.62	-62.47	-117.66	259.47	251.06	8.41	30.855	
2,100.00	2,088.18	2,036.00	2,022.62	5.21	5.09	-177.06	-65.18	-138.72	299.65	290.79	8.86	33.821	
2,200.00	2,186.30	2,127.31	2,111.42	5.59	5.49	-175.87	-67.88	-159.79	339.98	330.67	9.32	36.491	
2,300.00	2,284.42	2,218.61	2,200.22	5.97	5.89	-174.93	-70.58	-180.85	380.41	370.63	9.78	38.900	
2,400.00	2,382.54	2,309.92	2,289.02	6.36	6.30	-174.17	-73.29	-201.92	420.91	410.66	10.25	41.079	
2,500.00	2,480.66	2,401.22	2,377.82	6.75	6.72	-173.54	-75.99	-222.98	461.46	450.74	10.72	43.057	
2,600.00	2,578.79	2,492.53	2,466.62	7.15	7.14	-173.02	-78.70	-244.04	502.04	490.85	11.19	44.856	
2,700.00	2,676.91	2,583.83	2,555.42	7.55	7.57	-172.57	-81.40	-265.11	542.66	530.99	11.67	46.499	
2,800.00	2,775.03	2,675.14	2,644.22	7.95	8.00	-172.19	-84.10	-286.17	583.30	571.15	12.15	48.005	
2,900.00	2,873.15	2,766.44	2,733.02	8.35	8.44	-171.85	-86.81	-307.23	623.96	611.32	12.63	49.387	
3,000.00	2,971.27	2,857.74	2,821.82	8.76	8.87	-171.56	-89.51	-328.30	664.63	651.51	13.12	50.661	
3,100.00	3,069.40	2,949.05	2,910.62	9.17	9.31	-171.30	-92.22	-349.36	705.32	691.71	13.61	51.837	
3,200.00	3,167.52	3,040.35	2,999.42	9.58	9.76	-171.07	-94.92	-370.43	746.02	731.92	14.10	52.927	
3,300.00	3,265.64	3,131.66	3,088.22	9.99	10.20	-170.86	-97.62	-391.49	786.72	772.14	14.59	53.938	
3,400.00	3,363.76	3,222.96	3,177.02	10.40	10.65	-170.67	-100.33	-412.55	827.44	812.36	15.08	54.878	
3,500.00	3,461.88	3,314.27	3,265.82	10.82	11.09	-170.50	-103.03	-433.62	868.16	852.59	15.57	55.755	
3,600.00	3,560.00	3,405.57	3,354.62	11.23	11.54	-170.35	-105.74	-454.68	908.89	892.82	16.07	56.755	
3,700.00	3,658.13	3,496.87	3,443.42	11.65	11.99	-170.21	-108.44	-475.75	949.62	933.06	16.56	57.341	
3,800.00	3,756.25	3,588.18	3,532.22	12.06	12.44	-170.08	-111.14	-496.81	990.36	973.30	17.06	58.061	
3,900.00	3,854.37	3,679.48	3,621.02	12.48	12.89	-169.96	-113.85	-517.87	1,031.10	1,013.55	17.55	58.737	
4,000.00	3,952.49	3,770.79	3,709.82	12.90	13.34	-169.85	-116.55	-538.94	1,071.84	1,053.79	18.05	59.373	
4,100.00	4,050.61	3,862.09	3,798.62	13.31	13.79	-169.75	-119.25	-560.00	1,112.59	1,094.04	18.55	59.972	
4,200.00	4,148.74	3,953.40	3,887.42	13.73	14.25	-169.65	-121.96	-581.07	1,153.34	1,134.29	19.05	60.539	
4,300.00	4,246.86	4,044.70	3,976.22	14.15	14.70	-169.56	-124.66	-602.13	1,194.09	1,174.54	19.55	61.074	
4,400.00	4,344.98	4,136.00	4,065.02	14.57	15.15	-169.48	-127.37	-623.19	1,234.85	1,214.80	20.05	61.581	
4,500.00	4,443.10	4,227.31	4,153.82	14.99	15.61	-169.40	-130.07	-644.26	1,275.61	1,255.05	20.55	62.062	
4,600.00	4,541.22	4,318.61	4,242.62	15.41	16.06	-169.33	-132.77	-665.32	1,316.36	1,295.31	21.06	62.518	
4,700.00	4,639.34	4,409.92	4,331.42	15.83	16.52	-169.26	-135.48	-686.39	1,357.13	1,335.57	21.56	62.952	
4,800.00	4,737.47	4,501.22	4,420.22	16.25	16.97	-169.20	-138.18	-707.45	1,397.89	1,375.83	22.06	63.365	
4,900.00	4,835.59	4,592.53	4,509.02	16.67	17.43	-169.14	-140.89	-728.51	1,438.65	1,416.09	22.56	63.758	
5,000.00	4,933.71	4,683.83	4,597.82	17.09	17.89	-169.08	-143.59	-749.58	1,479.41	1,456.35	23.07	64.133	
5,100.00	5,031.83	4,775.13	4,686.63	17.52	18.34	-169.03	-146.29	-770.64	1,520.18	1,496.61	23.57	64.491	
5,200.00	5,129.95	4,866.44	4,775.43	17.94	18.80	-168.98	-149.00	-791.71	1,560.95	1,536.87	24.08	64.834	
5,300.00	5,228.08	4,957.74	4,864.23	18.36	19.26	-168.93	-151.70	-812.77	1,601.72	1,577.13	24.58	65.161	
5,400.00	5,326.20	5,049.05	4,953.03	18.78	19.71	-168.88	-154.41	-833.83	1,642.48	1,617.40	25.09	65.475	
5,500.00	5,424.32	5,140.35	5,041.83	19.20	20.17	-168.84	-157.11	-854.90	1,683.25	1,657.66	25.59	65.775	
5,600.00	5,522.44	5,231.66	5,130.63	19.63	20.63	-168.79	-159.81	-875.96	1,724.02	1,697.93	26.10	66.064	
5,700.00	5,620.56	5,322.96	5,219.43	20.05	21.09	-168.75	-162.52	-897.03	1,764.79	1,738.19	26.60	66.340	
5,800.00	5,718.69	5,414.27	5,308.23	20.47	21.54	-168.72	-165.22	-918.09	1,805.57	1,778.46	27.11	66.606	
5,900.00	5,816.81	5,505.57	5,397.03	20.89	22.00	-168.68	-167.93	-939.15	1,846.34	1,818.72	27.61	66.862	
5,982.12	5,897.38	5,580.55	5,469.95	21.24	22.38	-168.65	-170.15	-956.45	1,879.82	1,851.79	28.03	67.064	
6,000.00	5,914.94	5,596.90	5,485.85	21.31	22.46	-168.68	-170.63	-960.22	1,887.06	1,858.91	28.15	67.034	
6,100.00	6,013.49	5,689.11	5,575.54	21.61	22.92	-168.79	-173.36	-981.50	1,925.70	1,896.92	28.78	66.904	
6,200.00	6,112.56	5,782.58	5,666.44	21.88	23.39	-168.87	-176.13	-1,003.06	1,961.16	1,931.78	29.38	66.750	

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



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

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 21-36 - P_NORTHGLENN STATE 2													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	
6,300.00	6,212.05	5,877.20	5,758.46	22.10	23.87	-168.91	-178.93	-1,024.89	1,993.40	1,963.46	29.94	66.577		
6,400.00	6,311.83	6,150.94	6,027.06	22.29	24.78	-168.79	-185.59	-1,076.75	2,018.86	1,988.04	30.82	65.504		
6,500.00	6,411.78	6,473.18	6,347.87	22.44	25.43	-168.73	-189.21	-1,104.96	2,030.52	1,998.88	31.65	64.161		
6,538.22	6,450.00	6,575.32	6,450.00	22.48	25.55	-109.16	-189.40	-1,106.43	2,031.22	1,999.33	31.89	63.694		
6,600.00	6,511.78	6,637.10	6,511.78	22.56	25.62	-109.16	-189.40	-1,106.43	2,031.22	1,999.11	32.11	63.266		
6,700.00	6,611.78	6,737.10	6,611.78	22.70	25.74	-109.16	-189.40	-1,106.43	2,031.22	1,998.75	32.47	62.557		
6,800.00	6,711.78	6,837.10	6,711.78	22.84	25.86	-109.16	-189.40	-1,106.43	2,031.22	1,998.38	32.84	61.859		
6,900.00	6,811.78	6,937.10	6,811.78	22.98	25.98	-109.16	-189.40	-1,106.43	2,031.22	1,998.01	33.20	61.173		
7,000.00	6,911.78	7,037.10	6,911.78	23.12	26.10	-109.16	-189.40	-1,106.43	2,031.22	1,997.64	33.57	60.498		
7,100.00	7,011.78	7,137.10	7,011.78	23.26	26.22	-109.16	-189.40	-1,106.43	2,031.22	1,997.27	33.95	59.835		
7,200.00	7,111.78	7,237.10	7,111.78	23.41	26.35	-109.16	-189.40	-1,106.43	2,031.22	1,996.90	34.32	59.183		
7,300.00	7,211.78	7,337.10	7,211.78	23.55	26.47	-109.16	-189.40	-1,106.43	2,031.22	1,996.52	34.70	58.542		
7,400.00	7,311.78	7,437.10	7,311.78	23.70	26.60	-109.16	-189.40	-1,106.43	2,031.22	1,996.14	35.07	57.912		
7,500.00	7,411.78	7,537.10	7,411.78	23.85	26.73	-109.16	-189.40	-1,106.43	2,031.22	1,995.77	35.45	57.292		
7,600.00	7,511.78	7,637.10	7,511.78	24.00	26.86	-109.16	-189.40	-1,106.43	2,031.22	1,995.38	35.83	56.684		
7,700.00	7,611.78	7,737.10	7,611.78	24.15	26.99	-109.16	-189.40	-1,106.43	2,031.22	1,995.00	36.22	56.085		
7,800.00	7,711.78	7,837.10	7,711.78	24.30	27.12	-109.16	-189.40	-1,106.43	2,031.22	1,994.62	36.60	55.497		
7,900.00	7,811.78	7,937.10	7,811.78	24.45	27.26	-109.16	-189.40	-1,106.43	2,031.22	1,994.23	36.99	54.919		
8,000.00	7,911.78	8,037.10	7,911.78	24.61	27.39	-109.16	-189.40	-1,106.43	2,031.22	1,993.85	37.37	54.350		
8,100.00	8,011.78	8,137.10	8,011.78	24.76	27.53	-109.16	-189.40	-1,106.43	2,031.22	1,993.46	37.76	53.792		
8,200.00	8,111.78	8,165.32	8,040.00	24.92	27.57	-109.16	-189.40	-1,106.43	2,032.49	1,994.47	38.01	53.466		
8,300.00	8,211.78	8,165.32	8,040.00	25.07	27.57	-109.16	-189.40	-1,106.43	2,038.47	2,000.25	38.22	53.342		
8,400.00	8,311.78	8,165.32	8,040.00	25.23	27.57	-109.16	-189.40	-1,106.43	2,049.32	2,010.90	38.42	53.344		
8,500.00	8,411.78	8,165.32	8,040.00	25.39	27.57	-109.16	-189.40	-1,106.43	2,064.96	2,026.34	38.62	53.470		
8,533.22	8,445.00	8,165.32	8,040.00	25.44	27.57	-109.16	-189.40	-1,106.43	2,071.20	2,032.52	38.69	53.539		

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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	18.21	0.00	18.21				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	18.21	0.00	18.21	18.01	0.19	95.290	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	18.21	0.00	18.21	17.56	0.64	28.420	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	18.21	0.00	18.21	17.12	1.09	16.700	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	18.21	0.00	18.21	16.67	1.54	11.824	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	18.21	0.00	18.21	16.22	1.99	9.152	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	18.21	0.00	18.21	15.77	2.44	7.465	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	18.21	0.00	18.21	15.32	2.89	6.303	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	18.21	0.00	18.21	14.87	3.34	5.454	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	18.21	0.00	18.21	14.42	3.79	4.807	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	18.21	0.00	18.21	13.97	4.24	4.297	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	18.21	0.00	18.21	13.52	4.69	3.885 CC, ES	
1,200.00	1,199.98	1,199.49	1,199.47	2.56	2.56	-68.04	19.38	-1.27	18.71	13.59	5.12	3.651 SF	
1,300.00	1,299.84	1,298.52	1,298.36	2.78	2.78	-89.03	22.89	-5.04	22.33	16.78	5.56	4.020	
1,400.00	1,399.45	1,396.63	1,396.10	3.00	3.01	-108.99	28.65	-11.24	32.45	26.47	5.98	5.423	
1,500.00	1,498.70	1,493.39	1,492.16	3.25	3.24	-121.26	36.57	-19.75	49.64	43.23	6.41	7.743	
1,600.00	1,597.47	1,588.40	1,586.03	3.52	3.50	-128.10	46.48	-30.42	73.10	66.26	6.84	10.680	
1,656.10	1,652.62	1,640.79	1,637.58	3.68	3.66	-130.55	52.86	-37.27	88.77	81.68	7.09	12.512	
1,700.00	1,695.69	1,681.35	1,677.37	3.82	3.78	-132.09	58.23	-43.05	102.02	94.71	7.30	13.972	
1,800.00	1,793.81	1,772.62	1,766.46	4.15	4.09	-133.98	71.73	-57.56	134.27	126.48	7.79	17.231	
1,900.00	1,891.93	1,862.17	1,853.21	4.49	4.44	-134.62	86.84	-73.82	169.19	160.88	8.31	20.371	
2,000.00	1,990.06	1,949.90	1,937.49	4.85	4.82	-134.64	103.42	-91.65	206.63	197.79	8.84	23.386	
2,100.00	2,088.18	2,040.32	2,023.76	5.21	5.26	-134.39	121.85	-111.47	245.88	236.48	9.40	26.166	
2,200.00	2,186.30	2,132.25	2,111.45	5.59	5.72	-134.20	140.65	-131.69	285.22	275.24	9.98	28.589	
2,300.00	2,284.42	2,224.18	2,199.13	5.97	6.21	-134.06	159.45	-151.92	324.57	314.00	10.57	30.707	
2,400.00	2,382.54	2,316.11	2,286.82	6.36	6.71	-133.94	178.25	-172.14	363.92	352.74	11.17	32.568	
2,500.00	2,480.66	2,408.04	2,374.51	6.75	7.21	-133.85	197.06	-192.36	403.26	391.48	11.79	34.211	
2,600.00	2,578.79	2,499.97	2,462.19	7.15	7.73	-133.78	215.86	-212.58	442.61	430.21	12.41	35.667	
2,700.00	2,676.91	2,591.91	2,549.88	7.55	8.26	-133.72	234.66	-232.80	481.97	468.93	13.04	36.964	
2,800.00	2,775.03	2,683.84	2,637.57	7.95	8.79	-133.66	253.46	-253.03	521.32	507.64	13.67	38.126	
2,900.00	2,873.15	2,775.77	2,725.25	8.35	9.32	-133.62	272.26	-273.25	560.67	546.35	14.31	39.170	
3,000.00	2,971.27	2,867.70	2,812.94	8.76	9.86	-133.58	291.06	-293.47	600.02	585.06	14.96	40.113	
3,100.00	3,069.40	2,959.63	2,900.62	9.17	10.41	-133.54	309.87	-313.69	639.37	623.76	15.61	40.968	
3,200.00	3,167.52	3,051.56	2,988.31	9.58	10.95	-133.51	328.67	-333.92	678.72	662.46	16.26	41.746	
3,300.00	3,265.64	3,143.49	3,076.00	9.99	11.50	-133.48	347.47	-354.14	718.08	701.16	16.91	42.457	
3,400.00	3,363.76	3,235.42	3,163.68	10.40	12.05	-133.46	366.27	-374.36	757.43	739.86	17.57	43.108	
3,500.00	3,461.88	3,327.35	3,251.37	10.82	12.60	-133.44	385.07	-394.58	796.78	778.55	18.23	43.706	
3,600.00	3,560.00	3,419.28	3,339.06	11.23	13.15	-133.42	403.87	-414.80	836.13	817.24	18.89	44.257	
3,700.00	3,658.13	3,511.22	3,426.74	11.65	13.71	-133.40	422.68	-435.03	875.48	855.93	19.56	44.766	
3,800.00	3,756.25	3,603.15	3,514.43	12.06	14.27	-133.38	441.48	-455.25	914.84	894.61	20.22	45.238	
3,900.00	3,854.37	3,695.08	3,602.11	12.48	14.82	-133.37	460.28	-475.47	954.19	933.30	20.89	45.677	
4,000.00	3,952.49	3,787.01	3,689.80	12.90	15.38	-133.35	479.08	-495.69	993.54	971.98	21.56	46.085	
4,100.00	4,050.61	3,878.94	3,777.49	13.31	15.94	-133.34	497.88	-515.91	1,032.90	1,010.67	22.23	46.466	
4,200.00	4,148.74	3,970.87	3,865.17	13.73	16.50	-133.33	516.68	-536.14	1,072.25	1,049.35	22.90	46.822	
4,300.00	4,246.86	4,062.80	3,952.86	14.15	17.06	-133.32	535.49	-556.36	1,111.60	1,088.03	23.57	47.156	
4,400.00	4,344.98	4,192.57	4,077.22	14.57	17.70	-133.35	560.72	-583.50	1,149.82	1,125.49	24.32	47.274	
4,500.00	4,443.10	4,338.99	4,219.35	14.99	18.28	-133.56	584.63	-609.21	1,184.03	1,158.95	25.08	47.212	
4,600.00	4,541.22	4,489.72	4,367.34	15.41	18.80	-133.93	604.04	-630.09	1,213.94	1,188.12	25.82	47.021	
4,700.00	4,639.34	4,644.08	4,520.24	15.83	19.22	-134.48	618.39	-645.53	1,239.40	1,212.88	26.52	46.732	
4,800.00	4,737.47	4,801.29	4,676.88	16.25	19.54	-135.20	627.23	-655.03	1,260.30	1,233.11	27.19	46.350	
4,900.00	4,835.59	4,960.07	4,835.59	16.67	19.75	-136.08	630.20	-658.23	1,276.60	1,248.79	27.81	45.902	
5,000.00	4,933.71	5,058.20	4,933.71	17.09	19.86	-136.67	630.20	-658.23	1,290.69	1,262.36	28.32	45.572	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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
5,100.00	5,031.83	5,156.32	5,031.83	17.52	19.98	-137.24	630.20	-658.23	1,304.91	1,276.07	28.83	45.257	
5,200.00	5,129.95	5,254.44	5,129.95	17.94	20.09	-137.81	630.20	-658.23	1,319.26	1,289.92	29.34	44.962	
5,300.00	5,228.08	5,352.56	5,228.08	18.36	20.21	-138.36	630.20	-658.23	1,333.73	1,303.88	29.85	44.684	
5,400.00	5,326.20	5,450.68	5,326.20	18.78	20.33	-138.90	630.20	-658.23	1,348.33	1,317.98	30.35	44.424	
5,500.00	5,424.32	5,548.80	5,424.32	19.20	20.46	-139.43	630.20	-658.23	1,363.04	1,332.19	30.85	44.180	
5,600.00	5,522.44	5,646.93	5,522.44	19.63	20.58	-139.95	630.20	-658.23	1,377.87	1,346.51	31.35	43.950	
5,700.00	5,620.56	5,745.05	5,620.56	20.05	20.71	-140.45	630.20	-658.23	1,392.80	1,360.95	31.85	43.734	
5,800.00	5,718.69	5,843.17	5,718.69	20.47	20.83	-140.95	630.20	-658.23	1,407.84	1,375.50	32.34	43.531	
5,900.00	5,816.81	5,941.29	5,816.81	20.89	20.96	-141.43	630.20	-658.23	1,422.98	1,390.15	32.83	43.340	
5,982.12	5,897.38	6,021.87	5,897.38	21.24	21.07	-141.83	630.20	-658.23	1,435.49	1,402.26	33.24	43.192	
6,000.00	5,914.94	6,039.42	5,914.94	21.31	21.09	-141.94	630.20	-658.23	1,438.18	1,404.84	33.34	43.134	
6,100.00	6,013.49	6,137.97	6,013.49	21.61	21.23	-142.52	630.20	-658.23	1,451.66	1,417.77	33.89	42.838	
6,200.00	6,112.56	6,237.05	6,112.56	21.88	21.36	-142.97	630.20	-658.23	1,462.45	1,428.07	34.39	42.531	
6,300.00	6,212.05	6,336.54	6,212.05	22.10	21.50	-143.30	630.20	-658.23	1,470.50	1,435.67	34.84	42.212	
6,400.00	6,311.83	6,436.32	6,311.83	22.29	21.64	-143.52	630.20	-658.23	1,475.78	1,440.54	35.24	41.880	
6,500.00	6,411.78	6,536.27	6,411.78	22.44	21.78	-143.62	630.20	-658.23	1,478.26	1,442.66	35.59	41.534	
6,538.22	6,450.00	6,574.49	6,450.00	22.48	21.83	-84.06	630.20	-658.23	1,478.46	1,442.75	35.71	41.396	
6,600.00	6,511.78	6,636.26	6,511.78	22.56	21.92	-84.06	630.20	-658.23	1,478.46	1,442.55	35.92	41.165	
6,700.00	6,611.78	6,736.26	6,611.78	22.70	22.06	-84.06	630.20	-658.23	1,478.46	1,442.21	36.25	40.784	
6,800.00	6,711.78	6,836.26	6,711.78	22.84	22.21	-84.06	630.20	-658.23	1,478.46	1,441.87	36.59	40.407	
6,900.00	6,811.78	6,936.26	6,811.78	22.98	22.35	-84.06	630.20	-658.23	1,478.46	1,441.53	36.93	40.034	
7,000.00	6,911.78	7,036.26	6,911.78	23.12	22.50	-84.06	630.20	-658.23	1,478.46	1,441.19	37.27	39.666	
7,100.00	7,011.78	7,136.26	7,011.78	23.26	22.65	-84.06	630.20	-658.23	1,478.46	1,440.84	37.62	39.302	
7,200.00	7,111.78	7,236.26	7,111.78	23.41	22.80	-84.06	630.20	-658.23	1,478.46	1,440.49	37.97	38.942	
7,300.00	7,211.78	7,336.26	7,211.78	23.55	22.95	-84.06	630.20	-658.23	1,478.46	1,440.15	38.32	38.587	
7,400.00	7,311.78	7,436.26	7,311.78	23.70	23.10	-84.06	630.20	-658.23	1,478.46	1,439.79	38.67	38.236	
7,500.00	7,411.78	7,536.26	7,411.78	23.85	23.25	-84.06	630.20	-658.23	1,478.46	1,439.44	39.02	37.889	
7,600.00	7,511.78	7,636.26	7,511.78	24.00	23.41	-84.06	630.20	-658.23	1,478.46	1,439.08	39.38	37.547	
7,700.00	7,611.78	7,736.26	7,611.78	24.15	23.56	-84.06	630.20	-658.23	1,478.46	1,438.73	39.73	37.209	
7,800.00	7,711.78	7,836.26	7,711.78	24.30	23.72	-84.06	630.20	-658.23	1,478.46	1,438.37	40.09	36.876	
7,900.00	7,811.78	7,936.26	7,811.78	24.45	23.88	-84.06	630.20	-658.23	1,478.46	1,438.01	40.45	36.547	
8,000.00	7,911.78	8,036.26	7,911.78	24.61	24.04	-84.06	630.20	-658.23	1,478.46	1,437.64	40.82	36.222	
8,100.00	8,011.78	8,136.26	8,011.78	24.76	24.20	-84.06	630.20	-658.23	1,478.46	1,437.28	41.18	35.901	
8,200.00	8,111.78	8,236.26	8,111.78	24.92	24.36	-84.06	630.20	-658.23	1,478.46	1,436.91	41.55	35.585	
8,300.00	8,211.78	8,336.26	8,211.78	25.07	24.52	-84.06	630.20	-658.23	1,478.46	1,436.54	41.92	35.272	
8,400.00	8,311.78	8,436.26	8,311.78	25.23	24.68	-84.06	630.20	-658.23	1,478.46	1,436.18	42.28	34.964	
8,500.00	8,411.78	8,536.26	8,411.78	25.39	24.85	-84.06	630.20	-658.23	1,478.46	1,435.80	42.66	34.660	
8,513.03	8,424.81	8,549.30	8,424.81	25.41	24.87	-84.06	630.20	-658.23	1,478.46	1,435.76	42.70	34.621	
8,533.22	8,445.00	8,554.49	8,430.00	25.44	24.88	-84.06	630.20	-658.23	1,478.54	1,435.79	42.75	34.585	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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	14.39	0.19	76.312	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-14.58	0.00	14.58	13.94	0.64	22.760	
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-14.58	0.00	14.58	13.49	1.09	13.374	
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-14.58	0.00	14.58	13.04	1.54	9.469	
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-14.58	0.00	14.58	12.59	1.99	7.329	
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-14.58	0.00	14.58	12.14	2.44	5.978	
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-14.58	0.00	14.58	11.69	2.89	5.048	
800.00	800.00	800.00	800.00	1.67	1.67	-180.00	-14.58	0.00	14.58	11.24	3.34	4.368	
900.00	900.00	900.00	900.00	1.89	1.89	-180.00	-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	-180.00	-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	-180.00	-14.58	0.00	14.58	9.89	4.69	3.111 CC	
1,113.30	1,113.30	1,113.33	1,113.33	2.37	2.37	120.72	-14.57	-0.04	14.58	9.84	4.74	3.074 ES	
1,200.00	1,199.98	1,200.02	1,199.98	2.56	2.56	135.68	-13.89	-2.53	15.32	10.20	5.12	2.992 SF	
1,300.00	1,299.84	1,299.00	1,298.64	2.78	2.77	166.47	-11.86	-10.00	22.25	16.72	5.53	4.022	
1,400.00	1,399.45	1,395.94	1,394.76	3.00	3.01	-174.36	-8.58	-22.08	39.54	33.61	5.93	6.664	
1,500.00	1,498.70	1,489.95	1,487.24	3.25	3.27	-165.44	-4.18	-38.28	65.96	59.62	6.33	10.417	
1,600.00	1,597.47	1,580.25	1,575.20	3.52	3.57	-160.89	1.17	-57.96	100.25	93.52	6.73	14.898	
1,656.10	1,652.62	1,629.05	1,622.31	3.68	3.76	-159.24	4.51	-70.26	122.65	115.70	6.95	17.644	
1,700.00	1,695.69	1,666.35	1,658.08	3.82	3.91	-158.32	7.28	-80.44	141.40	134.26	7.14	19.972	
1,800.00	1,793.81	1,748.84	1,736.43	4.15	4.30	-156.57	14.04	-105.34	186.80	179.21	7.59	24.607	
1,900.00	1,891.93	1,827.81	1,810.32	4.49	4.74	-155.16	21.35	-132.21	235.75	227.71	8.05	29.301	
2,000.00	1,990.06	1,900.00	1,876.81	4.85	5.19	-154.03	28.72	-159.34	288.08	279.58	8.50	33.906	
2,100.00	2,088.18	1,975.11	1,944.81	5.21	5.74	-152.98	37.08	-190.11	343.49	334.52	8.97	38.280	
2,200.00	2,186.30	2,043.51	2,005.60	5.59	6.30	-152.12	45.30	-220.37	401.86	392.42	9.44	42.559	
2,300.00	2,284.42	2,100.00	2,054.93	5.97	6.79	-151.46	52.52	-246.92	463.04	453.16	9.88	46.852	
2,400.00	2,382.54	2,170.23	2,115.09	6.36	7.48	-150.70	62.02	-281.88	526.56	516.18	10.38	50.729	
2,500.00	2,480.66	2,228.78	2,164.20	6.75	8.10	-150.10	70.37	-312.64	592.52	581.68	10.85	54.628	
2,600.00	2,578.79	2,284.30	2,209.85	7.15	8.71	-149.58	78.66	-343.13	660.65	649.34	11.31	58.416	
2,700.00	2,676.91	2,336.93	2,252.25	7.55	9.35	-149.10	86.83	-373.21	730.79	719.02	11.77	62.086	
2,800.00	2,775.03	2,400.00	2,301.91	7.95	10.13	-148.57	97.03	-410.73	802.93	790.66	12.27	65.455	
2,900.00	2,873.15	2,434.10	2,328.22	8.35	10.58	-148.29	102.72	-431.66	876.48	863.80	12.68	69.144	
3,000.00	2,971.27	2,485.02	2,366.83	8.76	11.27	-147.90	111.42	-463.69	951.71	938.57	13.14	72.419	
3,100.00	3,069.40	2,550.24	2,416.06	9.17	12.18	-147.45	122.64	-504.98	1,027.34	1,013.68	13.66	75.203	
3,200.00	3,167.52	2,615.46	2,465.29	9.58	13.10	-147.06	133.86	-546.26	1,103.00	1,088.82	14.18	77.779	
3,300.00	3,265.64	2,680.67	2,514.52	9.99	14.03	-146.72	145.07	-587.54	1,178.68	1,163.98	14.71	80.147	
3,400.00	3,363.76	2,745.89	2,563.75	10.40	14.96	-146.42	156.29	-628.82	1,254.38	1,239.14	15.24	82.334	
3,500.00	3,461.88	2,811.11	2,612.97	10.82	15.90	-146.16	167.51	-670.10	1,330.08	1,314.32	15.77	84.366	
3,600.00	3,560.00	2,876.33	2,662.20	11.23	16.84	-145.93	178.73	-711.38	1,405.80	1,389.50	16.30	86.244	
3,700.00	3,658.13	2,941.54	2,711.43	11.65	17.79	-145.71	189.94	-752.66	1,481.53	1,464.69	16.84	87.992	
3,800.00	3,756.25	3,006.76	2,760.66	12.06	18.73	-145.52	201.16	-793.94	1,557.26	1,539.89	17.38	89.625	
3,900.00	3,854.37	3,071.98	2,809.88	12.48	19.69	-145.35	212.38	-835.22	1,633.00	1,615.09	17.92	91.144	
4,000.00	3,952.49	3,137.20	2,859.11	12.90	20.64	-145.19	223.59	-876.51	1,708.75	1,690.29	18.46	92.566	
4,100.00	4,050.61	3,202.41	2,908.34	13.31	21.60	-145.05	234.81	-917.79	1,784.50	1,765.50	19.00	93.902	
4,200.00	4,148.74	3,267.63	2,957.57	13.73	22.56	-144.92	246.03	-959.07	1,860.26	1,840.71	19.55	95.150	
4,300.00	4,246.86	3,332.85	3,006.79	14.15	23.52	-144.79	257.25	-1,000.35	1,936.02	1,915.92	20.10	96.325	
4,400.00	4,344.98	3,398.07	3,056.02	14.57	24.48	-144.68	268.46	-1,041.63	2,011.78	1,991.14	20.65	97.434	
4,500.00	4,443.10	3,463.28	3,105.25	14.99	25.44	-144.57	279.68	-1,082.91	2,087.55	2,066.35	21.20	98.476	
4,600.00	4,541.22	3,528.50	3,154.48	15.41	26.40	-144.48	290.90	-1,124.19	2,163.32	2,141.57	21.75	99.461	
4,700.00	4,639.34	3,593.72	3,203.70	15.83	27.37	-144.39	302.12	-1,165.47	2,239.09	2,216.79	22.30	100.394	
4,800.00	4,737.47	3,658.94	3,252.93	16.25	28.33	-144.30	313.33	-1,206.75	2,314.87	2,292.01	22.86	101.275	
4,900.00	4,835.59	3,724.15	3,302.16	16.67	29.30	-144.22	324.55	-1,248.04	2,390.65	2,367.23	23.41	102.111	

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

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

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 3-36 - P_NORTHGLENN STATE 3-36													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	4,933.71	5,504.88	4,933.71	17.09	40.87	-146.07	480.91	-1,823.45	2,429.32	2,400.49	28.83	84.253		
5,100.00	5,031.83	5,603.00	5,031.83	17.52	40.92	-146.32	480.91	-1,823.45	2,445.45	2,416.12	29.32	83.401		
5,200.00	5,129.95	5,701.12	5,129.95	17.94	40.98	-146.57	480.91	-1,823.45	2,461.61	2,431.80	29.81	82.576		
5,300.00	5,228.08	5,799.25	5,228.08	18.36	41.04	-146.81	480.91	-1,823.45	2,477.83	2,447.53	30.30	81.779		
5,400.00	5,326.20	5,897.37	5,326.20	18.78	41.10	-147.05	480.91	-1,823.45	2,494.08	2,463.29	30.79	81.008		
5,500.00	5,424.32	5,995.49	5,424.32	19.20	41.16	-147.29	480.91	-1,823.45	2,510.38	2,479.10	31.28	80.261		
5,600.00	5,522.44	6,093.61	5,522.44	19.63	41.22	-147.53	480.91	-1,823.45	2,526.72	2,494.95	31.77	79.539		
5,700.00	5,620.56	6,191.73	5,620.56	20.05	41.28	-147.76	480.91	-1,823.45	2,543.10	2,510.85	32.26	78.839		
5,800.00	5,718.69	6,289.85	5,718.69	20.47	41.35	-147.99	480.91	-1,823.45	2,559.53	2,526.78	32.75	78.161		
5,900.00	5,816.81	6,387.98	5,816.81	20.89	41.41	-148.21	480.91	-1,823.45	2,575.99	2,542.75	33.24	77.505		
5,982.12	5,897.38	6,468.55	5,897.38	21.24	41.47	-148.40	480.91	-1,823.45	2,589.54	2,555.90	33.64	76.981		
6,000.00	5,914.94	6,486.11	5,914.94	21.31	41.48	-148.47	480.91	-1,823.45	2,592.45	2,558.66	33.79	76.730		
6,100.00	6,013.49	6,584.66	6,013.49	21.61	41.54	-148.82	480.91	-1,823.45	2,606.98	2,572.43	34.55	75.457		
6,200.00	6,112.56	6,683.73	6,112.56	21.88	41.61	-149.09	480.91	-1,823.45	2,618.59	2,583.34	35.24	74.300		
6,300.00	6,212.05	6,783.22	6,212.05	22.10	41.68	-149.29	480.91	-1,823.45	2,627.22	2,591.36	35.87	73.249		
6,400.00	6,311.83	6,883.00	6,311.83	22.29	41.75	-149.42	480.91	-1,823.45	2,632.88	2,596.46	36.42	72.293		
6,500.00	6,411.78	6,982.95	6,411.78	22.44	41.83	-149.48	480.91	-1,823.45	2,635.53	2,598.63	36.90	71.422		
6,538.22	6,450.00	7,021.17	6,450.00	22.48	41.85	-89.92	480.91	-1,823.45	2,635.75	2,598.68	37.07	71.108		
6,600.00	6,511.78	7,082.95	6,511.78	22.56	41.90	-89.92	480.91	-1,823.45	2,635.75	2,598.49	37.25	70.751		
6,700.00	6,611.78	7,182.95	6,611.78	22.70	41.97	-89.92	480.91	-1,823.45	2,635.75	2,598.18	37.57	70.158		
6,800.00	6,711.78	7,282.95	6,711.78	22.84	42.05	-89.92	480.91	-1,823.45	2,635.75	2,597.86	37.89	69.570		
6,900.00	6,811.78	7,382.95	6,811.78	22.98	42.13	-89.92	480.91	-1,823.45	2,635.75	2,597.54	38.21	68.987		
7,000.00	6,911.78	7,482.95	6,911.78	23.12	42.20	-89.92	480.91	-1,823.45	2,635.75	2,597.22	38.53	68.410		
7,100.00	7,011.78	7,582.95	7,011.78	23.26	42.28	-89.92	480.91	-1,823.45	2,635.75	2,596.89	38.85	67.837		
7,200.00	7,111.78	7,682.95	7,111.78	23.41	42.36	-89.92	480.91	-1,823.45	2,635.75	2,596.57	39.18	67.270		
7,300.00	7,211.78	7,782.95	7,211.78	23.55	42.44	-89.92	480.91	-1,823.45	2,635.75	2,596.24	39.51	66.708		
7,400.00	7,311.78	7,882.95	7,311.78	23.70	42.53	-89.92	480.91	-1,823.45	2,635.75	2,595.90	39.84	66.152		
7,500.00	7,411.78	7,982.95	7,411.78	23.85	42.61	-89.92	480.91	-1,823.45	2,635.75	2,595.57	40.18	65.602		
7,600.00	7,511.78	8,082.95	7,511.78	24.00	42.69	-89.92	480.91	-1,823.45	2,635.75	2,595.23	40.51	65.056		
7,700.00	7,611.78	8,182.95	7,611.78	24.15	42.78	-89.92	480.91	-1,823.45	2,635.75	2,594.89	40.85	64.517		
7,800.00	7,711.78	8,282.95	7,711.78	24.30	42.86	-89.92	480.91	-1,823.45	2,635.75	2,594.55	41.19	63.983		
7,900.00	7,811.78	8,382.95	7,811.78	24.45	42.95	-89.92	480.91	-1,823.45	2,635.75	2,594.21	41.54	63.455		
8,000.00	7,911.78	8,482.95	7,911.78	24.61	43.04	-89.92	480.91	-1,823.45	2,635.75	2,593.87	41.88	62.932		
8,100.00	8,011.78	8,582.95	8,011.78	24.76	43.13	-89.92	480.91	-1,823.45	2,635.75	2,593.52	42.23	62.415		
8,200.00	8,111.78	8,682.95	8,111.78	24.92	43.22	-89.92	480.91	-1,823.45	2,635.75	2,593.17	42.58	61.904		
8,300.00	8,211.78	8,782.95	8,211.78	25.07	43.31	-89.92	480.91	-1,823.45	2,635.75	2,592.82	42.93	61.398		
8,400.00	8,311.78	8,882.95	8,311.78	25.23	43.40	-89.92	480.91	-1,823.45	2,635.75	2,592.47	43.28	60.898		
8,500.00	8,411.78	8,982.95	8,411.78	25.39	43.49	-89.92	480.91	-1,823.45	2,635.75	2,592.11	43.64	60.404		
8,520.19	8,431.96	9,003.13	8,431.96	25.42	43.51	-89.92	480.91	-1,823.45	2,635.75	2,592.04	43.71	60.305		
8,533.22	8,445.00	9,011.17	8,440.00	25.44	43.52	-89.92	480.91	-1,823.45	2,635.75	2,592.01	43.74	60.253		

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

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 41-36 - P_NORTHGLENN STATE 4												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	180.00	-29.15	0.00	29.15				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-29.15	0.00	29.15	28.96	0.19	152.601	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-29.15	0.00	29.15	28.51	0.64	45.513	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-29.15	0.00	29.15	28.06	1.09	26.745	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-29.15	0.00	29.15	27.62	1.54	18.936	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-29.15	0.00	29.15	27.17	1.99	14.657	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-29.15	0.00	29.15	26.72	2.44	11.955	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-29.15	0.00	29.15	26.27	2.89	10.094	
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-29.15	0.00	29.15	25.82	3.34	8.735	
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-29.15	0.00	29.15	25.37	3.79	7.698	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-29.15	0.00	29.15	24.92	4.24	6.881	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-29.15	0.00	29.15	24.47	4.69	6.221 CC, ES	
1,200.00	1,199.98	1,199.87	1,199.85	2.56	2.55	119.99	-29.35	1.73	30.24	25.12	5.11	5.913 SF	
1,300.00	1,299.84	1,299.67	1,299.51	2.78	2.76	118.81	-29.95	6.91	33.50	27.97	5.53	6.057	
1,400.00	1,399.45	1,399.32	1,398.78	3.00	2.97	117.29	-30.94	15.52	38.95	32.98	5.97	6.526	
1,500.00	1,498.70	1,498.76	1,497.47	3.25	3.21	115.73	-32.32	27.53	46.59	40.16	6.44	7.236	
1,600.00	1,597.47	1,597.91	1,595.40	3.52	3.47	114.32	-34.09	42.88	56.43	49.47	6.96	8.109	
1,656.10	1,652.62	1,653.38	1,649.95	3.68	3.64	113.62	-35.25	52.93	62.90	55.62	7.28	8.637	
1,700.00	1,695.69	1,696.71	1,692.41	3.82	3.77	112.96	-36.24	61.51	68.31	60.77	7.55	9.052	
1,800.00	1,793.81	1,795.14	1,788.34	4.15	4.12	110.11	-38.76	83.37	81.31	73.11	8.20	9.915	
1,900.00	1,891.93	1,892.97	1,882.89	4.49	4.52	106.13	-41.63	108.33	95.58	86.67	8.91	10.726	
2,000.00	1,990.06	1,990.01	1,975.76	4.85	4.98	101.63	-44.84	136.24	111.55	101.89	9.66	11.543	
2,100.00	2,088.18	2,087.81	2,068.74	5.21	5.48	97.38	-48.32	166.39	129.06	118.62	10.44	12.362	
2,200.00	2,186.30	2,185.87	2,161.94	5.59	6.02	94.13	-51.80	196.65	147.13	135.90	11.23	13.104	
2,300.00	2,284.42	2,283.92	2,255.14	5.97	6.57	91.59	-55.29	226.91	165.55	153.53	12.02	13.771	
2,400.00	2,382.54	2,381.97	2,348.34	6.36	7.14	89.57	-58.77	257.18	184.23	171.40	12.82	14.368	
2,500.00	2,480.66	2,480.02	2,441.54	6.75	7.72	87.91	-62.26	287.44	203.08	189.46	13.63	14.904	
2,600.00	2,578.79	2,578.08	2,534.74	7.15	8.31	86.54	-65.74	317.70	222.07	207.64	14.44	15.384	
2,700.00	2,676.91	2,676.13	2,627.94	7.55	8.91	85.39	-69.23	347.96	241.17	225.92	15.25	15.816	
2,800.00	2,775.03	2,774.18	2,721.14	7.95	9.51	84.40	-72.71	378.22	260.35	244.28	16.06	16.207	
2,900.00	2,873.15	2,872.23	2,814.34	8.35	10.12	83.55	-76.20	408.48	279.59	262.71	16.88	16.560	
3,000.00	2,971.27	2,970.29	2,907.54	8.76	10.73	82.81	-79.68	438.75	298.88	281.18	17.71	16.881	
3,100.00	3,069.40	3,068.34	3,000.75	9.17	11.35	82.16	-83.17	469.01	318.22	299.69	18.53	17.174	
3,200.00	3,167.52	3,166.39	3,093.95	9.58	11.96	81.58	-86.65	499.27	337.59	318.23	19.36	17.441	
3,300.00	3,265.64	3,264.44	3,187.15	9.99	12.58	81.07	-90.14	529.53	356.99	336.80	20.18	17.687	
3,400.00	3,363.76	3,362.50	3,280.35	10.40	13.20	80.60	-93.62	559.79	376.41	355.40	21.01	17.913	
3,500.00	3,461.88	3,460.55	3,373.55	10.82	13.83	80.19	-97.11	590.05	395.86	374.01	21.84	18.122	
3,600.00	3,560.00	3,558.60	3,466.75	11.23	14.45	79.81	-100.59	620.32	415.32	392.65	22.68	18.315	
3,700.00	3,658.13	3,656.65	3,559.95	11.65	15.08	79.47	-104.08	650.58	434.80	411.29	23.51	18.494	
3,800.00	3,756.25	3,754.71	3,653.15	12.06	15.71	79.15	-107.56	680.84	454.30	429.95	24.35	18.660	
3,900.00	3,854.37	3,852.76	3,746.35	12.48	16.33	78.87	-111.05	711.10	473.80	448.62	25.18	18.816	
4,000.00	3,952.49	3,950.81	3,839.55	12.90	16.96	78.60	-114.53	741.36	493.32	467.30	26.02	18.961	
4,100.00	4,050.61	4,048.86	3,932.75	13.31	17.59	78.36	-118.02	771.62	512.84	485.99	26.86	19.096	
4,200.00	4,148.74	4,146.92	4,025.95	13.73	18.22	78.13	-121.50	801.89	532.38	504.69	27.69	19.224	
4,300.00	4,246.86	4,244.97	4,119.15	14.15	18.86	77.92	-124.99	832.15	551.92	523.39	28.53	19.343	
4,400.00	4,344.98	4,343.02	4,212.35	14.57	19.49	77.72	-128.47	862.41	571.47	542.10	29.37	19.456	
4,500.00	4,443.10	4,441.07	4,305.56	14.99	20.12	77.54	-131.96	892.67	591.02	560.81	30.21	19.562	
4,600.00	4,541.22	4,539.13	4,398.76	15.41	20.75	77.37	-135.44	922.93	610.58	579.53	31.05	19.662	
4,700.00	4,639.34	4,637.18	4,491.96	15.83	21.39	77.20	-138.93	953.20	630.15	598.25	31.89	19.757	
4,800.00	4,737.47	4,735.23	4,585.16	16.25	22.02	77.05	-142.41	983.46	649.72	616.98	32.74	19.847	
4,900.00	4,835.59	4,833.28	4,678.36	16.67	22.66	76.91	-145.90	1,013.72	669.29	635.71	33.58	19.932	
5,000.00	4,933.71	4,931.34	4,771.56	17.09	23.29	76.78	-149.38	1,043.98	688.87	654.45	34.42	20.013	

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



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

Offset Design WELD_NORTHGLENN STATE 7 PAD - P_NORTHGLENN STATE 41-36 - P_NORTHGLENN STATE 4												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	
5,100.00	5,031.83	5,029.39	4,864.76	17.52	23.93	76.65	-152.87	1,074.24	708.45	673.19	35.26	20.090	
5,200.00	5,129.95	5,127.44	4,957.96	17.94	24.56	76.53	-156.35	1,104.50	728.03	691.93	36.11	20.163	
5,300.00	5,228.08	5,225.49	5,051.16	18.36	25.20	76.41	-159.84	1,134.77	747.62	710.67	36.95	20.233	
5,400.00	5,326.20	5,323.55	5,144.36	18.78	25.83	76.31	-163.32	1,165.03	767.21	729.41	37.79	20.300	
5,500.00	5,424.32	5,421.60	5,237.56	19.20	26.47	76.20	-166.81	1,195.29	786.80	748.16	38.64	20.363	
5,600.00	5,522.44	5,519.65	5,330.76	19.63	27.11	76.11	-170.29	1,225.55	806.40	766.91	39.48	20.424	
5,700.00	5,620.56	5,617.70	5,423.96	20.05	27.74	76.01	-173.78	1,255.81	825.99	785.66	40.33	20.482	
5,800.00	5,718.69	5,719.50	5,520.74	20.47	28.39	75.92	-177.39	1,287.19	845.56	804.38	41.18	20.533	
5,900.00	5,816.81	5,847.16	5,643.14	20.89	29.04	75.97	-181.54	1,323.19	863.05	820.95	42.10	20.500	
5,982.12	5,897.38	5,952.97	5,745.72	21.24	29.47	76.18	-184.50	1,348.89	874.88	832.03	42.85	20.418	
6,000.00	5,914.94	5,976.09	5,768.27	21.31	29.56	76.29	-185.09	1,354.01	877.17	834.15	43.01	20.393	
6,100.00	6,013.49	6,105.90	5,895.54	21.61	30.00	76.84	-188.01	1,379.36	888.42	844.60	43.82	20.275	
6,200.00	6,112.56	6,236.40	6,024.50	21.88	30.36	77.29	-190.27	1,399.05	897.03	852.53	44.51	20.155	
6,300.00	6,212.05	6,367.37	6,154.72	22.10	30.65	77.65	-191.87	1,412.92	902.97	857.89	45.08	20.030	
6,400.00	6,311.83	6,498.63	6,285.73	22.29	30.86	77.91	-192.79	1,420.88	906.20	860.66	45.54	19.898	
6,500.00	6,411.78	6,624.71	6,411.78	22.44	30.99	78.08	-193.02	1,422.95	906.76	860.88	45.88	19.763	
6,538.22	6,450.00	6,662.93	6,450.00	22.48	31.03	137.66	-193.02	1,422.95	906.71	860.74	45.97	19.724	
6,600.00	6,511.78	6,724.71	6,511.78	22.56	31.09	137.66	-193.02	1,422.95	906.71	860.59	46.12	19.659	
6,700.00	6,611.78	6,824.71	6,611.78	22.70	31.19	137.66	-193.02	1,422.95	906.71	860.33	46.38	19.548	
6,800.00	6,711.78	6,924.71	6,711.78	22.84	31.29	137.66	-193.02	1,422.95	906.71	860.06	46.65	19.438	
6,900.00	6,811.78	7,024.71	6,811.78	22.98	31.39	137.66	-193.02	1,422.95	906.71	859.80	46.91	19.327	
7,000.00	6,911.78	7,124.71	6,911.78	23.12	31.49	137.66	-193.02	1,422.95	906.71	859.53	47.18	19.217	
7,100.00	7,011.78	7,224.71	7,011.78	23.26	31.59	137.66	-193.02	1,422.95	906.71	859.25	47.45	19.107	
7,200.00	7,111.78	7,324.71	7,111.78	23.41	31.70	137.66	-193.02	1,422.95	906.71	858.98	47.73	18.997	
7,300.00	7,211.78	7,424.71	7,211.78	23.55	31.80	137.66	-193.02	1,422.95	906.71	858.70	48.01	18.887	
7,400.00	7,311.78	7,524.71	7,311.78	23.70	31.91	137.66	-193.02	1,422.95	906.71	858.42	48.29	18.777	
7,500.00	7,411.78	7,624.71	7,411.78	23.85	32.02	137.66	-193.02	1,422.95	906.71	858.14	48.57	18.668	
7,600.00	7,511.78	7,724.71	7,511.78	24.00	32.13	137.66	-193.02	1,422.95	906.71	857.85	48.85	18.559	
7,700.00	7,611.78	7,824.71	7,611.78	24.15	32.24	137.66	-193.02	1,422.95	906.71	857.57	49.14	18.451	
7,800.00	7,711.78	7,924.71	7,711.78	24.30	32.35	137.66	-193.02	1,422.95	906.71	857.28	49.43	18.342	
7,900.00	7,811.78	8,024.71	7,811.78	24.45	32.47	137.66	-193.02	1,422.95	906.71	856.99	49.72	18.235	
8,000.00	7,911.78	8,124.71	7,911.78	24.61	32.58	137.66	-193.02	1,422.95	906.71	856.69	50.02	18.127	
8,059.95	7,971.72	8,184.66	7,971.72	24.70	32.65	137.66	-193.02	1,422.95	906.71	856.51	50.20	18.063	
8,100.00	8,011.78	8,207.93	7,995.00	24.76	32.68	137.66	-193.02	1,422.95	906.86	856.57	50.29	18.032	
8,200.00	8,111.78	8,207.93	7,995.00	24.92	32.68	137.66	-193.02	1,422.95	914.20	863.75	50.45	18.121	
8,300.00	8,211.78	8,207.93	7,995.00	25.07	32.68	137.66	-193.02	1,422.95	932.26	881.66	50.61	18.422	
8,400.00	8,311.78	8,207.93	7,995.00	25.23	32.68	137.66	-193.02	1,422.95	960.45	909.69	50.77	18.920	
8,500.00	8,411.78	8,207.93	7,995.00	25.39	32.68	137.66	-193.02	1,422.95	997.91	946.99	50.92	19.596	
8,533.22	8,445.00	8,207.93	7,995.00	25.44	32.68	137.66	-193.02	1,422.95	1,012.24	961.26	50.98	19.856	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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 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	180.00	-80.15	0.00	80.15					
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-80.15	0.00	80.15	79.96	0.19	419.515		
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-80.15	0.00	80.15	79.51	0.64	125.119		
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-80.15	0.00	80.15	79.06	1.09	73.523		
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-80.15	0.00	80.15	78.61	1.54	52.057		
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-80.15	0.00	80.15	78.16	1.99	40.292		
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-80.15	0.00	80.15	77.71	2.44	32.865		
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-80.15	0.00	80.15	77.26	2.89	27.750		
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-80.15	0.00	80.15	76.81	3.34	24.013		
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-80.15	0.00	80.15	76.36	3.79	21.163		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-80.15	0.00	80.15	75.91	4.24	18.917		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-80.15	0.00	80.15	75.46	4.69	17.103 CC, ES		
1,200.00	1,199.98	1,197.61	1,197.59	2.56	2.54	122.05	-81.54	-0.92	82.49	77.39	5.10	16.180 SF		
1,300.00	1,299.84	1,294.57	1,294.42	2.78	2.71	126.36	-85.66	-3.65	89.88	84.39	5.49	16.385		
1,400.00	1,399.45	1,390.23	1,389.73	3.00	2.90	132.03	-92.40	-8.11	103.11	97.23	5.88	17.542		
1,500.00	1,498.70	1,484.00	1,482.85	3.25	3.10	137.74	-101.57	-14.19	122.87	116.60	6.27	19.590		
1,600.00	1,597.47	1,575.32	1,573.14	3.52	3.32	142.71	-112.95	-21.72	149.42	142.75	6.66	22.423		
1,656.10	1,652.62	1,625.29	1,622.36	3.68	3.46	145.07	-120.19	-26.52	167.25	160.36	6.88	24.304		
1,700.00	1,695.69	1,663.82	1,660.18	3.82	3.57	146.82	-126.26	-30.54	182.36	175.30	7.06	25.818		
1,800.00	1,793.81	1,750.07	1,744.51	4.15	3.84	149.93	-141.38	-40.55	219.32	211.84	7.48	29.315		
1,900.00	1,891.93	1,834.17	1,826.16	4.49	4.15	152.15	-158.15	-51.66	259.47	251.56	7.90	32.828		
2,000.00	1,990.06	1,916.07	1,905.07	4.85	4.49	153.76	-176.40	-63.75	302.52	294.19	8.33	36.322		
2,100.00	2,088.18	1,996.84	1,982.27	5.21	4.86	154.97	-196.22	-76.87	348.24	339.48	8.76	39.757		
2,200.00	2,186.30	2,085.02	2,066.26	5.59	5.30	155.99	-218.61	-91.70	395.03	385.82	9.22	42.865		
2,300.00	2,284.42	2,173.21	2,150.26	5.97	5.76	156.79	-241.00	-106.53	441.90	432.22	9.68	45.654		
2,400.00	2,382.54	2,261.39	2,234.26	6.36	6.24	157.44	-263.38	-121.35	488.82	478.67	10.15	48.161		
2,500.00	2,480.66	2,349.58	2,318.26	6.75	6.73	157.97	-285.77	-136.18	535.79	525.16	10.63	50.421		
2,600.00	2,578.79	2,437.76	2,402.25	7.15	7.23	158.42	-308.16	-151.01	582.78	571.67	11.11	52.465		
2,700.00	2,676.91	2,525.95	2,486.25	7.55	7.73	158.80	-330.55	-165.83	629.80	618.20	11.59	54.317		
2,800.00	2,775.03	2,614.13	2,570.25	7.95	8.24	159.13	-352.93	-180.66	676.83	664.75	12.09	56.002		
2,900.00	2,873.15	2,702.32	2,654.25	8.35	8.76	159.41	-375.32	-195.49	723.89	711.30	12.58	57.539		
3,000.00	2,971.27	2,790.50	2,738.25	8.76	9.28	159.67	-397.71	-210.31	770.95	757.87	13.08	58.943		
3,100.00	3,069.40	2,878.69	2,822.24	9.17	9.80	159.89	-420.10	-225.14	818.02	804.44	13.58	60.231		
3,200.00	3,167.52	2,966.88	2,906.24	9.58	10.33	160.09	-442.48	-239.97	865.11	851.02	14.09	61.416		
3,300.00	3,265.64	3,055.06	2,990.24	9.99	10.86	160.26	-464.87	-254.79	912.19	897.60	14.59	62.510		
3,400.00	3,363.76	3,143.25	3,074.24	10.40	11.40	160.42	-487.26	-269.62	959.29	944.19	15.10	63.522		
3,500.00	3,461.88	3,231.43	3,158.23	10.82	11.93	160.57	-509.65	-284.45	1,006.39	990.78	15.61	64.460		
3,600.00	3,560.00	3,319.62	3,242.23	11.23	12.47	160.70	-532.03	-299.27	1,053.50	1,037.37	16.13	65.331		
3,700.00	3,658.13	3,407.80	3,326.23	11.65	13.00	160.82	-554.42	-314.10	1,100.61	1,083.97	16.64	66.143		
3,800.00	3,756.25	3,495.99	3,410.23	12.06	13.54	160.93	-576.81	-328.93	1,147.72	1,130.56	17.16	66.899		
3,900.00	3,854.37	3,584.17	3,494.22	12.48	14.08	161.03	-599.20	-343.75	1,194.84	1,177.16	17.67	67.607		
4,000.00	3,952.49	3,672.36	3,578.22	12.90	14.62	161.13	-621.58	-358.58	1,241.96	1,223.76	18.19	68.269		
4,100.00	4,050.61	3,760.54	3,662.22	13.31	15.17	161.22	-643.97	-373.41	1,289.08	1,270.36	18.71	68.891		
4,200.00	4,148.74	3,848.73	3,746.22	13.73	15.71	161.30	-666.36	-388.23	1,336.20	1,316.97	19.23	69.476		
4,300.00	4,246.86	3,936.91	3,830.22	14.15	16.25	161.37	-688.75	-403.06	1,383.33	1,363.57	19.75	70.027		
4,400.00	4,344.98	4,025.10	3,914.21	14.57	16.80	161.44	-711.13	-417.89	1,430.45	1,410.18	20.28	70.546		
4,500.00	4,443.10	4,113.72	4,019.68	14.99	17.41	161.53	-738.95	-436.31	1,477.42	1,456.57	20.85	70.858		
4,600.00	4,541.22	4,202.84	4,200.42	15.41	18.16	161.71	-779.26	-463.01	1,520.33	1,498.75	21.58	70.446		
4,700.00	4,639.34	4,291.01	4,294.82	15.83	18.82	161.96	-811.13	-484.11	1,557.16	1,534.85	22.31	69.805		
4,800.00	4,737.47	4,379.16	4,401.35	16.25	19.34	162.28	-832.46	-498.24	1,587.39	1,564.38	23.01	68.984		
4,900.00	4,835.59	4,467.33	4,417.60	16.67	19.69	162.69	-841.32	-504.11	1,610.59	1,586.91	23.68	68.013		
5,000.00	4,933.71	5,061.84	4,933.71	17.09	19.82	162.92	-841.47	-504.21	1,629.13	1,604.97	24.15	67.448		

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



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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		
5,100.00	5,031.83	5,159.96	5,031.83	17.52	19.92	163.12	-841.47	-504.21	1,647.61	1,623.01	24.60	66.988		
5,200.00	5,129.95	5,258.08	5,129.95	17.94	20.02	163.31	-841.47	-504.21	1,666.10	1,641.06	25.04	66.542		
5,300.00	5,228.08	5,356.20	5,228.08	18.36	20.13	163.50	-841.47	-504.21	1,684.62	1,659.14	25.48	66.110		
5,400.00	5,326.20	5,454.32	5,326.20	18.78	20.24	163.69	-841.47	-504.21	1,703.15	1,677.22	25.93	65.691		
5,500.00	5,424.32	5,552.45	5,424.32	19.20	20.35	163.87	-841.47	-504.21	1,721.70	1,695.33	26.37	65.284		
5,600.00	5,522.44	5,650.57	5,522.44	19.63	20.46	164.04	-841.47	-504.21	1,740.26	1,713.44	26.82	64.889		
5,700.00	5,620.56	5,748.69	5,620.56	20.05	20.57	164.21	-841.47	-504.21	1,758.84	1,731.58	27.27	64.506		
5,800.00	5,718.69	5,846.81	5,718.69	20.47	20.69	164.38	-841.47	-504.21	1,777.44	1,749.72	27.71	64.134		
5,900.00	5,816.81	5,944.93	5,816.81	20.89	20.81	164.55	-841.47	-504.21	1,796.05	1,767.89	28.16	63.772		
5,982.12	5,897.38	6,025.51	5,897.38	21.24	20.90	164.68	-841.47	-504.21	1,811.34	1,782.81	28.53	63.483		
6,000.00	5,914.94	6,043.07	5,914.94	21.31	20.92	164.73	-841.47	-504.21	1,814.62	1,785.98	28.64	63.362		
6,100.00	6,013.49	6,141.61	6,013.49	21.61	21.04	164.95	-841.47	-504.21	1,831.01	1,801.82	29.18	62.743		
6,200.00	6,112.56	6,240.69	6,112.56	21.88	21.17	165.13	-841.47	-504.21	1,844.07	1,814.38	29.69	62.116		
6,300.00	6,212.05	6,340.18	6,212.05	22.10	21.29	165.26	-841.47	-504.21	1,853.78	1,823.63	30.15	61.481		
6,400.00	6,311.83	6,439.96	6,311.83	22.29	21.42	165.34	-841.47	-504.21	1,860.13	1,829.56	30.58	60.838		
6,500.00	6,411.78	6,539.91	6,411.78	22.44	21.55	165.38	-841.47	-504.21	1,863.11	1,832.15	30.96	60.187		
6,538.22	6,450.00	6,578.13	6,450.00	22.48	21.60	-135.05	-841.47	-504.21	1,863.36	1,832.27	31.09	59.934		
6,600.00	6,511.78	6,639.91	6,511.78	22.56	21.68	-135.05	-841.47	-504.21	1,863.36	1,832.04	31.31	59.509		
6,700.00	6,611.78	6,739.91	6,611.78	22.70	21.81	-135.05	-841.47	-504.21	1,863.36	1,831.67	31.69	58.803		
6,800.00	6,711.78	6,839.91	6,711.78	22.84	21.94	-135.05	-841.47	-504.21	1,863.36	1,831.29	32.07	58.110		
6,900.00	6,811.78	6,939.91	6,811.78	22.98	22.08	-135.05	-841.47	-504.21	1,863.36	1,830.91	32.45	57.430		
7,000.00	6,911.78	7,039.91	6,911.78	23.12	22.22	-135.05	-841.47	-504.21	1,863.36	1,830.53	32.83	56.762		
7,100.00	7,011.78	7,139.91	7,011.78	23.26	22.35	-135.05	-841.47	-504.21	1,863.36	1,830.15	33.21	56.107		
7,200.00	7,111.78	7,239.91	7,111.78	23.41	22.49	-135.05	-841.47	-504.21	1,863.36	1,829.76	33.60	55.465		
7,300.00	7,211.78	7,339.91	7,211.78	23.55	22.63	-135.05	-841.47	-504.21	1,863.36	1,829.37	33.98	54.834		
7,400.00	7,311.78	7,439.91	7,311.78	23.70	22.78	-135.05	-841.47	-504.21	1,863.36	1,828.99	34.37	54.215		
7,500.00	7,411.78	7,539.91	7,411.78	23.85	22.92	-135.05	-841.47	-504.21	1,863.36	1,828.60	34.76	53.608		
7,600.00	7,511.78	7,639.91	7,511.78	24.00	23.06	-135.05	-841.47	-504.21	1,863.36	1,828.21	35.15	53.011		
7,700.00	7,611.78	7,739.91	7,611.78	24.15	23.21	-135.05	-841.47	-504.21	1,863.36	1,827.81	35.54	52.426		
7,800.00	7,711.78	7,839.91	7,711.78	24.30	23.36	-135.05	-841.47	-504.21	1,863.36	1,827.42	35.94	51.852		
7,900.00	7,811.78	7,939.91	7,811.78	24.45	23.51	-135.05	-841.47	-504.21	1,863.36	1,827.03	36.33	51.289		
8,000.00	7,911.78	8,039.91	7,911.78	24.61	23.66	-135.05	-841.47	-504.21	1,863.36	1,826.63	36.73	50.735		
8,100.00	8,011.78	8,139.91	8,011.78	24.76	23.81	-135.05	-841.47	-504.21	1,863.36	1,826.23	37.12	50.192		
8,200.00	8,111.78	8,239.91	8,111.78	24.92	23.96	-135.05	-841.47	-504.21	1,863.36	1,825.83	37.52	49.659		
8,300.00	8,211.78	8,339.91	8,211.78	25.07	24.11	-135.05	-841.47	-504.21	1,863.36	1,825.43	37.92	49.136		
8,400.00	8,311.78	8,439.91	8,311.78	25.23	24.27	-135.05	-841.47	-504.21	1,863.36	1,825.03	38.32	48.622		
8,500.00	8,411.78	8,539.91	8,411.78	25.39	24.42	-135.05	-841.47	-504.21	1,863.36	1,824.63	38.73	48.117		
8,533.22	8,445.00	8,573.13	8,445.00	25.44	24.47	-135.05	-841.47	-504.21	1,863.36	1,824.50	38.86	47.952		

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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										
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	180.00	-61.94	0.00	61.94					
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-61.94	0.00	61.94	61.75	0.19	324.203		
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-61.94	0.00	61.94	61.30	0.64	96.692		
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-61.94	0.00	61.94	60.85	1.09	56.819		
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-61.94	0.00	61.94	60.40	1.54	40.230		
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-61.94	0.00	61.94	59.95	1.99	31.138		
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-61.94	0.00	61.94	59.50	2.44	25.398		
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-61.94	0.00	61.94	59.05	2.89	21.445		
800.00	800.00	800.00	800.00	1.67	1.67	180.00	-61.94	0.00	61.94	58.60	3.34	18.557		
900.00	900.00	900.00	900.00	1.89	1.89	180.00	-61.94	0.00	61.94	58.15	3.79	16.354		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	180.00	-61.94	0.00	61.94	57.70	4.24	14.619		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	180.00	-61.94	0.00	61.94	57.25	4.69	13.217 CC, ES		
1,200.00	1,199.98	1,198.49	1,198.47	2.56	2.54	120.63	-63.11	1.22	64.01	58.91	5.10	12.545 SF		
1,300.00	1,299.84	1,296.71	1,296.56	2.78	2.72	121.14	-66.61	4.88	70.23	64.73	5.50	12.772		
1,400.00	1,399.45	1,394.44	1,393.92	3.00	2.92	121.80	-72.39	10.93	80.57	74.66	5.91	13.631		
1,500.00	1,498.70	1,491.41	1,490.19	3.25	3.14	122.44	-80.39	19.29	95.01	88.67	6.35	14.970		
1,600.00	1,597.47	1,587.39	1,585.05	3.52	3.38	122.98	-90.53	29.89	113.51	106.69	6.82	16.651		
1,656.10	1,652.62	1,640.73	1,637.53	3.68	3.53	123.22	-97.11	36.77	125.64	118.54	7.10	17.694		
1,700.00	1,695.69	1,682.22	1,678.22	3.82	3.66	123.44	-102.69	42.61	135.82	128.48	7.34	18.514		
1,800.00	1,793.81	1,776.04	1,769.78	4.15	3.97	123.19	-116.81	57.38	160.47	152.56	7.91	20.298		
1,900.00	1,891.93	1,868.74	1,859.54	4.49	4.34	122.28	-132.80	74.10	187.16	178.64	8.52	21.978		
2,000.00	1,990.06	1,960.14	1,947.28	4.85	4.75	120.98	-150.52	92.62	215.94	206.78	9.16	23.568		
2,100.00	2,088.18	2,050.11	2,032.79	5.21	5.21	119.48	-169.84	112.83	246.87	237.03	9.84	25.087		
2,200.00	2,186.30	2,138.49	2,115.89	5.59	5.72	117.89	-190.61	134.55	280.02	269.47	10.54	26.556		
2,300.00	2,284.42	2,225.16	2,196.46	5.97	6.27	116.29	-212.70	157.65	315.41	304.14	11.27	27.991		
2,400.00	2,382.54	2,310.02	2,274.36	6.36	6.87	114.72	-235.95	181.96	353.08	341.07	12.01	29.410		
2,500.00	2,480.66	2,398.04	2,354.29	6.75	7.54	113.16	-261.42	208.60	392.67	379.89	12.78	30.730		
2,600.00	2,578.79	2,489.26	2,437.03	7.15	8.26	111.81	-287.96	236.35	432.66	419.09	13.57	31.873		
2,700.00	2,676.91	2,580.48	2,519.78	7.55	8.99	110.69	-314.50	264.10	472.82	458.44	14.38	32.888		
2,800.00	2,775.03	2,671.70	2,602.52	7.95	9.73	109.75	-341.05	291.86	513.11	497.92	15.18	33.794		
2,900.00	2,873.15	2,762.92	2,685.27	8.35	10.49	108.94	-367.59	319.61	553.49	537.50	15.99	34.606		
3,000.00	2,971.27	2,854.15	2,768.01	8.76	11.25	108.24	-394.13	347.36	593.96	577.15	16.81	35.336		
3,100.00	3,069.40	2,945.37	2,850.75	9.17	12.01	107.63	-420.67	375.12	634.49	616.87	17.63	35.996		
3,200.00	3,167.52	3,036.59	2,933.50	9.58	12.79	107.09	-447.21	402.87	675.08	656.63	18.45	36.594		
3,300.00	3,265.64	3,127.81	3,016.24	9.99	13.56	106.62	-473.75	430.63	715.71	696.44	19.27	37.139		
3,400.00	3,363.76	3,219.03	3,098.99	10.40	14.34	106.19	-500.29	458.38	756.38	736.28	20.10	37.637		
3,500.00	3,461.88	3,310.25	3,181.73	10.82	15.12	105.81	-526.83	486.13	797.07	776.15	20.92	38.093		
3,600.00	3,560.00	3,401.47	3,264.48	11.23	15.91	105.46	-553.37	513.89	837.80	816.04	21.75	38.513		
3,700.00	3,658.13	3,492.69	3,347.22	11.65	16.69	105.15	-579.91	541.64	878.55	855.96	22.59	38.899		
3,800.00	3,756.25	3,583.91	3,429.96	12.06	17.48	104.87	-606.46	569.39	919.31	895.90	23.42	39.257		
3,900.00	3,854.37	3,675.13	3,512.71	12.48	18.27	104.60	-633.00	597.15	960.10	935.85	24.25	39.588		
4,000.00	3,952.49	3,769.35	3,598.17	12.90	19.08	104.36	-660.40	625.80	1,000.89	975.79	25.10	39.881		
4,100.00	4,050.61	3,901.39	3,719.37	13.31	19.96	104.15	-686.60	663.66	1,039.64	1,013.61	26.03	39.936		
4,200.00	4,148.74	4,037.76	3,846.93	13.73	20.75	104.15	-729.89	698.47	1,074.70	1,047.74	26.97	39.855		
4,300.00	4,246.86	4,178.01	3,980.37	14.15	21.49	104.35	-759.72	729.66	1,105.90	1,078.00	27.90	39.634		
4,400.00	4,344.98	4,321.63	4,119.02	14.57	22.14	104.73	-785.55	756.67	1,133.10	1,104.26	28.83	39.297		
4,500.00	4,443.10	4,467.98	4,262.06	14.99	22.70	105.29	-806.90	778.99	1,156.20	1,126.45	29.75	38.863		
4,600.00	4,541.22	4,616.37	4,408.50	15.41	23.16	106.04	-823.36	796.21	1,175.15	1,144.50	30.65	38.345		
4,700.00	4,639.34	4,766.02	4,557.25	15.83	23.51	106.96	-834.63	807.99	1,189.93	1,158.42	31.51	37.764		
4,800.00	4,737.47	4,916.14	4,707.11	16.25	23.76	108.07	-840.53	814.16	1,200.61	1,168.27	32.34	37.126		
4,900.00	4,835.59	5,044.63	4,835.59	16.67	23.89	109.15	-841.46	815.14	1,207.64	1,174.56	33.07	36.512		
5,000.00	4,933.71	5,142.76	4,933.71	17.09	23.98	110.00	-841.46	815.14	1,214.21	1,180.49	33.72	36.003		

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NORTHGLENN STATE 1-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NORTHGLENN STATE 1-36	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 10-09-09 RHS	<b>Offset TVD Reference:</b>	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						
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
5,100.00	5,031.83	5,240.88	5,031.83	17.52	24.06	110.84	-841.46	815.14	1,221.05	1,186.68	34.37	35.525	
5,200.00	5,129.95	5,339.00	5,129.95	17.94	24.16	111.66	-841.46	815.14	1,228.16	1,193.15	35.01	35.076	
5,300.00	5,228.08	5,437.12	5,228.08	18.36	24.25	112.48	-841.46	815.14	1,235.53	1,199.88	35.65	34.657	
5,400.00	5,326.20	5,535.24	5,326.20	18.78	24.34	113.29	-841.46	815.14	1,243.15	1,206.87	36.28	34.265	
5,500.00	5,424.32	5,633.37	5,424.32	19.20	24.44	114.09	-841.46	815.14	1,251.02	1,214.12	36.91	33.898	
5,600.00	5,522.44	5,731.49	5,522.44	19.63	24.54	114.88	-841.46	815.14	1,259.15	1,221.62	37.52	33.555	
5,700.00	5,620.56	5,829.61	5,620.56	20.05	24.64	115.66	-841.46	815.14	1,267.51	1,229.37	38.14	33.235	
5,800.00	5,718.69	5,927.73	5,718.69	20.47	24.74	116.43	-841.46	815.14	1,276.11	1,237.36	38.75	32.935	
5,900.00	5,816.81	6,025.85	5,816.81	20.89	24.84	117.18	-841.46	815.14	1,284.94	1,245.59	39.35	32.656	
5,982.12	5,897.38	6,106.43	5,897.38	21.24	24.92	117.80	-841.46	815.14	1,292.36	1,252.52	39.84	32.441	
6,000.00	5,914.94	6,123.99	5,914.94	21.31	24.94	117.96	-841.46	815.14	1,293.97	1,254.02	39.95	32.388	
6,100.00	6,013.49	6,222.53	6,013.49	21.61	25.05	118.75	-841.46	815.14	1,302.12	1,261.60	40.51	32.141	
6,200.00	6,112.56	6,321.61	6,112.56	21.88	25.16	119.39	-841.46	815.14	1,308.73	1,267.72	41.01	31.911	
6,300.00	6,212.05	6,421.10	6,212.05	22.10	25.27	119.85	-841.46	815.14	1,313.71	1,272.26	41.45	31.693	
6,400.00	6,311.83	6,520.88	6,311.83	22.29	25.38	120.16	-841.46	815.14	1,317.00	1,275.17	41.83	31.484	
6,500.00	6,411.78	6,620.83	6,411.78	22.44	25.49	120.30	-841.46	815.14	1,318.55	1,276.40	42.15	31.282	
6,538.22	6,450.00	6,659.05	6,450.00	22.48	25.54	179.88	-841.46	815.14	1,318.68	1,276.42	42.26	31.206	
6,600.00	6,511.78	6,720.82	6,511.78	22.56	25.61	179.88	-841.46	815.14	1,318.68	1,276.25	42.43	31.082	
6,700.00	6,611.78	6,820.82	6,611.78	22.70	25.72	179.88	-841.46	815.14	1,318.68	1,275.97	42.71	30.873	
6,800.00	6,711.78	6,920.82	6,711.78	22.84	25.84	179.88	-841.46	815.14	1,318.68	1,275.67	43.00	30.664	
6,900.00	6,811.78	7,020.82	6,811.78	22.98	25.96	179.88	-841.46	815.14	1,318.68	1,275.38	43.30	30.456	
7,000.00	6,911.78	7,120.82	6,911.78	23.12	26.08	179.88	-841.46	815.14	1,318.68	1,275.08	43.59	30.249	
7,100.00	7,011.78	7,220.82	7,011.78	23.26	26.20	179.88	-841.46	815.14	1,318.68	1,274.79	43.89	30.043	
7,200.00	7,111.78	7,320.82	7,111.78	23.41	26.33	179.88	-841.46	815.14	1,318.68	1,274.48	44.19	29.838	
7,300.00	7,211.78	7,420.82	7,211.78	23.55	26.45	179.88	-841.46	815.14	1,318.68	1,274.18	44.50	29.634	
7,400.00	7,311.78	7,520.82	7,311.78	23.70	26.58	179.88	-841.46	815.14	1,318.68	1,273.87	44.80	29.432	
7,500.00	7,411.78	7,620.82	7,411.78	23.85	26.70	179.88	-841.46	815.14	1,318.68	1,273.57	45.11	29.230	
7,600.00	7,511.78	7,720.82	7,511.78	24.00	26.83	179.88	-841.46	815.14	1,318.68	1,273.25	45.42	29.030	
7,700.00	7,611.78	7,820.82	7,611.78	24.15	26.96	179.88	-841.46	815.14	1,318.68	1,272.94	45.74	28.831	
7,800.00	7,711.78	7,920.82	7,711.78	24.30	27.09	179.88	-841.46	815.14	1,318.68	1,272.62	46.05	28.634	
7,900.00	7,811.78	8,020.82	7,811.78	24.45	27.23	179.88	-841.46	815.14	1,318.68	1,272.31	46.37	28.437	
8,000.00	7,911.78	8,120.82	7,911.78	24.61	27.36	179.88	-841.46	815.14	1,318.68	1,271.99	46.69	28.242	
8,100.00	8,011.78	8,220.82	8,011.78	24.76	27.49	179.88	-841.46	815.14	1,318.68	1,271.66	47.01	28.049	
8,200.00	8,111.78	8,320.82	8,111.78	24.92	27.63	179.88	-841.46	815.14	1,318.68	1,271.34	47.34	27.857	
8,300.00	8,211.78	8,420.82	8,211.78	25.07	27.77	179.88	-841.46	815.14	1,318.68	1,271.01	47.66	27.666	
8,400.00	8,311.78	8,520.82	8,311.78	25.23	27.90	179.88	-841.46	815.14	1,318.68	1,270.69	47.99	27.477	
8,457.39	8,369.16	8,578.21	8,369.16	25.32	27.98	179.88	-841.46	815.14	1,318.68	1,270.50	48.18	27.369	
8,500.00	8,411.78	8,599.05	8,390.00	25.39	28.01	179.88	-841.46	815.14	1,318.86	1,270.57	48.29	27.313	
8,533.22	8,445.00	8,599.05	8,390.00	25.44	28.01	179.88	-841.46	815.14	1,319.82	1,271.48	48.34	27.301	

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

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-71.86	15.77	-48.12	50.64				
100.00	100.00	100.00	100.00	0.10	1.70	-71.86	15.77	-48.12	50.64	48.84	1.80	28.201	
200.00	200.00	200.00	200.00	0.32	5.70	-71.86	15.77	-48.12	50.64	44.62	6.02	8.411	
300.00	300.00	300.00	300.00	0.55	9.70	-71.86	15.77	-48.12	50.64	40.39	10.25	4.942	
400.00	400.00	400.00	400.00	0.77	13.70	-71.86	15.77	-48.12	50.64	36.17	14.47	3.499	
500.00	500.00	500.00	500.00	0.99	17.70	-71.86	15.77	-48.12	50.64	31.94	18.69	2.709	
600.00	600.00	600.00	600.00	1.22	21.70	-71.86	15.77	-48.12	50.64	27.72	22.92	2.209	
700.00	700.00	700.00	700.00	1.44	25.70	-71.86	15.77	-48.12	50.64	23.49	27.14	1.865	
800.00	800.00	800.00	800.00	1.67	29.70	-71.86	15.77	-48.12	50.64	19.27	31.37	1.614	
900.00	900.00	900.00	900.00	1.89	33.70	-71.86	15.77	-48.12	50.64	15.04	35.59	1.423 Level 3	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	-71.86	15.77	-48.12	50.64	10.82	39.82	1.272 Level 3	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	41.70	-71.86	15.77	-48.12	50.64	6.59	44.04	1.150 Level 2, CC	
1,200.00	1,199.98	1,199.98	1,199.98	2.56	45.70	-132.85	15.77	-48.12	51.81	3.56	48.25	1.074 Level 2	
1,300.00	1,299.84	1,299.84	1,299.84	2.78	49.69	-136.76	15.77	-48.12	55.50	3.09	52.41	1.059 Level 2, ES, SF	
1,400.00	1,399.45	1,399.45	1,399.45	3.00	53.68	-142.19	15.77	-48.12	62.14	5.65	56.49	1.100 Level 2	
1,500.00	1,498.70	1,498.70	1,498.70	3.25	57.65	-148.01	15.77	-48.12	72.17	11.72	60.46	1.194 Level 2	
1,600.00	1,597.47	1,597.47	1,597.47	3.52	61.60	-153.41	15.77	-48.12	85.87	21.59	64.28	1.336 Level 3	
1,656.10	1,652.62	1,652.62	1,652.62	3.68	63.80	-156.10	15.77	-48.12	95.20	28.84	66.36	1.435 Level 3	
1,700.00	1,695.69	1,695.69	1,695.69	3.82	65.53	-158.00	15.77	-48.12	103.03	34.90	68.13	1.512	
1,800.00	1,793.81	1,793.81	1,793.81	4.15	69.45	-161.41	15.77	-48.12	121.17	49.00	72.17	1.679	
1,900.00	1,891.93	1,891.93	1,891.93	4.49	73.38	-163.93	15.77	-48.12	139.62	63.39	76.23	1.832	
2,000.00	1,990.06	1,990.06	1,990.06	4.85	77.30	-165.86	15.77	-48.12	158.27	77.97	80.30	1.971	
2,100.00	2,088.18	2,088.18	2,088.18	5.21	81.23	-167.39	15.77	-48.12	177.05	92.68	84.38	2.098	
2,200.00	2,186.30	2,186.30	2,186.30	5.59	85.15	-168.62	15.77	-48.12	195.94	107.48	88.46	2.215	
2,300.00	2,284.42	2,284.42	2,284.42	5.97	89.08	-169.63	15.77	-48.12	214.89	122.35	92.55	2.322	
2,400.00	2,382.54	2,382.54	2,382.54	6.36	93.00	-170.48	15.77	-48.12	233.91	137.27	96.64	2.420	
2,500.00	2,480.66	2,480.66	2,480.66	6.75	96.93	-171.20	15.77	-48.12	252.96	152.23	100.73	2.511	
2,600.00	2,578.79	2,578.79	2,578.79	7.15	100.85	-171.83	15.77	-48.12	272.05	167.22	104.83	2.595	
2,700.00	2,676.91	2,676.91	2,676.91	7.55	104.78	-172.37	15.77	-48.12	291.16	182.23	108.93	2.673	
2,800.00	2,775.03	2,775.03	2,775.03	7.95	108.70	-172.84	15.77	-48.12	310.30	197.27	113.03	2.745	
2,900.00	2,873.15	2,873.15	2,873.15	8.35	112.63	-173.26	15.77	-48.12	329.45	212.32	117.13	2.813	
3,000.00	2,971.27	2,971.27	2,971.27	8.76	116.55	-173.63	15.77	-48.12	348.62	227.39	121.23	2.876	
3,100.00	3,069.40	3,069.40	3,069.40	9.17	120.48	-173.96	15.77	-48.12	367.80	242.47	125.33	2.935	
3,200.00	3,167.52	3,167.52	3,167.52	9.58	124.40	-174.26	15.77	-48.12	386.99	257.55	129.44	2.990	
3,300.00	3,265.64	3,265.64	3,265.64	9.99	128.33	-174.53	15.77	-48.12	406.19	272.65	133.54	3.042	
3,400.00	3,363.76	3,363.76	3,363.76	10.40	132.25	-174.78	15.77	-48.12	425.40	287.75	137.65	3.091	
3,500.00	3,461.88	3,461.88	3,461.88	10.82	136.18	-175.01	15.77	-48.12	444.62	302.86	141.75	3.137	
3,600.00	3,560.00	3,560.00	3,560.00	11.23	140.10	-175.22	15.77	-48.12	463.84	317.98	145.86	3.180	
3,700.00	3,658.13	3,658.13	3,658.13	11.65	144.03	-175.41	15.77	-48.12	483.07	333.10	149.97	3.221	
3,800.00	3,756.25	3,756.25	3,756.25	12.06	147.95	-175.58	15.77	-48.12	502.30	348.23	154.08	3.260	
3,900.00	3,854.37	3,854.37	3,854.37	12.48	151.87	-175.75	15.77	-48.12	521.54	363.35	158.18	3.297	
4,000.00	3,952.49	3,952.49	3,952.49	12.90	155.80	-175.90	15.77	-48.12	540.78	378.49	162.29	3.332	
4,100.00	4,050.61	4,050.61	4,050.61	13.31	159.72	-176.04	15.77	-48.12	560.02	393.62	166.40	3.366	
4,200.00	4,148.74	4,148.74	4,148.74	13.73	163.65	-176.17	15.77	-48.12	579.27	408.76	170.51	3.397	
4,300.00	4,246.86	4,246.86	4,246.86	14.15	167.57	-176.29	15.77	-48.12	598.52	423.90	174.62	3.428	
4,400.00	4,344.98	4,344.98	4,344.98	14.57	171.50	-176.41	15.77	-48.12	617.77	439.04	178.73	3.456	
4,500.00	4,443.10	4,443.10	4,443.10	14.99	175.42	-176.52	15.77	-48.12	637.03	454.19	182.84	3.484	
4,600.00	4,541.22	4,541.22	4,541.22	15.41	179.35	-176.62	15.77	-48.12	656.28	469.33	186.95	3.510	
4,700.00	4,639.34	4,639.34	4,639.34	15.83	183.27	-176.72	15.77	-48.12	675.54	484.48	191.06	3.536	
4,800.00	4,737.47	4,737.47	4,737.47	16.25	187.20	-176.81	15.77	-48.12	694.80	499.63	195.17	3.560	
4,900.00	4,835.59	4,835.59	4,835.59	16.67	191.12	-176.89	15.77	-48.12	714.06	514.78	199.28	3.583	
5,000.00	4,933.71	4,933.71	4,933.71	17.09	195.05	-176.98	15.77	-48.12	733.33	529.94	203.39	3.605	

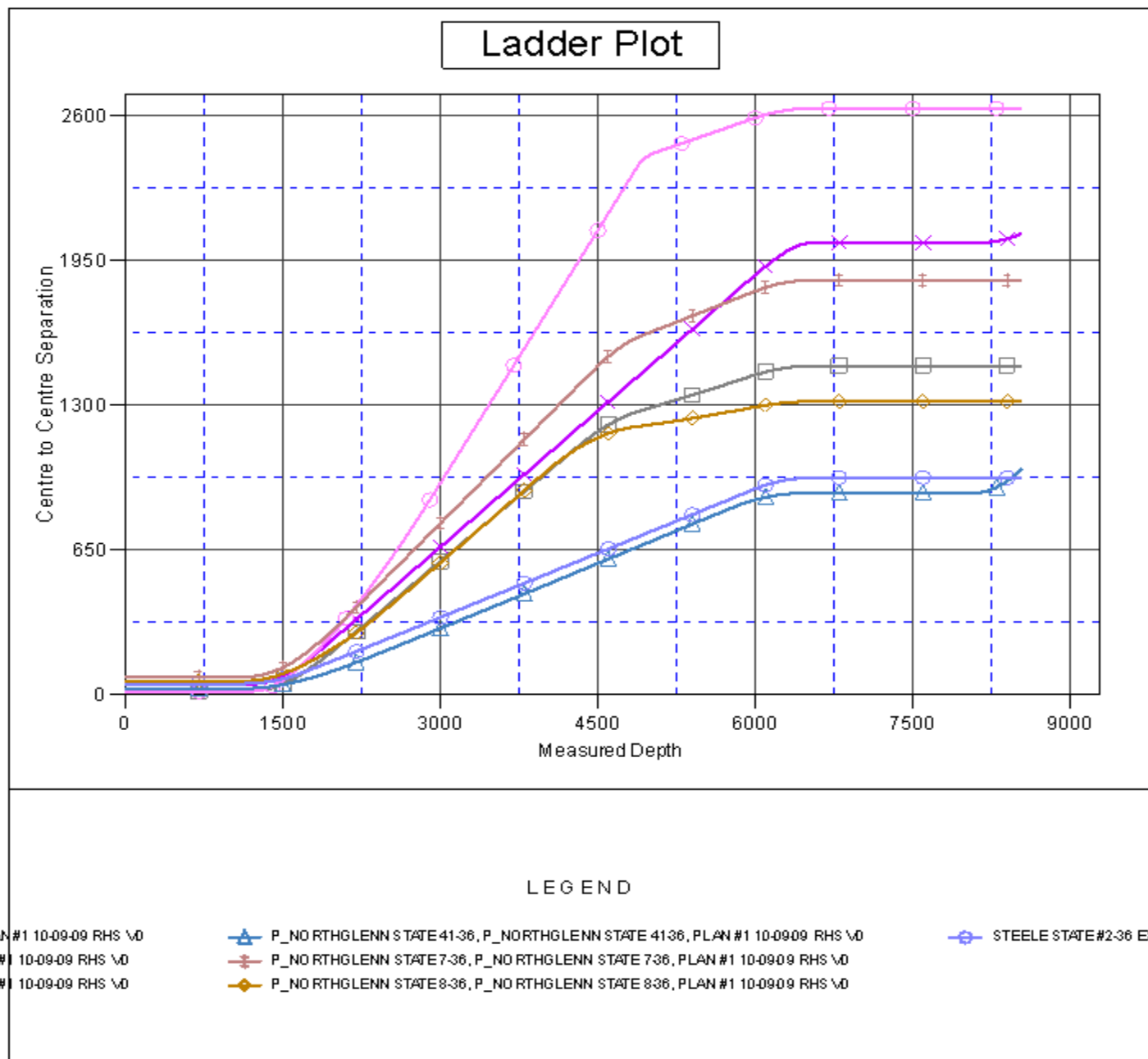
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,031.83	5,031.83	5,031.83	17.52	198.97	-177.05	15.77	-48.12	752.59	545.09	207.50	3.627	
5,200.00	5,129.95	5,129.95	5,129.95	17.94	202.90	-177.13	15.77	-48.12	771.86	560.24	211.61	3.647	
5,300.00	5,228.08	5,228.08	5,228.08	18.36	206.82	-177.20	15.77	-48.12	791.13	575.40	215.73	3.667	
5,400.00	5,326.20	5,326.20	5,326.20	18.78	210.75	-177.26	15.77	-48.12	810.39	590.56	219.84	3.686	
5,500.00	5,424.32	5,424.32	5,424.32	19.20	214.67	-177.33	15.77	-48.12	829.66	605.71	223.95	3.705	
5,600.00	5,522.44	5,522.44	5,522.44	19.63	218.60	-177.39	15.77	-48.12	848.93	620.87	228.06	3.722	
5,700.00	5,620.56	5,620.56	5,620.56	20.05	222.52	-177.45	15.77	-48.12	868.20	636.03	232.17	3.739	
5,800.00	5,718.69	5,718.69	5,718.69	20.47	226.45	-177.50	15.77	-48.12	887.48	651.19	236.28	3.756	
5,900.00	5,816.81	5,816.81	5,816.81	20.89	230.37	-177.55	15.77	-48.12	906.75	666.35	240.40	3.772	
5,982.12	5,897.38	5,897.38	5,897.38	21.24	233.60	-177.60	15.77	-48.12	922.58	678.80	243.77	3.785	
6,000.00	5,914.94	5,914.94	5,914.94	21.31	234.30	-177.61	15.77	-48.12	925.97	681.20	244.77	3.783	
6,100.00	6,013.49	6,013.49	6,013.49	21.61	238.24	-177.66	15.77	-48.12	942.91	692.65	250.26	3.768	
6,200.00	6,112.56	6,112.56	6,112.56	21.88	242.20	-177.71	15.77	-48.12	956.41	700.91	255.50	3.743	
6,300.00	6,212.05	6,212.05	6,212.05	22.10	246.18	-177.74	15.77	-48.12	966.45	705.97	260.48	3.710	
6,400.00	6,311.83	6,311.83	6,311.83	22.29	250.17	-177.76	15.77	-48.12	973.01	707.85	265.16	3.670	
6,500.00	6,411.78	6,411.78	6,411.78	22.44	254.17	-177.77	15.77	-48.12	976.08	706.56	269.53	3.621	
6,538.22	6,450.00	6,450.00	6,450.00	22.48	255.70	-118.21	15.77	-48.12	976.34	705.23	271.11	3.601	
6,600.00	6,511.78	6,511.78	6,511.78	22.56	258.17	-118.21	15.77	-48.12	976.34	702.64	273.69	3.567	
6,700.00	6,611.78	6,611.78	6,611.78	22.70	262.17	-118.21	15.77	-48.12	976.34	698.45	277.89	3.513	
6,800.00	6,711.78	6,711.78	6,711.78	22.84	266.17	-118.21	15.77	-48.12	976.34	694.26	282.08	3.461	
6,900.00	6,811.78	6,811.78	6,811.78	22.98	270.17	-118.21	15.77	-48.12	976.34	690.06	286.28	3.410	
7,000.00	6,911.78	6,911.78	6,911.78	23.12	274.17	-118.21	15.77	-48.12	976.34	685.86	290.47	3.361	
7,100.00	7,011.78	7,011.78	7,011.78	23.26	278.17	-118.21	15.77	-48.12	976.34	681.67	294.67	3.313	
7,200.00	7,111.78	7,111.78	7,111.78	23.41	282.17	-118.21	15.77	-48.12	976.34	677.47	298.87	3.267	
7,300.00	7,211.78	7,211.78	7,211.78	23.55	286.17	-118.21	15.77	-48.12	976.34	673.27	303.07	3.222	
7,400.00	7,311.78	7,311.78	7,311.78	23.70	290.17	-118.21	15.77	-48.12	976.34	669.07	307.26	3.178	
7,500.00	7,411.78	7,411.78	7,411.78	23.85	294.17	-118.21	15.77	-48.12	976.34	664.87	311.46	3.135	
7,600.00	7,511.78	7,511.78	7,511.78	24.00	298.17	-118.21	15.77	-48.12	976.34	660.67	315.66	3.093	
7,700.00	7,611.78	7,611.78	7,611.78	24.15	302.17	-118.21	15.77	-48.12	976.34	656.47	319.86	3.052	
7,800.00	7,711.78	7,711.78	7,711.78	24.30	306.17	-118.21	15.77	-48.12	976.34	652.27	324.07	3.013	
7,900.00	7,811.78	7,811.78	7,811.78	24.45	310.17	-118.21	15.77	-48.12	976.34	648.07	328.27	2.974	
8,000.00	7,911.78	7,911.78	7,911.78	24.61	314.17	-118.21	15.77	-48.12	976.34	643.87	332.47	2.937	
8,100.00	8,011.78	8,011.78	8,011.78	24.76	318.17	-118.21	15.77	-48.12	976.34	639.67	336.67	2.900	
8,200.00	8,111.78	8,111.78	8,111.78	24.92	322.17	-118.21	15.77	-48.12	976.34	635.46	340.88	2.864	
8,300.00	8,211.78	8,211.78	8,211.78	25.07	326.17	-118.21	15.77	-48.12	976.34	631.26	345.08	2.829	
8,400.00	8,311.78	8,311.78	8,311.78	25.23	330.17	-118.21	15.77	-48.12	976.34	627.05	349.28	2.795	
8,500.00	8,411.78	8,411.78	8,411.78	25.39	334.17	-118.21	15.77	-48.12	976.34	622.85	353.49	2.762	
8,533.22	8,445.00	8,445.00	8,445.00	25.44	335.50	-118.21	15.77	-48.12	976.34	621.45	354.89	2.751	

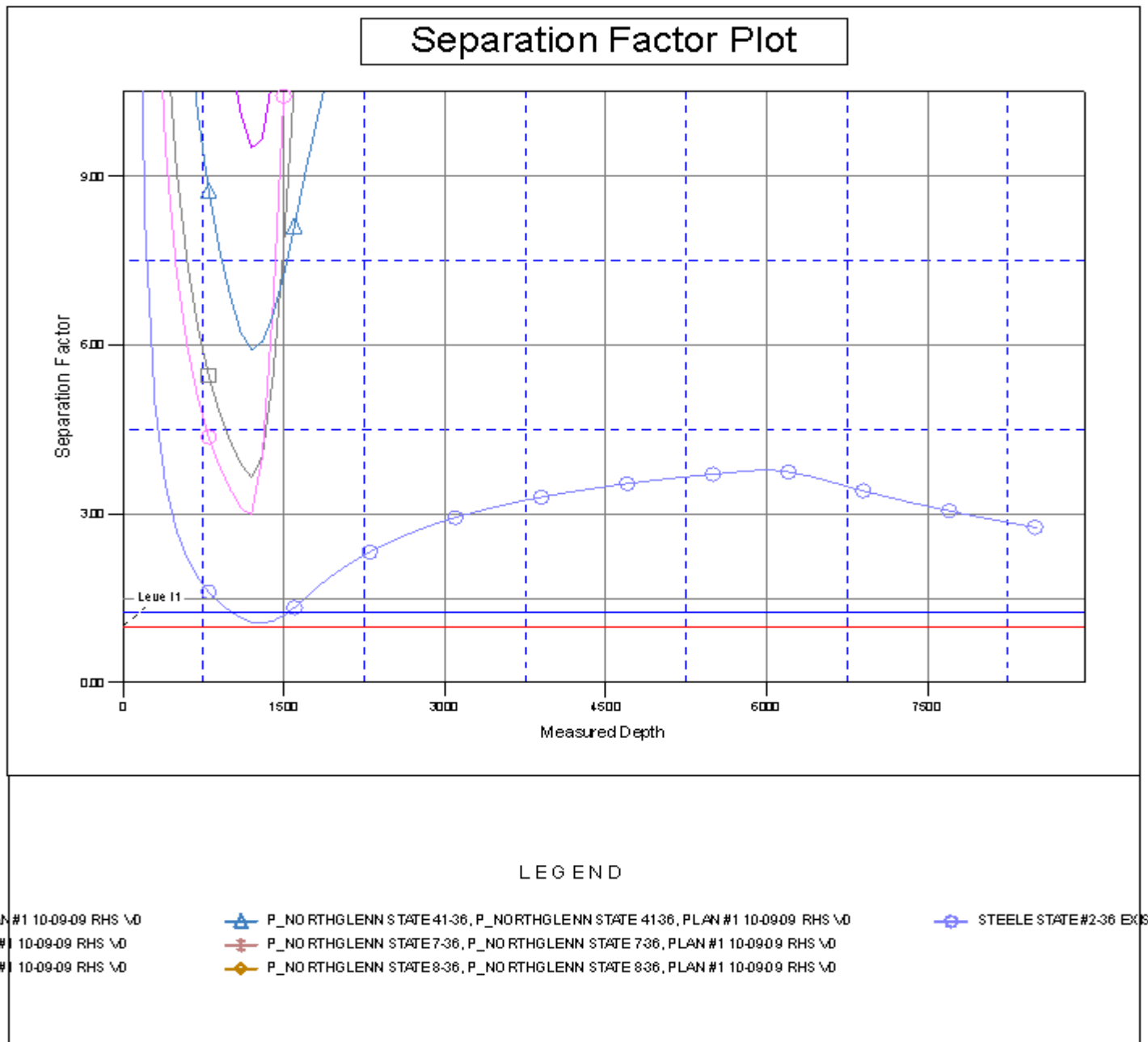
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NORTHGLENN STATE 1-36
<b>Project:</b>	KERR MCGEE OIL & GAS ONSHORE LP	<b>TVD Reference:</b>	WELL @ 5118.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NORTHGLENN STATE 7 PAD	<b>MD Reference:</b>	WELL @ 5118.00ft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

Reference Depths are relative to WELL @ 5118.00ft (Original Well Elev) Coordinates are relative to: P\_NORTHGLENN STATE 1-36  
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°



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

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

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 (°)	
3,406.36	3,370.00	PARKMAN TOP				
4,914.69	4,850.00	SUSSEX TOP				
5,577.13	5,500.00	SHANNON TOP				
7,538.22	7,450.00	NIO A TOP				
7,978.22	7,890.00	CODELL TOP				
8,408.22	8,320.00	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 2.00	
1,656.10	1,652.62	27.25	46.39	Start 4326.01 hold at 1656.10 MD	
5,982.12	5,897.38	449.96	765.90	Start Drop -2.00	
6,538.22	6,450.00	477.21	812.29	Start 1995.00 hold at 6538.22 MD	
8,533.22	8,445.00	477.21	812.29	TD at 8533.22	