



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**LARIMER\_ENCORE 3-12 PAD**

**P\_ENCORE 4-12**

**P\_ENCORE 4-12**

**Plan: PLAN #1 3-22-10 RHS**

## **Standard Planning Report**

**22 March, 2010**

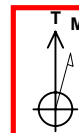




Project: COLORADO NORTHERN ZONE - 83  
 Site: LARIMER\_ENCORE 3-12 PAD  
 Well: P\_ENCORE 4-12  
 Wellbore: P\_ENCORE 4-12  
 Section: SECTION 12 T5N R68W  
 SHL: 490 FNL 2410 FWL  
 Design: PLAN #1 3-22-10 RHS  
 Latitude: 40° 25' 12.716 N  
 Longitude: 104° 57' 19.577 W  
 GL: 4979.00  
 KB: WELL @ 4994.00ft (Original Well Elev)



**Weatherford®**



Azimuths to True North  
 Magnetic North: 9.13°  
 Magnetic Field  
 Strength: 53249.9nT  
 Dip Angle: 67.08°  
 Date: 3/22/2010  
 Model: IGRF2010

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3511.00	3677.30	PARKMAN
4101.00	4327.23	SUSSEX
4551.00	4822.95	SHANNON
6911.00	7257.71	NIO A
7233.00	7579.71	CODELL
7715.00	8061.71	JSAND

#### CASING DETAILS

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

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
2289.99	24.80	266.01	2251.63	-18.40	-263.55	2.00	266.01	264.19	Start 2927.74 hold at 2289.99 MD
5217.72	24.80	266.01	4909.37	-103.93	-1488.60	0.00	0.00	1492.23	Start Drop -2.00
6457.71	0.00	0.00	6111.00	-122.33	-1752.16	2.00	180.00	1756.42	Start 1769.00 hold at 6457.71 MD
8226.71	0.00	0.00	7880.00	-122.33	-1752.16	0.00	0.00	1756.42	TD at 8226.71

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

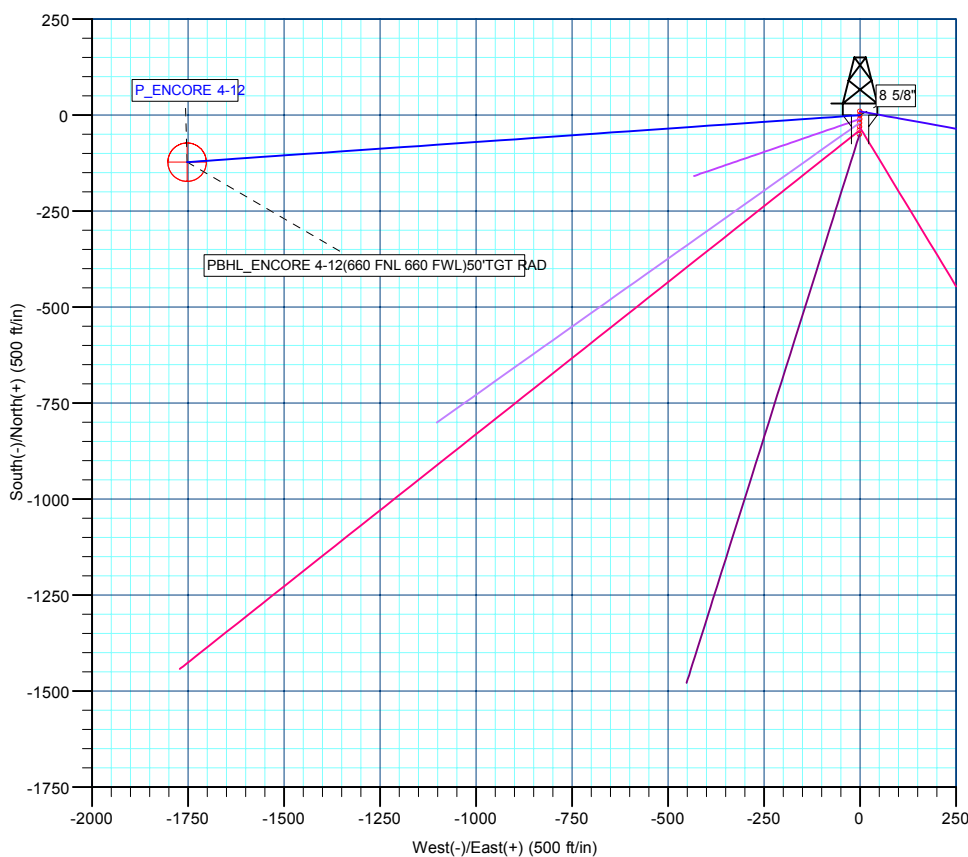
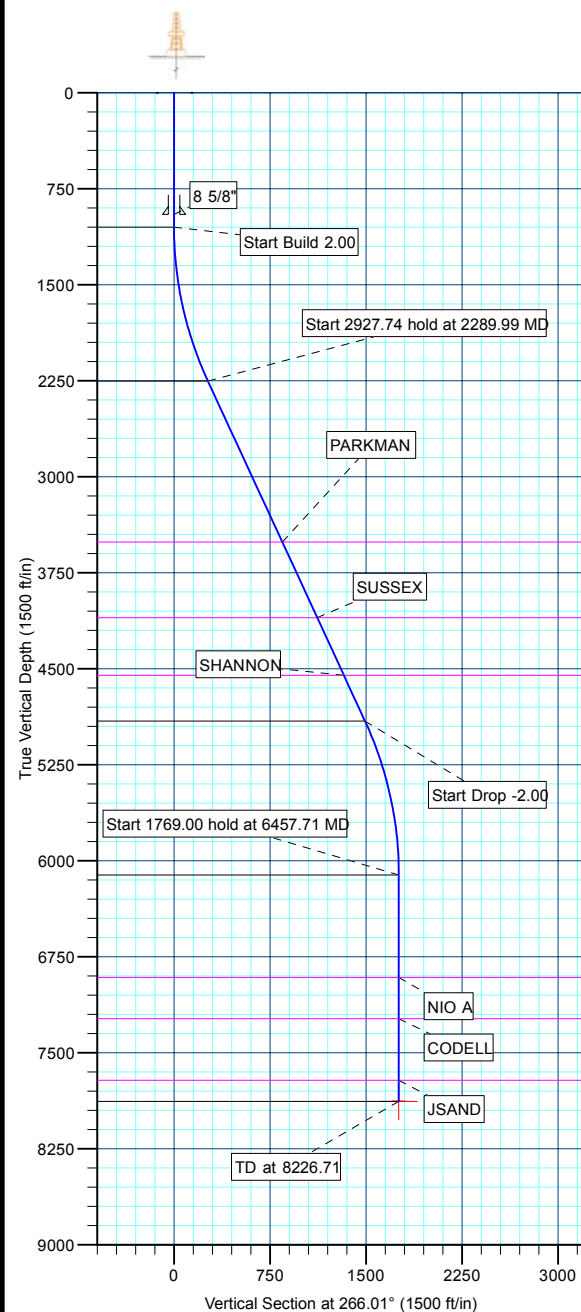
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7880.00	-122.33	-1752.16	40° 25' 11.507 N	104° 57' 42.232 W	Circle (Radius: 50.00)

#### WELL DETAILS: P\_ENCORE 4-12

+N/-S	+E/-W	Northing	Ground Level:	4979.00	Latitude	Longitude	Slot
0.00	0.00	1396384.38	Easting	3151620.02	40° 25' 12.716 N	104° 57' 19.577 W	

#### LEGEND

- P\_ENCORE 18-12, P\_ENCORE 18-12, PLAN #1 3-22-10 RHS V0
- P\_ENCORE 21-12, P\_ENCORE 21-12, PLAN #1 3-22-10 RHS V0
- P\_ENCORE 2-12, P\_ENCORE 2-12, PLAN #1 3-22-10 RHS V0
- P\_ENCORE 3-12, P\_ENCORE 3-12, PLAN #1 3-22-10 RHS V0
- P\_ENCORE 5-12, P\_ENCORE 5-12, PLAN #1 3-22-10 RHS V0
- P\_ENCORE 6-12, P\_ENCORE 6-12, PLAN #1 3-22-10 RHS V0
- PLAN #1 3-22-10 RHS



Plan: PLAN #1 3-22-10 RHS (P\_ENCORE 4-12/P\_ENCORE 4-12)

Created By: Robert H. Scott Date: 14:45, March 22 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_ENCORE 4-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_ENCORE 4-12		
<b>Design:</b>	PLAN #1 3-22-10 RHS		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, 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						LARIMER_ENCORE 3-12 PAD, SECTION 12 T5N R68W											
Site Position:						Northing:			1,396,364.36 ft			Latitude:			40° 25' 12.518 N		
From:			Lat/Long			Easting:			3,151,619.58 ft			Longitude:			104° 57' 19.584 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.35 °		

Well	P_ENCORE 4-12					
Well Position	+N/-S	20.02 ft	Northing:	1,396,384.38 ft	Latitude:	40° 25' 12.716 N
	+E/-W	0.56 ft	Easting:	3,151,620.02 ft	Longitude:	104° 57' 19.577 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,979.00 ft

<b>Wellbore</b>	P_ENCORE 4-12				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/22/2010	9.13	67.08	53,250

<b>Design</b>	PLAN #1 3-22-10 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	266.01

<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	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,289.99	24.80	266.01	2,251.63	-18.40	-263.55	2.00	2.00	0.00	266.01	
5,217.72	24.80	266.01	4,909.37	-103.93	-1,488.60	0.00	0.00	0.00	0.00	
6,457.71	0.00	0.00	6,111.00	-122.33	-1,752.16	2.00	-2.00	0.00	180.00	
8,226.71	0.00	0.00	7,880.00	-122.33	-1,752.16	0.00	0.00	0.00	0.00	PBHL_ENCORE 4-

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_ENCORE 4-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_ENCORE 4-12		
<b>Design:</b>	PLAN #1 3-22-10 RHS		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Start Build 2.00</b>									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	1.00	266.01	1,100.00	-0.03	-0.44	0.44	2.00	2.00	0.00
1,200.00	3.00	266.01	1,199.93	-0.27	-3.92	3.93	2.00	2.00	0.00
1,300.00	5.00	266.01	1,299.68	-0.76	-10.87	10.90	2.00	2.00	0.00
1,400.00	7.00	266.01	1,399.13	-1.49	-21.30	21.35	2.00	2.00	0.00
1,500.00	9.00	266.01	1,498.15	-2.46	-35.18	35.27	2.00	2.00	0.00
1,600.00	11.00	266.01	1,596.63	-3.67	-52.51	52.63	2.00	2.00	0.00
1,700.00	13.00	266.01	1,694.44	-5.11	-73.25	73.42	2.00	2.00	0.00
1,800.00	15.00	266.01	1,791.46	-6.80	-97.38	97.62	2.00	2.00	0.00
1,900.00	17.00	266.01	1,887.58	-8.72	-124.87	125.18	2.00	2.00	0.00
2,000.00	19.00	266.01	1,982.68	-10.87	-155.70	156.08	2.00	2.00	0.00
2,100.00	21.00	266.01	2,076.65	-13.25	-189.82	190.28	2.00	2.00	0.00
2,200.00	23.00	266.01	2,169.36	-15.86	-227.18	227.74	2.00	2.00	0.00
<b>Start 2927.74 hold at 2289.99 MD</b>									
2,289.99	24.80	266.01	2,251.63	-18.40	-263.55	264.19	2.00	2.00	0.00
2,300.00	24.80	266.01	2,260.72	-18.69	-267.74	268.39	0.00	0.00	0.00
2,400.00	24.80	266.01	2,351.50	-21.61	-309.58	310.34	0.00	0.00	0.00
2,500.00	24.80	266.01	2,442.28	-24.53	-351.43	352.28	0.00	0.00	0.00
2,600.00	24.80	266.01	2,533.05	-27.46	-393.27	394.23	0.00	0.00	0.00
2,700.00	24.80	266.01	2,623.83	-30.38	-435.11	436.17	0.00	0.00	0.00
2,800.00	24.80	266.01	2,714.61	-33.30	-476.96	478.12	0.00	0.00	0.00
2,900.00	24.80	266.01	2,805.39	-36.22	-518.80	520.06	0.00	0.00	0.00
3,000.00	24.80	266.01	2,896.16	-39.14	-560.64	562.01	0.00	0.00	0.00
3,100.00	24.80	266.01	2,986.94	-42.06	-602.48	603.95	0.00	0.00	0.00
3,200.00	24.80	266.01	3,077.72	-44.98	-644.33	645.90	0.00	0.00	0.00
3,300.00	24.80	266.01	3,168.50	-47.90	-686.17	687.84	0.00	0.00	0.00
3,400.00	24.80	266.01	3,259.28	-50.83	-728.01	729.79	0.00	0.00	0.00
3,500.00	24.80	266.01	3,350.05	-53.75	-769.86	771.73	0.00	0.00	0.00
3,600.00	24.80	266.01	3,440.83	-56.67	-811.70	813.68	0.00	0.00	0.00
<b>PARKMAN</b>									
3,677.30	24.80	266.01	3,511.00	-58.93	-844.04	846.10	0.00	0.00	0.00
3,700.00	24.80	266.01	3,531.61	-59.59	-853.54	855.62	0.00	0.00	0.00
3,800.00	24.80	266.01	3,622.39	-62.51	-895.39	897.57	0.00	0.00	0.00
3,900.00	24.80	266.01	3,713.17	-65.43	-937.23	939.51	0.00	0.00	0.00
4,000.00	24.80	266.01	3,803.94	-68.35	-979.07	981.45	0.00	0.00	0.00
4,100.00	24.80	266.01	3,894.72	-71.27	-1,020.91	1,023.40	0.00	0.00	0.00
4,200.00	24.80	266.01	3,985.50	-74.20	-1,062.76	1,065.34	0.00	0.00	0.00
4,300.00	24.80	266.01	4,076.28	-77.12	-1,104.60	1,107.29	0.00	0.00	0.00
<b>SUSSEX</b>									
4,327.23	24.80	266.01	4,101.00	-77.91	-1,116.00	1,118.71	0.00	0.00	0.00
4,400.00	24.80	266.01	4,167.06	-80.04	-1,146.44	1,149.23	0.00	0.00	0.00
4,500.00	24.80	266.01	4,257.83	-82.96	-1,188.29	1,191.18	0.00	0.00	0.00
4,600.00	24.80	266.01	4,348.61	-85.88	-1,230.13	1,233.12	0.00	0.00	0.00
4,700.00	24.80	266.01	4,439.39	-88.80	-1,271.97	1,275.07	0.00	0.00	0.00
4,800.00	24.80	266.01	4,530.17	-91.72	-1,313.82	1,317.01	0.00	0.00	0.00
<b>SHANNON</b>									
4,822.95	24.80	266.01	4,551.00	-92.39	-1,323.42	1,326.64	0.00	0.00	0.00
4,900.00	24.80	266.01	4,620.95	-94.64	-1,355.66	1,358.96	0.00	0.00	0.00
5,000.00	24.80	266.01	4,711.72	-97.57	-1,397.50	1,400.90	0.00	0.00	0.00
5,100.00	24.80	266.01	4,802.50	-100.49	-1,439.34	1,442.85	0.00	0.00	0.00
5,200.00	24.80	266.01	4,893.28	-103.41	-1,481.19	1,484.79	0.00	0.00	0.00
<b>Start Drop -2.00</b>									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_ENCORE 4-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_ENCORE 4-12		
<b>Design:</b>	PLAN #1 3-22-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,217.72	24.80	266.01	4,909.37	-103.93	-1,488.60	1,492.23	0.00	0.00	0.00
5,300.00	23.15	266.01	4,984.54	-106.25	-1,521.96	1,525.66	2.00	-2.00	0.00
5,400.00	21.15	266.01	5,077.15	-108.88	-1,559.57	1,563.37	2.00	-2.00	0.00
5,500.00	19.15	266.01	5,171.03	-111.28	-1,593.94	1,597.82	2.00	-2.00	0.00
5,600.00	17.15	266.01	5,266.04	-113.45	-1,625.02	1,628.98	2.00	-2.00	0.00
5,700.00	15.15	266.01	5,362.09	-115.39	-1,652.78	1,656.80	2.00	-2.00	0.00
5,800.00	13.15	266.01	5,459.05	-117.09	-1,677.17	1,681.25	2.00	-2.00	0.00
5,900.00	11.15	266.01	5,556.80	-118.56	-1,698.17	1,702.30	2.00	-2.00	0.00
6,000.00	9.15	266.01	5,655.23	-119.78	-1,715.76	1,719.93	2.00	-2.00	0.00
6,100.00	7.15	266.01	5,754.22	-120.77	-1,729.91	1,734.12	2.00	-2.00	0.00
6,200.00	5.15	266.01	5,853.63	-121.52	-1,740.60	1,744.84	2.00	-2.00	0.00
6,300.00	3.15	266.01	5,953.37	-122.02	-1,747.83	1,752.08	2.00	-2.00	0.00
6,400.00	1.15	266.01	6,053.29	-122.29	-1,751.58	1,755.84	2.00	-2.00	0.00
Start 1769.00 hold at 6457.71 MD									
6,457.71	0.00	0.00	6,111.00	-122.33	-1,752.16	1,756.42	2.00	-2.00	162.86
6,500.00	0.00	0.00	6,153.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
6,600.00	0.00	0.00	6,253.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
6,700.00	0.00	0.00	6,353.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
6,800.00	0.00	0.00	6,453.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
6,900.00	0.00	0.00	6,553.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,000.00	0.00	0.00	6,653.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,100.00	0.00	0.00	6,753.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,200.00	0.00	0.00	6,853.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
NIO A									
7,257.71	0.00	0.00	6,911.00	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,300.00	0.00	0.00	6,953.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,400.00	0.00	0.00	7,053.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,500.00	0.00	0.00	7,153.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
CODELL									
7,579.71	0.00	0.00	7,233.00	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,600.00	0.00	0.00	7,253.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,700.00	0.00	0.00	7,353.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,800.00	0.00	0.00	7,453.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
7,900.00	0.00	0.00	7,553.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
8,000.00	0.00	0.00	7,653.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
JSAND									
8,061.71	0.00	0.00	7,715.00	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
8,100.00	0.00	0.00	7,753.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
8,200.00	0.00	0.00	7,853.29	-122.33	-1,752.16	1,756.42	0.00	0.00	0.00
PBHL_ENCORE 4-12(660 FNL 660 FWL)50'TGT RAD									
8,226.71	0.00	0.00	7,880.00	-122.33	-1,752.16	1,756.42	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_ENCORE 4-12	0.00	0.00	7,880.00	-122.33	-1,752.16	1,396,251.30	3,149,868.65	40° 25' 11.507 N	104° 57' 42.232 W
- plan hits target center									
- Circle (radius 50.00)									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_ENCORE 4-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_ENCORE 4-12		
<b>Design:</b>	PLAN #1 3-22-10 RHS		

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,677.30	3,511.00	PARKMAN				
4,327.23	4,101.00	SUSSEX				
4,822.95	4,551.00	SHANNON				
7,257.71	6,911.00	NIO A				
7,579.71	7,233.00	CODELL				
8,061.71	7,715.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00	
2,289.99	2,251.63	-18.40	-263.55	Start 2927.74 hold at 2289.99 MD	
5,217.72	4,909.37	-103.93	-1,488.60	Start Drop -2.00	
6,457.71	6,111.00	-122.33	-1,752.16	Start 1769.00 hold at 6457.71 MD	
8,226.71	7,880.00	-122.33	-1,752.16	TD at 8226.71	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
LARIMER\_ENCORE 3-12 PAD  
P\_ENCORE 4-12**

**P\_ENCORE 4-12  
PLAN #1 3-22-10 RHS**

## **Anticollision Report**

**22 March, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 3-22-10 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> 3/22/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,226.71	PLAN #1 3-22-10 RHS (P_ENCORE 4-12)	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						
LARIMER_ENCORE 3-12 PAD						
P_ENCORE 18-12 - P_ENCORE 18-12 - PLAN #1 3-22-	1,050.00	1,050.00	20.04	15.57	4.491	CC, ES
P_ENCORE 18-12 - P_ENCORE 18-12 - PLAN #1 3-22-	1,100.00	1,099.79	20.25	15.59	4.340	SF
P_ENCORE 21-12 - P_ENCORE 21-12 - PLAN #1 3-22-	1,050.00	1,050.00	30.24	25.78	6.779	CC, ES
P_ENCORE 21-12 - P_ENCORE 21-12 - PLAN #1 3-22-	1,100.00	1,099.55	30.57	25.91	6.554	SF
P_ENCORE 2-12 - P_ENCORE 2-12 - PLAN #1 3-22-10	1,089.03	1,089.05	9.82	5.20	2.124	CC
P_ENCORE 2-12 - P_ENCORE 2-12 - PLAN #1 3-22-10	1,100.00	1,100.02	9.83	5.16	2.104	ES, SF
P_ENCORE 3-12 - P_ENCORE 3-12 - PLAN #1 3-22-10	1,050.00	1,050.00	10.20	5.74	2.286	CC
P_ENCORE 3-12 - P_ENCORE 3-12 - PLAN #1 3-22-10	1,100.00	1,099.94	10.31	5.64	2.208	ES, SF
P_ENCORE 5-12 - P_ENCORE 5-12 - PLAN #1 3-22-10	300.00	300.00	40.08	38.99	36.767	CC, ES
P_ENCORE 5-12 - P_ENCORE 5-12 - PLAN #1 3-22-10	5,400.00	5,208.40	1,078.13	1,012.00	16.303	SF
P_ENCORE 6-12 - P_ENCORE 6-12 - PLAN #1 3-22-10	1,050.00	1,050.00	50.29	45.82	11.271	CC, ES
P_ENCORE 6-12 - P_ENCORE 6-12 - PLAN #1 3-22-10	1,200.00	1,197.39	53.70	48.67	10.668	SF

Offset Design LARIMER_ENCORE 3-12 PAD - P_ENCORE 18-12 - P_ENCORE 18-12 - PLAN #1 3-22-10 RHS												Offset Site Error: 0.00 ft	
Survey Program: 0-MWD												Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
							+N/-S (ft)	+E/-W (ft)					
0.00	0.00	0.00	0.00	0.00	0.00	-178.41	-20.03	-0.56	20.04				
100.00	100.00	100.00	100.00	0.10	0.10	-178.41	-20.03	-0.56	20.04	19.84	0.19	104.873	
200.00	200.00	200.00	200.00	0.32	0.32	-178.41	-20.03	-0.56	20.04	19.40	0.64	31.278	
300.00	300.00	300.00	300.00	0.55	0.55	-178.41	-20.03	-0.56	20.04	18.95	1.09	18.380	
400.00	400.00	400.00	400.00	0.77	0.77	-178.41	-20.03	-0.56	20.04	18.50	1.54	13.013	
500.00	500.00	500.00	500.00	0.99	0.99	-178.41	-20.03	-0.56	20.04	18.05	1.99	10.073	
600.00	600.00	600.00	600.00	1.22	1.22	-178.41	-20.03	-0.56	20.04	17.60	2.44	8.216	
700.00	700.00	700.00	700.00	1.44	1.44	-178.41	-20.03	-0.56	20.04	17.15	2.89	6.937	
800.00	800.00	800.00	800.00	1.67	1.67	-178.41	-20.03	-0.56	20.04	16.70	3.34	6.003	
900.00	900.00	900.00	900.00	1.89	1.89	-178.41	-20.03	-0.56	20.04	16.25	3.79	5.290	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.41	-20.03	-0.56	20.04	15.80	4.24	4.729	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-178.41	-20.03	-0.56	20.04	15.57	4.46	4.491	CC, ES
1,100.00	1,100.00	1,099.79	1,099.79	2.34	2.33	-84.65	-20.28	-0.91	20.25	15.59	4.67	4.340	SF
1,200.00	1,199.93	1,199.34	1,199.28	2.54	2.52	-86.40	-22.28	-3.73	22.02	16.96	5.05	4.358	
1,300.00	1,299.68	1,298.82	1,298.51	2.75	2.71	-89.16	-26.27	-9.37	25.58	20.12	5.46	4.686	
1,400.00	1,399.13	1,398.16	1,397.31	2.98	2.93	-92.08	-32.24	-17.80	31.01	25.11	5.90	5.256	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LARIMER_ENCORE 3-12 PAD - P_ENCORE 18-12 - P_ENCORE 18-12 - PLAN #1 3-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWMD												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
1,500.00	1,498.15	1,497.33	1,495.51	3.23	3.17	-94.64	-40.18	-29.00	38.32	31.93	6.39	5.995	
1,600.00	1,596.63	1,596.26	1,592.96	3.52	3.45	-96.70	-50.05	-42.92	47.50	40.55	6.95	6.834	
1,700.00	1,694.44	1,694.92	1,689.49	3.86	3.77	-98.27	-61.82	-59.54	58.55	50.96	7.59	7.709	
1,800.00	1,791.46	1,793.26	1,784.95	4.25	4.15	-99.44	-75.46	-78.79	71.43	63.09	8.34	8.565	
1,900.00	1,887.58	1,891.23	1,879.20	4.70	4.58	-100.30	-90.93	-100.61	86.12	76.92	9.20	9.363	
2,000.00	1,982.68	1,988.80	1,972.09	5.22	5.08	-100.92	-108.17	-124.95	102.59	92.41	10.18	10.076	
2,100.00	2,076.65	2,086.91	2,064.77	5.81	5.63	-101.85	-126.77	-151.21	120.50	109.21	11.29	10.676	
2,200.00	2,169.36	2,184.99	2,157.40	6.48	6.20	-103.81	-145.42	-177.51	139.26	126.77	12.50	11.145	
2,289.99	2,251.63	2,272.92	2,240.44	7.14	6.74	-106.15	-162.13	-201.10	157.11	143.46	13.65	11.507	
2,300.00	2,260.72	2,282.69	2,249.66	7.22	6.80	-106.46	-163.98	-203.72	159.16	145.37	13.79	11.544	
2,400.00	2,351.50	2,380.20	2,341.76	8.01	7.40	-109.23	-182.52	-229.87	179.83	164.71	15.12	11.893	
2,500.00	2,442.28	2,477.71	2,433.85	8.82	8.02	-111.42	-201.05	-256.03	200.82	184.36	16.47	12.197	
2,600.00	2,533.05	2,575.22	2,525.94	9.65	8.64	-113.20	-219.58	-282.18	222.04	204.22	17.82	12.461	
2,700.00	2,623.83	2,672.73	2,618.03	10.49	9.27	-114.67	-238.12	-308.34	243.43	224.26	19.18	12.693	
2,800.00	2,714.61	2,770.24	2,710.12	11.33	9.91	-115.90	-256.65	-334.50	264.95	244.41	20.54	12.897	
2,900.00	2,805.39	2,867.75	2,802.21	12.18	10.55	-116.95	-275.18	-360.65	286.57	264.66	21.91	13.077	
3,000.00	2,896.16	2,965.26	2,894.30	13.04	11.19	-117.84	-293.72	-386.81	308.27	284.98	23.29	13.238	
3,100.00	2,986.94	3,062.78	2,986.40	13.91	11.84	-118.63	-312.25	-412.96	330.03	305.37	24.66	13.383	
3,200.00	3,077.72	3,160.29	3,078.49	14.77	12.49	-119.31	-330.78	-439.12	351.84	325.80	26.04	13.513	
3,300.00	3,168.50	3,257.80	3,170.58	15.64	13.14	-119.92	-349.32	-465.27	373.70	346.28	27.42	13.630	
3,400.00	3,259.28	3,355.31	3,262.67	16.52	13.79	-120.45	-367.85	-491.43	395.58	366.79	28.80	13.737	
3,500.00	3,350.05	3,452.82	3,354.76	17.39	14.45	-120.93	-386.38	-517.58	417.50	387.32	30.18	13.835	
3,600.00	3,440.83	3,550.33	3,446.85	18.27	15.10	-121.37	-404.91	-543.74	439.45	407.89	31.56	13.924	
3,700.00	3,531.61	3,647.84	3,538.95	19.15	15.76	-121.76	-423.45	-569.90	461.41	428.47	32.94	14.006	
3,800.00	3,622.39	3,745.35	3,631.04	20.03	16.42	-122.12	-441.98	-596.05	483.40	449.07	34.33	14.082	
3,900.00	3,713.17	3,842.87	3,723.13	20.91	17.08	-122.44	-460.51	-622.21	505.40	469.69	35.71	14.152	
4,000.00	3,803.94	3,940.38	3,815.22	21.79	17.74	-122.74	-479.05	-648.36	527.41	490.32	37.10	14.218	
4,100.00	3,894.72	4,037.89	3,907.31	22.68	18.40	-123.02	-497.58	-674.52	549.44	510.96	38.48	14.278	
4,200.00	3,985.50	4,135.40	3,999.40	23.56	19.07	-123.27	-516.11	-700.67	571.48	531.61	39.87	14.335	
4,300.00	4,076.28	4,232.91	4,091.49	24.44	19.73	-123.50	-534.65	-726.83	593.53	552.28	41.25	14.388	
4,400.00	4,167.06	4,330.42	4,183.59	25.33	20.39	-123.72	-553.18	-752.98	615.59	572.95	42.64	14.438	
4,500.00	4,257.83	4,427.93	4,275.68	26.22	21.06	-123.92	-571.71	-779.14	637.65	593.63	44.02	14.485	
4,600.00	4,348.61	4,525.44	4,367.77	27.10	21.72	-124.11	-590.25	-805.30	659.72	614.32	45.41	14.529	
4,700.00	4,439.39	4,622.96	4,459.86	27.99	22.38	-124.29	-608.78	-831.45	681.80	635.01	46.79	14.571	
4,800.00	4,530.17	4,720.47	4,551.95	28.88	23.05	-124.46	-627.31	-857.61	703.89	655.71	48.18	14.610	
4,900.00	4,620.95	4,817.98	4,644.04	29.77	23.71	-124.61	-645.85	-883.76	725.98	676.42	49.56	14.648	
5,000.00	4,711.72	4,915.49	4,736.14	30.66	24.38	-124.76	-664.38	-909.92	748.07	697.13	50.95	14.683	
5,100.00	4,802.50	5,013.00	4,828.23	31.55	25.05	-124.90	-682.91	-936.07	770.17	717.84	52.33	14.717	
5,200.00	4,893.28	5,110.51	4,920.32	32.44	25.71	-125.03	-701.45	-962.23	792.27	738.56	53.72	14.750	
5,217.72	4,909.37	5,127.80	4,936.64	32.59	25.83	-125.05	-704.73	-966.86	796.19	742.23	53.96	14.755	
5,300.00	4,984.54	5,206.39	5,011.07	33.23	26.30	-125.42	-719.32	-987.46	813.78	758.84	54.94	14.811	
5,400.00	5,077.15	5,300.00	5,100.56	33.87	26.73	-125.85	-735.20	-1,009.86	833.67	777.79	55.88	14.920	
5,500.00	5,171.03	5,396.73	5,193.92	34.45	27.14	-126.29	-749.82	-1,030.49	851.90	795.17	56.72	15.018	
5,600.00	5,266.04	5,492.14	5,286.79	34.98	27.50	-126.71	-762.44	-1,048.31	868.46	810.99	57.47	15.112	
5,700.00	5,362.09	5,587.66	5,380.45	35.45	27.82	-127.13	-773.28	-1,063.61	883.33	825.22	58.11	15.201	
5,800.00	5,459.05	5,683.25	5,474.75	35.87	28.10	-127.54	-782.32	-1,076.37	896.52	837.86	58.65	15.285	
5,900.00	5,556.80	5,778.87	5,569.55	36.24	28.33	-127.95	-789.54	-1,086.55	908.00	848.90	59.10	15.365	
6,000.00	5,655.23	5,874.48	5,664.70	36.55	28.53	-128.36	-794.92	-1,094.14	917.77	858.33	59.43	15.442	
6,100.00	5,754.22	5,970.04	5,760.05	36.81	28.68	-128.77	-798.46	-1,099.14	925.83	866.15	59.67	15.515	
6,200.00	5,853.63	6,065.49	5,855.46	37.02	28.80	-129.18	-800.16	-1,101.54	932.18	872.36	59.81	15.585	
6,300.00	5,953.37	6,163.40	5,953.37	37.18	28.89	-129.57	-800.32	-1,101.78	936.74	876.85	59.88	15.643	
6,400.00	6,053.29	6,263.33	6,053.29	37.30	28.98	-129.78	-800.32	-1,101.78	939.14	879.18	59.96	15.663	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> LARIMER_ENCORE 3-12 PAD - P_ENCORE 18-12 - P_ENCORE 18-12 - PLAN #1 3-22-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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
6,457.71	6,111.00	6,321.03	6,111.00	37.34	29.03	136.19	-800.32	-1,101.78	939.51	879.49	60.02	15.654	
6,500.00	6,153.29	6,363.32	6,153.29	37.37	29.07	136.19	-800.32	-1,101.78	939.51	879.42	60.09	15.635	
6,600.00	6,253.29	6,463.32	6,253.29	37.45	29.17	136.19	-800.32	-1,101.78	939.51	879.24	60.27	15.588	
6,700.00	6,353.29	6,563.32	6,353.29	37.53	29.26	136.19	-800.32	-1,101.78	939.51	879.05	60.46	15.540	
6,800.00	6,453.29	6,663.32	6,453.29	37.61	29.35	136.19	-800.32	-1,101.78	939.51	878.87	60.64	15.492	
6,900.00	6,553.29	6,763.32	6,553.29	37.69	29.45	136.19	-800.32	-1,101.78	939.51	878.68	60.83	15.444	
7,000.00	6,653.29	6,863.32	6,653.29	37.78	29.55	136.19	-800.32	-1,101.78	939.51	878.48	61.02	15.395	
7,100.00	6,753.29	6,963.32	6,753.29	37.86	29.65	136.19	-800.32	-1,101.78	939.51	878.29	61.22	15.346	
7,200.00	6,853.29	7,063.32	6,853.29	37.95	29.75	136.19	-800.32	-1,101.78	939.51	878.09	61.42	15.297	
7,300.00	6,953.29	7,163.32	6,953.29	38.03	29.85	136.19	-800.32	-1,101.78	939.51	877.89	61.62	15.247	
7,400.00	7,053.29	7,263.32	7,053.29	38.12	29.95	136.19	-800.32	-1,101.78	939.51	877.69	61.82	15.197	
7,500.00	7,153.29	7,363.32	7,153.29	38.21	30.06	136.19	-800.32	-1,101.78	939.51	877.48	62.03	15.147	
7,600.00	7,253.29	7,463.32	7,253.29	38.30	30.16	136.19	-800.32	-1,101.78	939.51	877.28	62.23	15.096	
7,700.00	7,353.29	7,563.32	7,353.29	38.39	30.27	136.19	-800.32	-1,101.78	939.51	877.06	62.44	15.046	
7,800.00	7,453.29	7,663.32	7,453.29	38.48	30.38	136.19	-800.32	-1,101.78	939.51	876.85	62.66	14.994	
7,900.00	7,553.29	7,763.32	7,553.29	38.57	30.49	136.19	-800.32	-1,101.78	939.51	876.64	62.87	14.943	
8,000.00	7,653.29	7,863.32	7,653.29	38.67	30.60	136.19	-800.32	-1,101.78	939.51	876.42	63.09	14.891	
8,100.00	7,753.29	7,963.32	7,753.29	38.76	30.71	136.19	-800.32	-1,101.78	939.51	876.20	63.31	14.839	
8,200.00	7,853.29	8,063.32	7,853.29	38.86	30.82	136.19	-800.32	-1,101.78	939.51	875.97	63.53	14.787	
8,207.48	7,860.77	8,070.80	7,860.77	38.87	30.83	136.19	-800.32	-1,101.78	939.51	875.96	63.55	14.783	
8,226.71	7,880.00	8,080.03	7,870.00	38.88	30.84	136.19	-800.32	-1,101.78	939.56	875.98	63.58	14.777	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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
0.00	0.00	0.00	0.00	0.00	0.00	-178.42	-30.23	-0.84	30.24				
100.00	100.00	100.00	100.00	0.10	0.10	-178.42	-30.23	-0.84	30.24	30.05	0.19	158.305	
200.00	200.00	200.00	200.00	0.32	0.32	-178.42	-30.23	-0.84	30.24	29.60	0.64	47.214	
300.00	300.00	300.00	300.00	0.55	0.55	-178.42	-30.23	-0.84	30.24	29.15	1.09	27.744	
400.00	400.00	400.00	400.00	0.77	0.77	-178.42	-30.23	-0.84	30.24	28.70	1.54	19.644	
500.00	500.00	500.00	500.00	0.99	0.99	-178.42	-30.23	-0.84	30.24	28.26	1.99	15.204	
600.00	600.00	600.00	600.00	1.22	1.22	-178.42	-30.23	-0.84	30.24	27.81	2.44	12.402	
700.00	700.00	700.00	700.00	1.44	1.44	-178.42	-30.23	-0.84	30.24	27.36	2.89	10.472	
800.00	800.00	800.00	800.00	1.67	1.67	-178.42	-30.23	-0.84	30.24	26.91	3.34	9.061	
900.00	900.00	900.00	900.00	1.89	1.89	-178.42	-30.23	-0.84	30.24	26.46	3.79	7.986	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.42	-30.23	-0.84	30.24	26.01	4.24	7.138	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-178.42	-30.23	-0.84	30.24	25.78	4.46	6.779 CC, ES	
1,100.00	1,100.00	1,099.55	1,099.55	2.34	2.33	-85.66	-30.60	-0.61	30.57	25.91	4.66	6.554 SF	
1,200.00	1,199.93	1,198.39	1,198.32	2.54	2.50	-94.53	-33.52	1.15	33.67	28.63	5.04	6.681	
1,300.00	1,299.68	1,296.45	1,296.15	2.75	2.69	-107.48	-39.30	4.65	41.70	36.27	5.43	7.682	
1,400.00	1,399.13	1,393.24	1,392.42	2.98	2.89	-118.97	-47.80	9.80	56.19	50.37	5.82	9.648	
1,500.00	1,498.15	1,488.29	1,486.58	3.23	3.12	-127.07	-58.86	16.49	77.37	71.14	6.23	12.420	
1,600.00	1,596.63	1,581.17	1,578.14	3.52	3.37	-132.36	-72.24	24.59	104.83	98.17	6.65	15.758	
1,700.00	1,694.44	1,671.70	1,666.83	3.86	3.65	-135.79	-87.71	33.96	138.12	131.03	7.10	19.463	
1,800.00	1,791.46	1,764.12	1,757.12	4.25	3.97	-138.39	-104.61	44.19	175.46	167.89	7.58	23.155	
1,900.00	1,887.58	1,855.33	1,846.22	4.70	4.30	-140.49	-121.29	54.28	215.59	207.51	8.08	26.669	
2,000.00	1,982.68	1,945.21	1,934.03	5.22	4.65	-142.26	-137.72	64.23	258.51	249.89	8.62	30.002	
2,100.00	2,076.65	2,033.67	2,020.43	5.81	5.00	-143.75	-153.89	74.02	304.22	295.05	9.17	33.163	
2,200.00	2,169.36	2,120.58	2,105.34	6.48	5.36	-145.04	-169.78	83.64	352.71	342.95	9.75	36.159	
2,289.99	2,251.63	2,197.39	2,180.37	7.14	5.68	-146.04	-183.83	92.14	398.70	388.40	10.30	38.723	
2,300.00	2,260.72	2,205.85	2,188.64	7.22	5.72	-146.21	-185.37	93.08	403.94	393.58	10.36	38.975	
2,400.00	2,351.50	2,290.44	2,271.27	8.01	6.08	-147.69	-200.84	102.44	456.42	445.37	11.05	41.313	
2,500.00	2,442.28	2,375.02	2,353.90	8.82	6.44	-148.88	-216.30	111.80	509.08	497.34	11.74	43.355	
2,600.00	2,533.05	2,459.60	2,436.53	9.65	6.81	-149.84	-231.77	121.16	561.87	549.43	12.44	45.149	
2,700.00	2,623.83	2,544.19	2,519.16	10.49	7.18	-150.64	-247.23	130.52	614.76	601.60	13.15	46.734	
2,800.00	2,714.61	2,628.77	2,601.79	11.33	7.56	-151.32	-262.70	139.89	667.72	653.85	13.87	48.144	
2,900.00	2,805.39	2,713.35	2,684.42	12.18	7.94	-151.89	-278.16	149.25	720.73	706.14	14.59	49.403	
3,000.00	2,896.16	2,797.94	2,767.05	13.04	8.31	-152.39	-293.63	158.61	773.79	758.48	15.31	50.535	
3,100.00	2,986.94	2,882.52	2,849.68	13.91	8.70	-152.82	-309.09	167.97	826.89	810.85	16.04	51.556	
3,200.00	3,077.72	2,967.10	2,932.31	14.77	9.08	-153.20	-324.56	177.33	880.02	863.25	16.77	52.483	
3,300.00	3,168.50	3,051.69	3,014.93	15.64	9.46	-153.54	-340.02	186.69	933.17	915.67	17.50	53.328	
3,400.00	3,259.28	3,136.27	3,097.56	16.52	9.85	-153.84	-355.49	196.05	986.34	968.11	18.23	54.101	
3,500.00	3,350.05	3,220.85	3,180.19	17.39	10.24	-154.11	-370.95	205.42	1,039.53	1,020.57	18.97	54.811	
3,600.00	3,440.83	3,305.44	3,262.82	18.27	10.63	-154.35	-386.42	214.78	1,092.74	1,073.04	19.70	55.466	
3,700.00	3,531.61	3,390.02	3,345.45	19.15	11.01	-154.58	-401.88	224.14	1,145.96	1,125.52	20.44	56.072	
3,800.00	3,622.39	3,474.61	3,428.08	20.03	11.40	-154.78	-417.35	233.50	1,199.19	1,178.01	21.17	56.634	
3,900.00	3,713.17	3,559.19	3,510.71	20.91	11.79	-154.96	-432.81	242.86	1,252.43	1,230.51	21.91	57.158	
4,000.00	3,803.94	3,643.77	3,593.34	21.79	12.19	-155.13	-448.28	252.22	1,305.67	1,283.02	22.65	57.647	
4,100.00	3,894.72	3,728.36	3,675.97	22.68	12.58	-155.29	-463.74	261.59	1,358.93	1,335.54	23.39	58.104	
4,200.00	3,985.50	3,812.94	3,758.60	23.56	12.97	-155.43	-479.21	270.95	1,412.19	1,388.07	24.13	58.534	
4,300.00	4,076.28	3,897.52	3,841.22	24.44	13.36	-155.57	-494.67	280.31	1,465.46	1,440.60	24.86	58.938	
4,400.00	4,167.06	3,982.11	3,923.85	25.33	13.76	-155.69	-510.14	289.67	1,518.73	1,493.13	25.60	59.319	
4,500.00	4,257.83	4,066.69	4,006.48	26.22	14.15	-155.81	-525.60	299.03	1,572.01	1,545.67	26.34	59.680	
4,600.00	4,348.61	4,151.27	4,089.11	27.10	14.54	-155.92	-541.07	308.39	1,625.30	1,598.22	27.08	60.021	
4,700.00	4,439.39	4,235.86	4,171.74	27.99	14.94	-156.02	-556.53	317.75	1,678.58	1,650.77	27.82	60.345	
4,800.00	4,530.17	4,320.44	4,254.37	28.88	15.33	-156.11	-572.00	327.12	1,731.87	1,703.32	28.55	60.653	
4,900.00	4,620.95	4,405.02	4,337.00	29.77	15.73	-156.20	-587.46	336.48	1,785.17	1,755.87	29.29	60.946	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> LARIMER_ENCORE 3-12 PAD - P_ENCORE 21-12 - P_ENCORE 21-12 - PLAN #1 3-22-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,711.72	4,489.61	4,419.63	30.66	16.12	-156.29	-602.93	345.84	1,838.46	1,808.43	30.03	61.226	
5,100.00	4,802.50	4,574.19	4,502.26	31.55	16.52	-156.37	-618.39	355.20	1,891.76	1,861.00	30.76	61.494	
5,200.00	4,893.28	4,658.77	4,584.89	32.44	16.91	-156.44	-633.86	364.56	1,945.06	1,913.56	31.50	61.750	
5,217.72	4,909.37	4,673.76	4,599.53	32.59	16.98	-156.46	-636.60	366.22	1,954.51	1,922.88	31.63	61.794	
5,300.00	4,984.54	4,743.94	4,668.08	33.23	17.31	-156.90	-649.43	373.99	1,997.44	1,965.16	32.29	61.867	
5,400.00	5,077.15	4,830.73	4,752.86	33.87	17.72	-157.35	-665.29	383.59	2,047.11	2,014.08	33.03	61.985	
5,500.00	5,171.03	4,919.06	4,839.16	34.45	18.13	-157.72	-681.45	393.37	2,093.95	2,060.21	33.75	62.051	
5,600.00	5,266.04	5,008.84	4,926.87	34.98	18.55	-158.02	-697.86	403.31	2,137.92	2,103.48	34.44	62.074	
5,700.00	5,362.09	5,099.95	5,015.87	35.45	18.98	-158.25	-714.52	413.39	2,178.96	2,143.84	35.12	62.037	
5,800.00	5,459.05	5,192.28	5,106.07	35.87	19.41	-158.41	-731.40	423.61	2,217.03	2,181.21	35.82	61.893	
5,900.00	5,556.80	5,285.72	5,197.35	36.24	19.85	-158.52	-748.48	433.95	2,252.10	2,215.62	36.48	61.729	
6,000.00	5,655.23	5,384.51	5,293.86	36.55	20.31	-158.56	-766.54	444.88	2,284.13	2,247.00	37.12	61.529	
6,100.00	5,754.22	5,482.44	5,392.20	36.81	21.03	-158.37	-801.67	466.14	2,309.88	2,271.89	37.99	60.801	
6,200.00	5,853.63	5,587.92	5,492.71	37.02	21.53	-158.39	-819.82	477.13	2,326.15	2,287.51	38.64	60.194	
6,300.00	5,953.37	5,688.61	5,593.37	37.18	21.75	-158.53	-828.84	478.36	2,333.59	2,294.58	39.00	59.833	
6,400.00	6,053.29	5,788.54	5,693.29	37.30	21.87	-158.59	-821.84	478.36	2,337.08	2,297.89	39.19	59.628	
6,457.71	6,111.00	5,846.25	5,751.00	37.34	21.93	107.41	-821.84	478.36	2,337.63	2,298.34	39.29	59.502	
6,500.00	6,153.29	5,888.53	5,793.29	37.37	21.98	107.41	-821.84	478.36	2,337.63	2,298.23	39.39	59.339	
6,600.00	6,253.29	5,988.53	5,893.29	37.45	22.09	107.41	-821.84	478.36	2,337.63	2,297.97	39.65	58.951	
6,700.00	6,353.29	6,088.53	5,993.29	37.53	22.21	107.41	-821.84	478.36	2,337.63	2,297.71	39.92	58.563	
6,800.00	6,453.29	6,188.53	6,093.29	37.61	22.33	107.41	-821.84	478.36	2,337.63	2,297.44	40.18	58.176	
6,900.00	6,553.29	6,288.53	6,193.29	37.69	22.45	107.41	-821.84	478.36	2,337.63	2,297.17	40.45	57.789	
7,000.00	6,653.29	6,388.53	6,293.29	37.78	22.57	107.41	-821.84	478.36	2,337.63	2,296.90	40.72	57.402	
7,100.00	6,753.29	6,488.53	6,393.29	37.86	22.69	107.41	-821.84	478.36	2,337.63	2,296.63	41.00	57.017	
7,200.00	6,853.29	6,588.53	6,493.29	37.95	22.82	107.41	-821.84	478.36	2,337.63	2,296.35	41.28	56.632	
7,300.00	6,953.29	6,688.53	6,593.29	38.03	22.94	107.41	-821.84	478.36	2,337.63	2,296.07	41.56	56.249	
7,400.00	7,053.29	6,788.53	6,693.29	38.12	23.07	107.41	-821.84	478.36	2,337.63	2,295.78	41.84	55.866	
7,500.00	7,153.29	6,888.53	6,793.29	38.21	23.20	107.41	-821.84	478.36	2,337.63	2,295.50	42.13	55.485	
7,600.00	7,253.29	6,988.53	6,893.29	38.30	23.33	107.41	-821.84	478.36	2,337.63	2,295.21	42.42	55.106	
7,700.00	7,353.29	7,088.53	6,993.29	38.39	23.46	107.41	-821.84	478.36	2,337.63	2,294.91	42.71	54.728	
7,800.00	7,453.29	7,188.53	7,093.29	38.48	23.59	107.41	-821.84	478.36	2,337.63	2,294.62	43.01	54.352	
7,900.00	7,553.29	7,288.53	7,193.29	38.57	23.73	107.41	-821.84	478.36	2,337.63	2,294.32	43.31	53.978	
8,000.00	7,653.29	7,388.53	7,293.29	38.67	23.87	107.41	-821.84	478.36	2,337.63	2,294.02	43.61	53.605	
8,100.00	7,753.29	7,488.53	7,393.29	38.76	24.00	107.41	-821.84	478.36	2,337.63	2,293.71	43.91	53.235	
8,200.00	7,853.29	7,588.53	7,493.29	38.86	24.14	107.41	-821.84	478.36	2,337.63	2,293.41	44.22	52.867	
8,207.48	7,860.77	7,596.02	7,500.77	38.87	24.15	107.41	-821.84	478.36	2,337.63	2,293.39	44.24	52.839	
8,226.71	7,880.00	7,615.25	7,520.00	38.88	24.16	107.41	-821.84	478.36	2,337.65	2,293.36	44.28	52.789	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.84	0.00	9.84				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	9.84	0.00	9.84	9.65	0.19	51.484	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	9.84	0.00	9.84	9.20	0.64	15.355	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	9.84	0.00	9.84	8.75	1.09	9.023	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	9.84	0.00	9.84	8.30	1.54	6.389	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	9.84	0.00	9.84	7.85	1.99	4.945	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	9.84	0.00	9.84	7.40	2.44	4.033	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	9.84	0.00	9.84	6.95	2.89	3.406	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	9.84	0.00	9.84	6.50	3.34	2.947	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	9.84	0.00	9.84	6.05	3.79	2.597	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	9.84	0.00	9.84	5.60	4.24	2.322	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	0.00	9.84	0.00	9.84	5.37	4.46	2.205	
1,089.03	1,089.03	1,089.05	1,089.05	2.31	2.31	97.07	9.79	0.26	9.82	5.20	4.62	2.124 CC	
1,100.00	1,100.00	1,100.02	1,100.01	2.34	2.33	99.04	9.76	0.43	9.83	5.16	4.67	2.104 ES, SF	
1,200.00	1,199.93	1,199.69	1,199.62	2.54	2.53	133.40	9.15	3.85	12.21	7.15	5.06	2.412	
1,300.00	1,299.68	1,298.29	1,297.98	2.75	2.74	161.75	7.94	10.58	23.22	17.77	5.45	4.264	
1,400.00	1,399.13	1,395.15	1,394.32	2.98	2.96	173.46	6.17	20.44	42.71	36.89	5.82	7.333	
1,500.00	1,498.15	1,489.65	1,487.92	3.23	3.19	178.63	3.90	33.14	69.38	63.18	6.20	11.189	
1,600.00	1,596.63	1,581.21	1,578.17	3.52	3.45	-178.68	1.17	48.34	102.63	96.06	6.57	15.620	
1,700.00	1,694.44	1,669.35	1,664.54	3.86	3.74	-177.11	-1.93	65.64	142.11	135.17	6.93	20.494	
1,800.00	1,791.46	1,753.67	1,746.61	4.25	4.05	-176.09	-5.33	84.64	187.47	180.18	7.29	25.717	
1,900.00	1,887.58	1,834.98	1,825.21	4.70	4.38	-175.36	-9.01	105.16	238.34	230.70	7.64	31.203	
2,000.00	1,982.68	1,918.71	1,905.93	5.22	4.75	-174.86	-12.93	127.05	292.98	284.99	7.99	36.649	
2,100.00	2,076.65	2,000.50	1,984.78	5.81	5.13	-174.52	-16.76	148.42	350.51	342.16	8.35	41.993	
2,200.00	2,169.36	2,080.24	2,061.66	6.48	5.52	-174.28	-20.50	169.26	410.84	402.15	8.70	47.238	
2,289.99	2,251.63	2,150.17	2,129.08	7.14	5.86	-174.11	-23.77	187.54	467.47	458.46	9.01	51.884	
2,300.00	2,260.72	2,157.85	2,136.49	7.22	5.90	-174.12	-24.13	189.55	473.90	464.84	9.06	52.323	
2,400.00	2,351.50	2,234.57	2,210.45	8.01	6.29	-174.12	-27.73	209.60	538.04	528.50	9.53	56.430	
2,500.00	2,442.28	2,311.29	2,284.42	8.82	6.68	-174.13	-31.32	229.65	602.18	592.16	10.02	60.087	
2,600.00	2,533.05	2,388.01	2,358.38	9.65	7.07	-174.14	-34.91	249.70	666.32	655.80	10.52	63.352	
2,700.00	2,623.83	2,464.73	2,432.35	10.49	7.47	-174.14	-38.51	269.76	730.46	719.44	11.02	66.278	
2,800.00	2,714.61	2,541.45	2,506.31	11.33	7.88	-174.15	-42.10	289.81	794.60	783.07	11.53	68.914	
2,900.00	2,805.39	2,618.17	2,580.28	12.18	8.29	-174.15	-45.69	309.86	858.74	846.70	12.04	71.295	
3,000.00	2,896.16	2,694.89	2,654.25	13.04	8.70	-174.15	-49.29	329.91	922.88	910.32	12.56	73.454	
3,100.00	2,986.94	2,771.61	2,728.21	13.91	9.11	-174.15	-52.88	349.96	987.02	973.94	13.09	75.418	
3,200.00	3,077.72	2,848.33	2,802.18	14.77	9.52	-174.16	-56.47	370.02	1,051.17	1,037.55	13.61	77.210	
3,300.00	3,168.50	2,925.05	2,876.14	15.64	9.94	-174.16	-60.07	390.07	1,115.31	1,101.16	14.14	78.853	
3,400.00	3,259.28	3,001.77	2,950.11	16.52	10.36	-174.16	-63.66	410.12	1,179.45	1,164.77	14.68	80.362	
3,500.00	3,350.05	3,078.49	3,024.07	17.39	10.77	-174.16	-67.25	430.17	1,243.59	1,228.38	15.21	81.751	
3,600.00	3,440.83	3,155.21	3,098.04	18.27	11.20	-174.16	-70.85	450.22	1,307.73	1,291.98	15.75	83.034	
3,700.00	3,531.61	3,231.93	3,172.01	19.15	11.62	-174.16	-74.44	470.28	1,371.87	1,355.58	16.29	84.222	
3,800.00	3,622.39	3,308.65	3,245.97	20.03	12.04	-174.17	-78.03	490.33	1,436.01	1,419.18	16.83	85.326	
3,900.00	3,713.17	3,385.37	3,319.94	20.91	12.46	-174.17	-81.63	510.38	1,500.15	1,482.78	17.37	86.352	
4,000.00	3,803.94	3,462.09	3,393.90	21.79	12.89	-174.17	-85.22	530.43	1,564.29	1,546.38	17.92	87.309	
4,100.00	3,894.72	3,538.81	3,467.87	22.68	13.31	-174.17	-88.81	550.48	1,628.44	1,609.97	18.46	88.204	
4,200.00	3,985.50	3,615.53	3,541.83	23.56	13.74	-174.17	-92.41	570.53	1,692.58	1,673.57	19.01	89.041	
4,300.00	4,076.28	3,692.25	3,615.80	24.44	14.16	-174.17	-96.00	590.59	1,756.72	1,737.16	19.56	89.827	
4,400.00	4,167.06	3,768.97	3,689.77	25.33	14.59	-174.17	-99.59	610.64	1,820.86	1,800.75	20.11	90.565	
4,500.00	4,257.83	3,845.69	3,763.73	26.22	15.01	-174.17	-103.19	630.69	1,885.00	1,864.34	20.66	91.260	
4,600.00	4,348.61	3,922.41	3,837.70	27.10	15.44	-174.17	-106.78	650.74	1,949.14	1,927.93	21.21	91.915	
4,700.00	4,439.39	3,999.13	3,911.66	27.99	15.87	-174.17	-110.37	670.79	2,013.28	1,991.52	21.76	92.533	
4,800.00	4,530.17	4,075.84	3,985.63	28.88	16.30	-174.17	-113.97	690.85	2,077.42	2,055.11	22.31	93.118	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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
4,900.00	4,620.95	4,152.56	4,059.59	29.77	16.73	-174.17	-117.56	710.90	2,141.56	2,118.70	22.86	93.672	
5,000.00	4,711.72	4,229.28	4,133.56	30.66	17.15	-174.17	-121.15	730.95	2,205.71	2,182.29	23.42	94.197	
5,100.00	4,802.50	4,306.00	4,207.53	31.55	17.58	-174.17	-124.75	751.00	2,269.85	2,245.88	23.97	94.696	
5,200.00	4,893.28	4,382.72	4,281.49	32.44	18.01	-174.18	-128.34	771.05	2,333.99	2,309.46	24.52	95.169	
5,217.72	4,909.37	4,396.32	4,294.60	32.59	18.09	-174.18	-128.98	774.61	2,345.36	2,320.73	24.62	95.251	
5,300.00	4,984.54	4,460.19	4,356.18	33.23	18.45	-174.31	-131.97	791.30	2,397.22	2,371.96	25.26	94.899	
5,400.00	5,077.15	4,539.77	4,432.90	33.87	18.89	-174.44	-135.70	812.10	2,457.77	2,431.77	25.99	94.556	
5,500.00	5,171.03	4,621.40	4,511.60	34.45	19.35	-174.56	-139.52	833.44	2,515.51	2,488.82	26.70	94.227	
5,600.00	5,266.04	4,704.98	4,592.18	34.98	19.82	-174.65	-143.44	855.28	2,570.39	2,543.02	27.37	93.916	
5,700.00	5,362.09	4,790.42	4,674.55	35.45	20.30	-174.72	-147.44	877.61	2,622.33	2,594.32	28.01	93.624	
5,800.00	5,459.05	4,877.60	4,758.61	35.87	20.79	-174.78	-151.52	900.40	2,671.27	2,642.65	28.61	93.352	
5,900.00	5,556.80	4,966.43	4,844.24	36.24	21.29	-174.83	-155.68	923.61	2,717.15	2,687.96	29.18	93.103	
6,000.00	5,655.23	5,056.78	4,931.35	36.55	21.79	-174.86	-159.91	947.23	2,759.91	2,730.20	29.72	92.877	
6,100.00	5,754.22	5,148.56	5,019.84	36.81	22.31	-174.87	-164.21	971.22	2,799.51	2,769.30	30.21	92.675	
6,200.00	5,853.63	5,241.65	5,109.59	37.02	22.83	-174.88	-168.57	995.55	2,835.90	2,805.24	30.66	92.498	
6,300.00	5,953.37	6,095.89	5,953.37	37.18	25.09	-174.67	-188.30	1,105.65	2,854.24	2,821.71	32.53	87.748	
6,400.00	6,053.29	6,195.81	6,053.29	37.30	25.20	-174.68	-188.30	1,105.65	2,857.98	2,825.19	32.79	87.155	
6,457.71	6,111.00	6,253.52	6,111.00	37.34	25.26	91.32	-188.30	1,105.65	2,858.56	2,825.64	32.92	86.826	
6,500.00	6,153.29	6,295.81	6,153.29	37.37	25.31	91.32	-188.30	1,105.65	2,858.56	2,825.51	33.06	86.476	
6,600.00	6,253.29	6,395.81	6,253.29	37.45	25.42	91.32	-188.30	1,105.65	2,858.56	2,825.19	33.38	85.647	
6,700.00	6,353.29	6,495.81	6,353.29	37.53	25.54	91.32	-188.30	1,105.65	2,858.56	2,824.86	33.70	84.827	
6,800.00	6,453.29	6,595.81	6,453.29	37.61	25.65	91.32	-188.30	1,105.65	2,858.56	2,824.54	34.02	84.015	
6,900.00	6,553.29	6,695.81	6,553.29	37.69	25.77	91.32	-188.30	1,105.65	2,858.56	2,824.21	34.35	83.211	
7,000.00	6,653.29	6,795.81	6,653.29	37.78	25.89	91.32	-188.30	1,105.65	2,858.56	2,823.88	34.68	82.417	
7,100.00	6,753.29	6,895.81	6,753.29	37.86	26.01	91.32	-188.30	1,105.65	2,858.56	2,823.54	35.02	81.631	
7,200.00	6,853.29	6,995.81	6,853.29	37.95	26.13	91.32	-188.30	1,105.65	2,858.56	2,823.21	35.35	80.855	
7,300.00	6,953.29	7,095.81	6,953.29	38.03	26.26	91.32	-188.30	1,105.65	2,858.56	2,822.87	35.69	80.087	
7,400.00	7,053.29	7,195.81	7,053.29	38.12	26.38	91.32	-188.30	1,105.65	2,858.56	2,822.53	36.03	79.329	
7,500.00	7,153.29	7,295.81	7,153.29	38.21	26.51	91.32	-188.30	1,105.65	2,858.56	2,822.19	36.38	78.580	
7,600.00	7,253.29	7,395.81	7,253.29	38.30	26.64	91.32	-188.30	1,105.65	2,858.56	2,821.84	36.72	77.840	
7,700.00	7,353.29	7,495.81	7,353.29	38.39	26.76	91.32	-188.30	1,105.65	2,858.56	2,821.49	37.07	77.110	
7,800.00	7,453.29	7,595.81	7,453.29	38.48	26.89	91.32	-188.30	1,105.65	2,858.56	2,821.14	37.42	76.388	
7,900.00	7,553.29	7,695.81	7,553.29	38.57	27.02	91.32	-188.30	1,105.65	2,858.56	2,820.79	37.77	75.676	
8,000.00	7,653.29	7,795.81	7,653.29	38.67	27.16	91.32	-188.30	1,105.65	2,858.56	2,820.44	38.13	74.973	
8,100.00	7,753.29	7,895.81	7,753.29	38.76	27.29	91.32	-188.30	1,105.65	2,858.56	2,820.08	38.48	74.279	
8,200.00	7,853.29	7,995.81	7,853.29	38.86	27.43	91.32	-188.30	1,105.65	2,858.56	2,819.72	38.84	73.595	
8,207.48	7,860.77	8,003.29	7,860.77	38.87	27.44	91.32	-188.30	1,105.65	2,858.56	2,819.69	38.87	73.544	
8,226.71	7,880.00	8,012.52	7,870.00	38.88	27.45	91.32	-188.30	1,105.65	2,858.58	2,819.66	38.92	73.449	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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
0.00	0.00	0.00	0.00	0.00	0.00	-178.44	-10.20	-0.28	10.20				
100.00	100.00	100.00	100.00	0.10	0.10	-178.44	-10.20	-0.28	10.20	10.01	0.19	53.389	
200.00	200.00	200.00	200.00	0.32	0.32	-178.44	-10.20	-0.28	10.20	9.56	0.64	15.923	
300.00	300.00	300.00	300.00	0.55	0.55	-178.44	-10.20	-0.28	10.20	9.11	1.09	9.357	
400.00	400.00	400.00	400.00	0.77	0.77	-178.44	-10.20	-0.28	10.20	8.66	1.54	6.625	
500.00	500.00	500.00	500.00	0.99	0.99	-178.44	-10.20	-0.28	10.20	8.21	1.99	5.128	
600.00	600.00	600.00	600.00	1.22	1.22	-178.44	-10.20	-0.28	10.20	7.76	2.44	4.183	
700.00	700.00	700.00	700.00	1.44	1.44	-178.44	-10.20	-0.28	10.20	7.31	2.89	3.532	
800.00	800.00	800.00	800.00	1.67	1.67	-178.44	-10.20	-0.28	10.20	6.86	3.34	3.056	
900.00	900.00	900.00	900.00	1.89	1.89	-178.44	-10.20	-0.28	10.20	6.41	3.79	2.693	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.44	-10.20	-0.28	10.20	5.96	4.24	2.407	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-178.44	-10.20	-0.28	10.20	5.74	4.46	2.286 CC	
1,100.00	1,100.00	1,099.94	1,099.93	2.34	2.33	-84.58	-10.34	-0.69	10.31	5.64	4.67	2.208 ES, SF	
1,200.00	1,199.93	1,199.81	1,199.74	2.54	2.53	-85.62	-11.47	-3.98	11.20	6.13	5.06	2.212	
1,300.00	1,299.68	1,299.66	1,299.34	2.75	2.73	-87.27	-13.72	-10.56	12.97	7.50	5.48	2.368	
1,400.00	1,399.13	1,399.57	1,398.78	2.98	2.95	-91.58	-16.88	-19.75	15.47	9.54	5.93	2.610	
1,500.00	1,498.15	1,499.44	1,498.15	3.23	3.19	-104.71	-20.10	-29.15	18.65	12.23	6.41	2.908	
1,600.00	1,596.63	1,599.09	1,597.31	3.52	3.43	-121.22	-23.32	-38.53	24.13	17.24	6.89	3.501	
1,700.00	1,694.44	1,698.41	1,696.14	3.86	3.68	-135.57	-26.53	-47.87	33.24	25.92	7.32	4.539	
1,800.00	1,791.46	1,797.28	1,794.52	4.25	3.93	-145.96	-29.72	-57.18	46.38	38.65	7.73	6.002	
1,900.00	1,887.58	1,895.58	1,892.33	4.70	4.19	-153.09	-32.89	-66.43	63.42	55.30	8.12	7.811	
2,000.00	1,982.68	1,993.18	1,989.44	5.22	4.45	-158.03	-36.04	-75.61	84.22	75.71	8.51	9.893	
2,100.00	2,076.65	2,089.96	2,085.75	5.81	4.71	-161.55	-39.17	-84.72	108.63	99.72	8.91	12.194	
2,200.00	2,169.36	2,185.82	2,181.13	6.48	4.98	-164.14	-42.26	-93.74	136.54	127.23	9.30	14.675	
2,289.99	2,251.63	2,271.18	2,266.07	7.14	5.21	-165.93	-45.02	-101.77	164.59	154.92	9.67	17.029	
2,300.00	2,260.72	2,280.63	2,275.47	7.22	5.24	-166.12	-45.32	-102.66	167.86	158.15	9.72	17.278	
2,400.00	2,351.50	2,374.99	2,369.36	8.01	5.50	-167.67	-48.37	-111.54	200.64	190.41	10.23	19.622	
2,500.00	2,442.28	2,469.35	2,463.25	8.82	5.76	-168.78	-51.42	-120.42	233.51	222.76	10.75	21.723	
2,600.00	2,533.05	2,563.71	2,557.14	9.65	6.03	-169.62	-54.46	-129.30	266.44	255.15	11.28	23.613	
2,700.00	2,623.83	2,658.07	2,651.03	10.49	6.29	-170.28	-57.51	-138.18	299.41	287.58	11.83	25.319	
2,800.00	2,714.61	2,752.43	2,744.92	11.33	6.56	-170.80	-60.55	-147.06	332.41	320.03	12.37	26.863	
2,900.00	2,805.39	2,846.78	2,838.81	12.18	6.83	-171.23	-63.60	-155.94	365.42	352.50	12.93	28.265	
3,000.00	2,896.16	2,941.14	2,932.71	13.04	7.10	-171.59	-66.65	-164.82	398.46	384.97	13.49	29.544	
3,100.00	2,986.94	3,035.50	3,026.60	13.91	7.37	-171.89	-69.69	-173.70	431.50	417.45	14.05	30.713	
3,200.00	3,077.72	3,129.86	3,120.49	14.77	7.64	-172.15	-72.74	-182.58	464.56	449.94	14.62	31.786	
3,300.00	3,168.50	3,224.22	3,214.38	15.64	7.91	-172.38	-75.79	-191.46	497.62	482.44	15.18	32.773	
3,400.00	3,259.28	3,318.58	3,308.27	16.52	8.18	-172.58	-78.83	-200.34	530.69	514.93	15.75	33.684	
3,500.00	3,350.05	3,412.94	3,402.16	17.39	8.46	-172.75	-81.88	-209.22	563.76	547.43	16.33	34.527	
3,600.00	3,440.83	3,507.30	3,496.05	18.27	8.73	-172.91	-84.93	-218.09	596.84	579.93	16.90	35.308	
3,700.00	3,531.61	3,601.66	3,589.94	19.15	9.00	-173.05	-87.97	-226.97	629.92	612.44	17.48	36.035	
3,800.00	3,622.39	3,696.02	3,683.84	20.03	9.28	-173.17	-91.02	-235.85	663.00	644.94	18.06	36.713	
3,900.00	3,713.17	3,790.38	3,777.73	20.91	9.55	-173.29	-94.06	-244.73	696.09	677.45	18.64	37.346	
4,000.00	3,803.94	3,884.74	3,871.62	21.79	9.82	-173.39	-97.11	-253.61	729.18	709.96	19.22	37.938	
4,100.00	3,894.72	3,979.10	3,965.51	22.68	10.10	-173.48	-100.16	-262.49	762.27	742.46	19.80	38.494	
4,200.00	3,985.50	4,073.46	4,059.40	23.56	10.37	-173.57	-103.20	-271.37	795.36	774.97	20.39	39.016	
4,300.00	4,076.28	4,167.82	4,153.29	24.44	10.65	-173.65	-106.25	-280.25	828.45	807.48	20.97	39.507	
4,400.00	4,167.06	4,262.18	4,247.18	25.33	10.92	-173.72	-109.30	-289.13	861.55	839.99	21.55	39.970	
4,500.00	4,257.83	4,356.53	4,341.07	26.22	11.20	-173.79	-112.34	-298.01	894.64	872.50	22.14	40.407	
4,600.00	4,348.61	4,450.89	4,434.97	27.10	11.48	-173.85	-115.39	-306.89	927.74	905.01	22.73	40.820	
4,700.00	4,439.39	4,545.25	4,528.86	27.99	11.75	-173.91	-118.44	-315.77	960.84	937.52	23.31	41.212	
4,800.00	4,530.17	4,639.61	4,622.75	28.88	12.03	-173.97	-121.48	-324.65	993.94	970.03	23.90	41.583	
4,900.00	4,620.95	4,733.97	4,716.64	29.77	12.30	-174.02	-124.53	-333.53	1,027.04	1,002.55	24.49	41.936	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> LARIMER_ENCORE 3-12 PAD - P_ENCORE 3-12 - P_ENCORE 3-12 - PLAN #1 3-22-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,711.72	4,828.33	4,810.53	30.66	12.58	-174.07	-127.57	-342.41	1,060.14	1,035.06	25.08	42.271	
5,100.00	4,802.50	4,922.69	4,904.42	31.55	12.86	-174.11	-130.62	-351.29	1,093.24	1,067.57	25.67	42.590	
5,200.00	4,893.28	5,017.05	4,998.31	32.44	13.13	-174.15	-133.67	-360.17	1,126.34	1,100.08	26.26	42.894	
5,217.72	4,909.37	5,033.78	5,014.96	32.59	13.18	-174.16	-134.21	-361.74	1,132.21	1,105.84	26.36	42.947	
5,300.00	4,984.54	5,111.79	5,092.58	33.23	13.41	-174.24	-136.73	-369.08	1,158.33	1,131.38	26.95	42.976	
5,400.00	5,077.15	5,207.57	5,187.89	33.87	13.69	-174.32	-139.82	-378.09	1,187.06	1,159.44	27.62	42.981	
5,500.00	5,171.03	5,304.28	5,284.12	34.45	13.98	-174.37	-142.94	-387.19	1,212.45	1,184.20	28.25	42.922	
5,600.00	5,266.04	5,401.83	5,381.18	34.98	14.26	-174.39	-146.09	-396.37	1,234.46	1,205.63	28.84	42.807	
5,700.00	5,362.09	5,500.07	5,478.94	35.45	14.55	-174.39	-149.26	-405.62	1,253.08	1,223.69	29.39	42.640	
5,800.00	5,459.05	5,598.90	5,577.28	35.87	14.84	-174.37	-152.45	-414.92	1,268.27	1,238.37	29.89	42.426	
5,900.00	5,556.80	5,681.56	5,659.55	36.24	15.07	-174.35	-155.03	-422.44	1,280.38	1,250.08	30.30	42.255	
6,000.00	5,655.23	5,751.56	5,729.36	36.55	15.21	-174.35	-156.70	-427.30	1,291.11	1,260.51	30.60	42.194	
6,100.00	5,754.22	5,821.48	5,799.19	36.81	15.34	-174.35	-157.82	-430.55	1,300.66	1,269.82	30.84	42.180	
6,200.00	5,853.63	5,900.00	5,877.69	37.02	15.47	-174.38	-158.41	-432.28	1,309.06	1,278.03	31.03	42.186	
6,300.00	5,953.37	5,975.68	5,953.37	37.18	15.59	-174.41	-158.45	-432.40	1,315.93	1,284.75	31.18	42.208	
6,400.00	6,053.29	6,075.60	6,053.29	37.30	15.76	-174.43	-158.45	-432.40	1,319.67	1,288.35	31.32	42.134	
6,457.71	6,111.00	6,133.31	6,111.00	37.34	15.86	91.57	-158.45	-432.40	1,320.25	1,288.86	31.38	42.067	
6,500.00	6,153.29	6,175.60	6,153.29	37.37	15.93	91.57	-158.45	-432.40	1,320.25	1,288.72	31.53	41.879	
6,600.00	6,253.29	6,275.60	6,253.29	37.45	16.10	91.57	-158.45	-432.40	1,320.25	1,288.39	31.86	41.436	
6,700.00	6,353.29	6,375.60	6,353.29	37.53	16.27	91.57	-158.45	-432.40	1,320.25	1,288.05	32.20	40.998	
6,800.00	6,453.29	6,475.60	6,453.29	37.61	16.44	91.57	-158.45	-432.40	1,320.25	1,287.70	32.55	40.566	
6,900.00	6,553.29	6,575.60	6,553.29	37.69	16.62	91.57	-158.45	-432.40	1,320.25	1,287.36	32.89	40.140	
7,000.00	6,653.29	6,675.60	6,653.29	37.78	16.79	91.57	-158.45	-432.40	1,320.25	1,287.01	33.24	39.720	
7,100.00	6,753.29	6,775.60	6,753.29	37.86	16.97	91.57	-158.45	-432.40	1,320.25	1,286.66	33.59	39.306	
7,200.00	6,853.29	6,875.60	6,853.29	37.95	17.15	91.57	-158.45	-432.40	1,320.25	1,286.31	33.94	38.899	
7,300.00	6,953.29	6,975.60	6,953.29	38.03	17.33	91.57	-158.45	-432.40	1,320.25	1,285.95	34.30	38.497	
7,400.00	7,053.29	7,075.60	7,053.29	38.12	17.51	91.57	-158.45	-432.40	1,320.25	1,285.60	34.65	38.101	
7,500.00	7,153.29	7,175.60	7,153.29	38.21	17.69	91.57	-158.45	-432.40	1,320.25	1,285.24	35.01	37.710	
7,600.00	7,253.29	7,275.60	7,253.29	38.30	17.87	91.57	-158.45	-432.40	1,320.25	1,284.88	35.37	37.326	
7,700.00	7,353.29	7,375.60	7,353.29	38.39	18.05	91.57	-158.45	-432.40	1,320.25	1,284.52	35.73	36.947	
7,800.00	7,453.29	7,475.60	7,453.29	38.48	18.24	91.57	-158.45	-432.40	1,320.25	1,284.15	36.10	36.575	
7,900.00	7,553.29	7,575.60	7,553.29	38.57	18.42	91.57	-158.45	-432.40	1,320.25	1,283.78	36.46	36.207	
8,000.00	7,653.29	7,675.60	7,653.29	38.67	18.61	91.57	-158.45	-432.40	1,320.25	1,283.42	36.83	35.846	
8,100.00	7,753.29	7,775.60	7,753.29	38.76	18.79	91.57	-158.45	-432.40	1,320.25	1,283.05	37.20	35.489	
8,200.00	7,853.29	7,875.60	7,853.29	38.86	18.98	91.57	-158.45	-432.40	1,320.25	1,282.68	37.57	35.139	
8,207.48	7,860.77	7,883.08	7,860.77	38.87	18.99	91.57	-158.45	-432.40	1,320.25	1,282.65	37.60	35.113	
8,226.71	7,880.00	7,892.31	7,870.00	38.88	19.01	91.57	-158.45	-432.40	1,320.29	1,282.63	37.65	35.066	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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	-178.41	-40.06	-1.11	40.08				
100.00	100.00	100.00	100.00	0.10	0.10	-178.41	-40.06	-1.11	40.08	39.89	0.19	209.788	
200.00	200.00	200.00	200.00	0.32	0.32	-178.41	-40.06	-1.11	40.08	39.44	0.64	62.568	
300.00	300.00	300.00	300.00	0.55	0.55	-178.41	-40.06	-1.11	40.08	38.99	1.09	36.767 CC, ES	
400.00	400.00	399.07	399.05	0.77	0.75	-176.58	-41.13	-2.46	41.21	39.70	1.52	27.167	
500.00	500.00	497.90	497.75	0.99	0.95	-171.69	-44.31	-6.47	44.83	42.89	1.94	23.084	
600.00	600.00	596.27	595.74	1.22	1.19	-165.18	-49.57	-13.11	51.45	49.05	2.40	21.478	
700.00	700.00	693.93	692.69	1.44	1.45	-158.57	-56.86	-22.31	61.51	58.62	2.89	21.300	
800.00	800.00	790.69	788.29	1.67	1.77	-152.80	-66.09	-33.97	75.23	71.80	3.43	21.938	
900.00	900.00	886.33	882.24	1.89	2.12	-148.13	-77.19	-47.98	92.61	88.58	4.02	23.010	
1,000.00	1,000.00	980.66	974.27	2.12	2.53	-144.51	-90.04	-64.20	113.54	108.86	4.67	24.286	
1,050.00	1,050.00	1,027.28	1,019.49	2.23	2.75	-143.02	-97.08	-73.09	125.29	120.27	5.02	24.952	
1,100.00	1,100.00	1,073.60	1,064.23	2.34	2.98	-47.67	-104.53	-82.49	137.59	132.94	4.65	29.580	
1,200.00	1,199.93	1,165.58	1,152.47	2.54	3.48	-45.97	-120.64	-102.84	162.87	157.77	5.10	31.936	
1,300.00	1,299.68	1,256.65	1,238.97	2.75	4.04	-45.19	-138.33	-125.16	188.87	183.30	5.57	33.920	
1,400.00	1,399.13	1,346.80	1,323.66	2.98	4.64	-44.99	-157.50	-149.37	215.49	209.43	6.06	35.560	
1,500.00	1,498.15	1,436.01	1,406.47	3.23	5.28	-45.16	-178.10	-175.37	242.71	236.13	6.58	36.875	
1,600.00	1,596.63	1,524.71	1,487.75	3.52	5.97	-45.58	-200.15	-203.21	270.51	263.37	7.14	37.878	
1,700.00	1,694.44	1,620.35	1,574.78	3.86	6.76	-46.35	-224.77	-234.30	297.50	289.72	7.78	38.220	
1,800.00	1,791.46	1,716.92	1,662.66	4.25	7.56	-47.42	-249.63	-265.68	322.31	313.82	8.50	37.939	
1,900.00	1,887.58	1,813.82	1,750.84	4.70	8.36	-48.75	-274.58	-297.17	345.06	335.77	9.29	37.135	
2,000.00	1,982.68	1,910.94	1,839.21	5.22	9.18	-50.32	-299.58	-328.73	365.90	355.70	10.19	35.902	
2,100.00	2,076.65	2,008.15	1,927.67	5.81	10.00	-52.11	-324.61	-360.33	384.98	373.77	11.21	34.336	
2,200.00	2,169.36	2,105.33	2,016.11	6.48	10.82	-54.12	-349.63	-391.91	402.52	390.14	12.37	32.532	
2,289.99	2,251.63	2,192.67	2,095.59	7.14	11.55	-56.10	-372.11	-420.30	417.17	403.62	13.55	30.784	
2,300.00	2,260.72	2,202.38	2,104.42	7.22	11.64	-56.36	-374.61	-423.45	418.75	405.06	13.69	30.584	
2,400.00	2,351.50	2,299.33	2,192.66	8.01	12.46	-58.80	-399.57	-454.96	434.99	419.85	15.14	28.739	
2,500.00	2,442.28	2,396.29	2,280.89	8.82	13.28	-61.08	-424.53	-486.47	451.97	435.33	16.65	27.153	
2,600.00	2,533.05	2,493.25	2,369.12	9.65	14.11	-63.19	-449.49	-517.98	469.62	451.40	18.22	25.778	
2,700.00	2,623.83	2,590.21	2,457.35	10.49	14.93	-65.15	-474.45	-549.50	487.85	468.00	19.85	24.580	
2,800.00	2,714.61	2,687.17	2,545.59	11.33	15.76	-66.97	-499.41	-581.01	506.61	485.10	21.51	23.553	
2,900.00	2,805.39	2,784.13	2,633.82	12.18	16.58	-68.66	-524.37	-612.52	525.84	502.65	23.19	22.672	
3,000.00	2,896.16	2,881.09	2,722.05	13.04	17.41	-70.23	-549.33	-644.03	545.50	520.60	24.90	21.910	
3,100.00	2,986.94	2,978.05	2,810.29	13.91	18.24	-71.70	-574.29	-675.54	565.52	538.91	26.61	21.250	
3,200.00	3,077.72	3,075.01	2,898.52	14.77	19.07	-73.07	-599.26	-707.05	585.89	557.55	28.34	20.675	
3,300.00	3,168.50	3,171.97	2,986.75	15.64	19.89	-74.34	-624.22	-738.56	606.56	576.49	30.07	20.171	
3,400.00	3,259.28	3,268.92	3,074.98	16.52	20.72	-75.54	-649.18	-770.07	627.50	595.69	31.81	19.728	
3,500.00	3,350.05	3,365.88	3,163.22	17.39	21.55	-76.65	-674.14	-801.58	648.69	615.14	33.55	19.336	
3,600.00	3,440.83	3,462.84	3,251.45	18.27	22.38	-77.70	-699.10	-833.10	670.10	634.81	35.29	18.989	
3,700.00	3,531.61	3,559.80	3,339.68	19.15	23.21	-78.68	-724.06	-864.61	691.72	654.69	37.03	18.679	
3,800.00	3,622.39	3,656.76	3,427.92	20.03	24.04	-79.60	-749.02	-896.12	713.52	674.75	38.77	18.403	
3,900.00	3,713.17	3,753.72	3,516.15	20.91	24.87	-80.47	-773.98	-927.63	735.49	694.98	40.51	18.154	
4,000.00	3,803.94	3,850.68	3,604.38	21.79	25.70	-81.29	-798.94	-959.14	757.62	715.36	42.25	17.930	
4,100.00	3,894.72	3,947.64	3,692.61	22.68	26.53	-82.06	-823.90	-990.65	779.88	735.89	43.99	17.728	
4,200.00	3,985.50	4,044.60	3,780.85	23.56	27.36	-82.79	-848.86	-1,022.16	802.27	756.54	45.73	17.545	
4,300.00	4,076.28	4,141.55	3,869.08	24.44	28.19	-83.49	-873.82	-1,053.67	824.78	777.32	47.46	17.378	
4,400.00	4,167.06	4,238.51	3,957.31	25.33	29.02	-84.14	-898.78	-1,085.19	847.40	798.21	49.19	17.227	
4,500.00	4,257.83	4,335.47	4,045.55	26.22	29.85	-84.76	-923.75	-1,116.70	870.12	819.20	50.92	17.088	
4,600.00	4,348.61	4,432.43	4,133.78	27.10	30.68	-85.35	-948.71	-1,148.21	892.93	840.29	52.65	16.961	
4,700.00	4,439.39	4,529.39	4,222.01	27.99	31.51	-85.91	-973.67	-1,179.72	915.83	861.46	54.37	16.844	
4,800.00	4,530.17	4,626.35	4,310.24	28.88	32.34	-86.44	-998.63	-1,211.23	938.81	882.72	56.09	16.737	
4,900.00	4,620.95	4,723.31	4,398.48	29.77	33.17	-86.95	-1,023.59	-1,242.74	961.86	904.05	57.81	16.638	

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_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> LARIMER_ENCORE 3-12 PAD - P_ENCORE 5-12 - P_ENCORE 5-12 - PLAN #1 3-22-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,711.72	4,820.27	4,486.71	30.66	34.00	-87.43	-1,048.55	-1,274.25	984.98	925.46	59.53	16.547	
5,100.00	4,802.50	4,917.23	4,574.94	31.55	34.83	-87.90	-1,073.51	-1,305.76	1,008.17	946.93	61.24	16.462	
5,200.00	4,893.28	5,014.19	4,663.18	32.44	35.66	-88.34	-1,098.47	-1,337.27	1,031.41	968.46	62.95	16.384	
5,217.72	4,909.37	5,031.37	4,678.81	32.59	35.81	-88.41	-1,102.89	-1,342.86	1,035.54	972.28	63.26	16.371	
5,300.00	4,984.54	5,111.22	4,751.48	33.23	36.50	-89.09	-1,123.45	-1,368.81	1,054.73	990.09	64.64	16.317	
5,400.00	5,077.15	5,208.40	4,839.91	33.87	37.33	-89.72	-1,148.47	-1,400.39	1,078.13	1,012.00	66.13	16.303 SF	
5,500.00	5,171.03	5,305.61	4,928.37	34.45	38.16	-90.17	-1,173.49	-1,431.99	1,101.55	1,034.03	67.51	16.316	
5,600.00	5,266.04	5,402.73	5,016.76	34.98	38.99	-90.43	-1,198.50	-1,463.55	1,124.96	1,056.17	68.79	16.353	
5,700.00	5,362.09	5,499.65	5,104.95	35.45	39.82	-90.52	-1,223.45	-1,495.05	1,148.39	1,078.43	69.96	16.415	
5,800.00	5,459.05	5,596.25	5,192.86	35.87	40.65	-90.46	-1,248.32	-1,526.44	1,171.86	1,100.84	71.02	16.500	
5,900.00	5,556.80	5,692.41	5,280.36	36.24	41.48	-90.25	-1,273.07	-1,557.70	1,195.43	1,123.46	71.97	16.609	
6,000.00	5,655.23	5,807.37	5,385.43	36.55	42.35	-89.78	-1,302.03	-1,594.26	1,218.71	1,145.90	72.82	16.736	
6,100.00	5,754.22	5,935.23	5,504.29	36.81	43.08	-89.20	-1,331.28	-1,631.18	1,239.97	1,166.52	73.46	16.881	
6,200.00	5,853.63	6,065.30	5,627.23	37.02	43.75	-88.59	-1,357.62	-1,664.43	1,258.97	1,184.99	73.98	17.017	
6,300.00	5,953.37	6,197.47	5,754.00	37.18	44.35	-87.97	-1,380.81	-1,693.71	1,275.63	1,201.23	74.39	17.147	
6,400.00	6,053.29	6,331.61	5,884.28	37.30	44.87	-87.33	-1,400.61	-1,718.70	1,289.87	1,215.17	74.70	17.268	
6,457.71	6,111.00	6,409.87	5,960.93	37.34	45.13	179.06	-1,410.40	-1,731.07	1,296.96	1,222.14	74.82	17.335	
6,500.00	6,153.29	6,467.63	6,017.77	37.37	45.30	179.42	-1,416.80	-1,739.14	1,301.61	1,226.76	74.85	17.389	
6,600.00	6,253.29	6,605.76	6,154.43	37.45	45.65	-179.88	-1,429.19	-1,754.79	1,310.60	1,235.64	74.96	17.484	
6,700.00	6,353.29	6,745.52	6,293.53	37.53	45.90	-179.43	-1,437.55	-1,765.34	1,316.65	1,241.57	75.08	17.536	
6,800.00	6,453.29	6,886.27	6,434.11	37.61	46.07	-179.20	-1,441.71	-1,770.59	1,319.65	1,244.42	75.23	17.541	
6,900.00	6,553.29	7,005.45	6,553.29	37.69	46.15	-179.17	-1,442.18	-1,771.18	1,319.99	1,244.59	75.40	17.507	
7,000.00	6,653.29	7,105.45	6,653.29	37.78	46.21	-179.17	-1,442.18	-1,771.18	1,319.99	1,244.44	75.56	17.470	
7,100.00	6,753.29	7,205.45	6,753.29	37.86	46.27	-179.17	-1,442.18	-1,771.18	1,319.99	1,244.28	75.72	17.434	
7,200.00	6,853.29	7,305.45	6,853.29	37.95	46.33	-179.17	-1,442.18	-1,771.18	1,319.99	1,244.11	75.88	17.396	
7,300.00	6,953.29	7,405.45	6,953.29	38.03	46.40	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.95	76.04	17.359	
7,400.00	7,053.29	7,505.45	7,053.29	38.12	46.46	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.78	76.21	17.321	
7,500.00	7,153.29	7,605.45	7,153.29	38.21	46.52	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.61	76.38	17.282	
7,600.00	7,253.29	7,705.45	7,253.29	38.30	46.59	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.44	76.55	17.244	
7,700.00	7,353.29	7,805.45	7,353.29	38.39	46.66	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.27	76.72	17.205	
7,800.00	7,453.29	7,905.45	7,453.29	38.48	46.72	-179.17	-1,442.18	-1,771.18	1,319.99	1,243.09	76.90	17.165	
7,900.00	7,553.29	8,005.45	7,553.29	38.57	46.79	-179.17	-1,442.18	-1,771.18	1,319.99	1,242.92	77.08	17.126	
8,000.00	7,653.29	8,105.45	7,653.29	38.67	46.86	-179.17	-1,442.18	-1,771.18	1,319.99	1,242.74	77.26	17.086	
8,100.00	7,753.29	8,205.45	7,753.29	38.76	46.93	-179.17	-1,442.18	-1,771.18	1,319.99	1,242.55	77.44	17.046	
8,200.00	7,853.29	8,305.45	7,853.29	38.86	47.00	-179.17	-1,442.18	-1,771.18	1,319.99	1,242.37	77.62	17.005	
8,215.76	7,869.05	8,321.21	7,869.05	38.87	47.01	-179.17	-1,442.18	-1,771.18	1,319.99	1,242.34	77.65	16.999	
8,226.71	7,880.00	8,327.17	7,875.00	38.88	47.02	-179.17	-1,442.18	-1,771.18	1,320.00	1,242.33	77.67	16.995	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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
0.00	0.00	0.00	0.00	0.00	0.00	-178.73	-50.27	-1.11	50.29				
100.00	100.00	100.00	100.00	0.10	0.10	-178.73	-50.27	-1.11	50.29	50.09	0.19	263.205	
200.00	200.00	200.00	200.00	0.32	0.32	-178.73	-50.27	-1.11	50.29	49.65	0.64	78.500	
300.00	300.00	300.00	300.00	0.55	0.55	-178.73	-50.27	-1.11	50.29	49.20	1.09	46.129	
400.00	400.00	400.00	400.00	0.77	0.77	-178.73	-50.27	-1.11	50.29	48.75	1.54	32.660	
500.00	500.00	500.00	500.00	0.99	0.99	-178.73	-50.27	-1.11	50.29	48.30	1.99	25.280	
600.00	600.00	600.00	600.00	1.22	1.22	-178.73	-50.27	-1.11	50.29	47.85	2.44	20.620	
700.00	700.00	700.00	700.00	1.44	1.44	-178.73	-50.27	-1.11	50.29	47.40	2.89	17.410	
800.00	800.00	800.00	800.00	1.67	1.67	-178.73	-50.27	-1.11	50.29	46.95	3.34	15.066	
900.00	900.00	900.00	900.00	1.89	1.89	-178.73	-50.27	-1.11	50.29	46.50	3.79	13.277	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.73	-50.27	-1.11	50.29	46.05	4.24	11.869	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	-178.73	-50.27	-1.11	50.29	45.82	4.46	11.271 CC, ES	
1,100.00	1,100.00	1,099.17	1,099.16	2.34	2.33	-85.08	-50.68	-1.24	50.66	46.00	4.66	10.864	
1,200.00	1,199.93	1,197.39	1,197.32	2.54	2.50	-87.64	-53.89	-2.25	53.70	48.67	5.03	10.668 SF	
1,300.00	1,299.68	1,295.28	1,294.98	2.75	2.68	-91.94	-60.28	-4.27	60.07	54.65	5.42	11.075	
1,400.00	1,399.13	1,392.63	1,391.81	2.98	2.88	-96.83	-69.79	-7.27	70.11	64.27	5.84	12.002	
1,500.00	1,498.15	1,489.21	1,487.50	3.23	3.10	-101.44	-82.32	-11.22	84.06	77.76	6.30	13.350	
1,600.00	1,596.63	1,584.85	1,581.75	3.52	3.35	-105.31	-97.75	-16.08	101.98	95.18	6.80	14.995	
1,700.00	1,694.44	1,679.34	1,674.29	3.86	3.64	-108.39	-115.94	-21.82	123.82	116.46	7.37	16.807	
1,800.00	1,791.46	1,772.52	1,764.88	4.25	3.98	-110.74	-136.71	-28.37	149.49	141.48	8.01	18.670	
1,900.00	1,887.58	1,864.22	1,853.30	4.70	4.36	-112.49	-159.88	-35.67	178.84	170.11	8.73	20.491	
2,000.00	1,982.68	1,954.31	1,939.36	5.22	4.78	-113.77	-185.27	-43.68	211.76	202.22	9.54	22.206	
2,100.00	2,076.65	2,042.66	2,022.91	5.81	5.25	-114.69	-212.66	-52.31	248.11	237.67	10.44	23.774	
2,200.00	2,169.36	2,129.15	2,103.81	6.48	5.75	-115.30	-241.84	-61.51	287.77	276.34	11.43	25.181	
2,289.99	2,251.63	2,209.58	2,178.46	7.14	6.25	-115.83	-270.38	-70.51	325.75	313.34	12.42	26.236	
2,300.00	2,260.72	2,218.58	2,186.82	7.22	6.31	-115.98	-273.58	-71.52	330.05	317.52	12.53	26.334	
2,400.00	2,351.50	2,308.55	2,270.31	8.01	6.90	-117.31	-305.55	-81.60	373.08	359.36	13.71	27.204	
2,500.00	2,442.28	2,398.52	2,353.80	8.82	7.50	-118.36	-337.52	-91.68	416.24	401.31	14.92	27.891	
2,600.00	2,533.05	2,488.49	2,437.29	9.65	8.11	-119.22	-369.48	-101.76	459.49	443.33	16.16	28.440	
2,700.00	2,623.83	2,578.46	2,520.79	10.49	8.73	-119.93	-401.45	-111.84	502.81	485.41	17.41	28.888	
2,800.00	2,714.61	2,668.43	2,604.28	11.33	9.36	-120.53	-433.41	-121.91	546.19	527.52	18.67	29.258	
2,900.00	2,805.39	2,758.39	2,687.77	12.18	9.99	-121.04	-465.38	-131.99	589.60	569.66	19.94	29.568	
3,000.00	2,896.16	2,848.36	2,771.26	13.04	10.63	-121.48	-497.34	-142.07	633.05	611.83	21.22	29.830	
3,100.00	2,986.94	2,938.33	2,854.76	13.91	11.27	-121.86	-529.31	-152.15	676.53	654.01	22.51	30.054	
3,200.00	3,077.72	3,028.30	2,938.25	14.77	11.91	-122.20	-561.28	-162.23	720.02	696.22	23.80	30.248	
3,300.00	3,168.50	3,118.27	3,021.74	15.64	12.56	-122.50	-593.24	-172.31	763.54	738.43	25.10	30.416	
3,400.00	3,259.28	3,208.24	3,105.23	16.52	13.21	-122.76	-625.21	-182.39	807.07	780.66	26.41	30.565	
3,500.00	3,350.05	3,298.21	3,188.72	17.39	13.86	-123.00	-657.17	-192.46	850.61	822.90	27.71	30.696	
3,600.00	3,440.83	3,388.17	3,272.22	18.27	14.51	-123.22	-689.14	-202.54	894.16	865.14	29.02	30.813	
3,700.00	3,531.61	3,478.14	3,355.71	19.15	15.17	-123.41	-721.11	-212.62	937.72	907.39	30.33	30.919	
3,800.00	3,622.39	3,568.11	3,439.20	20.03	15.82	-123.59	-753.07	-222.70	981.29	949.65	31.64	31.014	
3,900.00	3,713.17	3,658.08	3,522.69	20.91	16.48	-123.76	-785.04	-232.78	1,024.87	991.92	32.95	31.100	
4,000.00	3,803.94	3,748.05	3,606.19	21.79	17.14	-123.91	-817.00	-242.86	1,068.46	1,034.19	34.27	31.179	
4,100.00	3,894.72	3,838.02	3,689.68	22.68	17.80	-124.04	-848.97	-252.94	1,112.05	1,076.46	35.58	31.252	
4,200.00	3,985.50	3,927.99	3,773.17	23.56	18.46	-124.17	-880.94	-263.01	1,155.64	1,118.74	36.90	31.318	
4,300.00	4,076.28	4,017.96	3,856.66	24.44	19.12	-124.29	-912.90	-273.09	1,199.24	1,161.02	38.22	31.380	
4,400.00	4,167.06	4,107.92	3,940.15	25.33	19.78	-124.40	-944.87	-283.17	1,242.84	1,203.31	39.53	31.438	
4,500.00	4,257.83	4,197.89	4,023.65	26.22	20.44	-124.50	-976.83	-293.25	1,286.45	1,245.60	40.85	31.491	
4,600.00	4,348.61	4,287.86	4,107.14	27.10	21.10	-124.60	-1,008.80	-303.33	1,330.06	1,287.89	42.17	31.542	
4,700.00	4,439.39	4,377.83	4,190.63	27.99	21.76	-124.69	-1,040.77	-313.41	1,373.67	1,330.18	43.49	31.589	
4,800.00	4,530.17	4,467.80	4,274.12	28.88	22.43	-124.77	-1,072.73	-323.48	1,417.28	1,372.48	44.80	31.633	
4,900.00	4,620.95	4,557.77	4,357.62	29.77	23.09	-124.85	-1,104.70	-333.56	1,460.90	1,414.78	46.12	31.676	

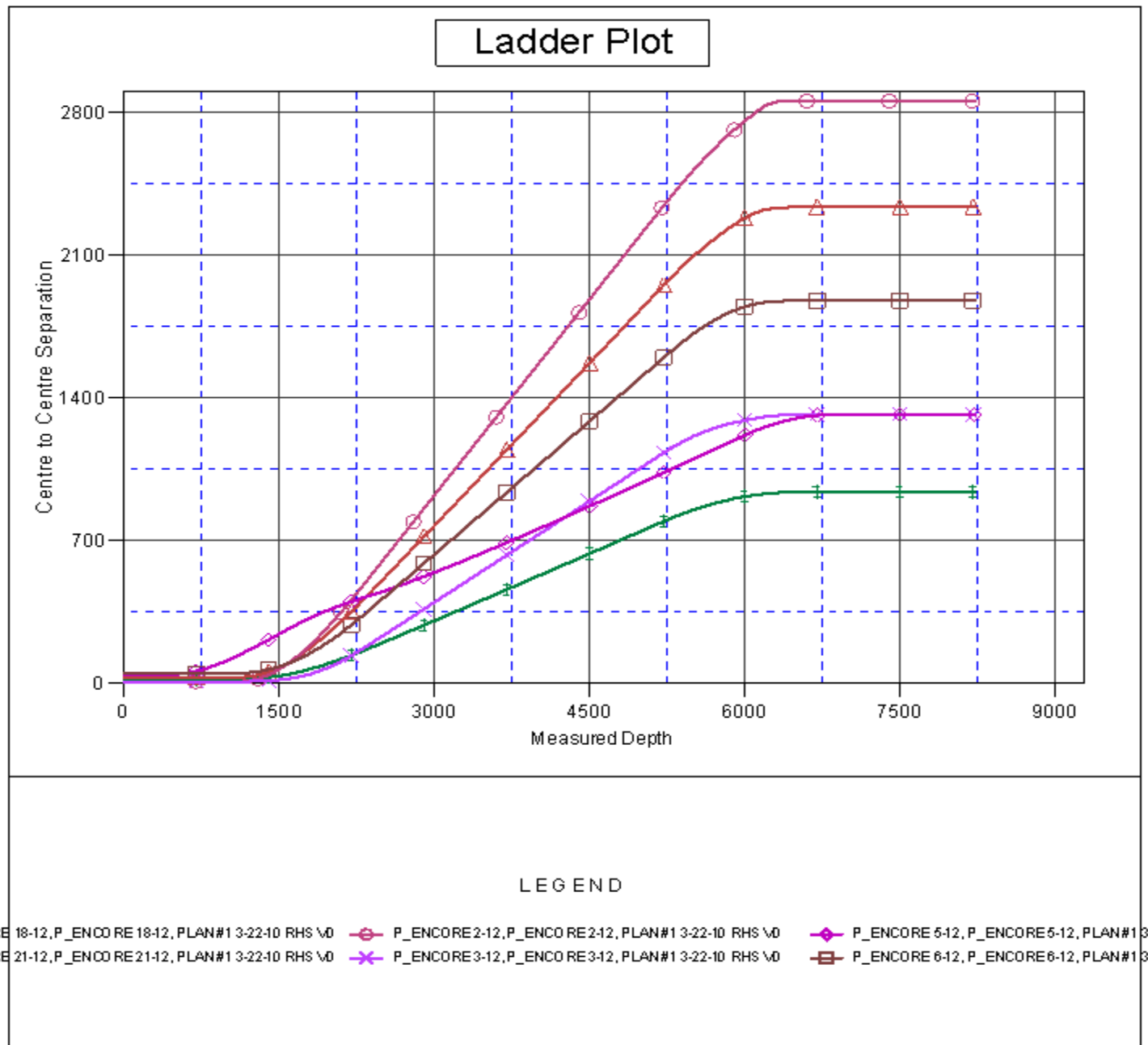
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 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	
5,000.00	4,711.72	4,647.74	4,441.11	30.66	23.75	-124.93	-1,136.66	-343.64	1,504.52	1,457.08	47.44	31.715	
5,100.00	4,802.50	4,737.70	4,524.60	31.55	24.42	-125.00	-1,168.63	-353.72	1,548.14	1,499.38	48.76	31.753	
5,200.00	4,893.28	4,827.67	4,608.09	32.44	25.08	-125.07	-1,200.59	-363.80	1,591.76	1,541.69	50.07	31.789	
5,217.72	4,909.37	4,843.62	4,622.89	32.59	25.20	-125.08	-1,206.26	-365.59	1,599.49	1,549.19	50.31	31.796	
5,300.00	4,984.54	4,917.94	4,691.87	33.23	25.75	-125.73	-1,232.67	-373.91	1,634.77	1,583.39	51.38	31.820	
5,400.00	5,077.15	5,009.04	4,776.40	33.87	26.42	-126.38	-1,265.03	-384.12	1,675.96	1,623.40	52.56	31.884	
5,500.00	5,171.03	5,119.26	4,878.95	34.45	27.14	-126.86	-1,303.57	-396.27	1,715.02	1,661.27	53.75	31.909	
5,600.00	5,266.04	5,251.53	5,003.79	34.98	27.77	-127.27	-1,345.22	-409.40	1,750.36	1,695.55	54.81	31.933	
5,700.00	5,362.09	5,387.20	5,133.79	35.45	28.36	-127.65	-1,382.18	-421.05	1,781.58	1,725.79	55.79	31.933	
5,800.00	5,459.05	5,525.87	5,268.42	35.87	28.89	-128.02	-1,413.85	-431.04	1,808.53	1,751.87	56.66	31.918	
5,900.00	5,556.80	5,667.10	5,407.01	36.24	29.34	-128.37	-1,439.68	-439.18	1,831.08	1,773.67	57.42	31.891	
6,000.00	5,655.23	5,810.35	5,548.77	36.55	29.72	-128.72	-1,459.20	-445.33	1,849.14	1,791.10	58.05	31.855	
6,100.00	5,754.22	5,955.04	5,692.83	36.81	30.00	-129.06	-1,472.02	-449.38	1,862.63	1,804.09	58.54	31.816	
6,200.00	5,853.63	6,100.57	5,838.20	37.02	30.19	-129.41	-1,477.91	-451.23	1,871.50	1,812.59	58.91	31.770	
6,300.00	5,953.37	6,215.73	5,953.37	37.18	30.29	-129.67	-1,478.31	-451.36	1,876.25	1,817.11	59.15	31.722	
6,400.00	6,053.29	6,315.66	6,053.29	37.30	30.37	-129.80	-1,478.31	-451.36	1,878.66	1,819.33	59.33	31.667	
6,457.71	6,111.00	6,373.37	6,111.00	37.34	30.42	136.19	-1,478.31	-451.36	1,879.03	1,819.61	59.42	31.625	
6,500.00	6,153.29	6,415.65	6,153.29	37.37	30.45	136.19	-1,478.31	-451.36	1,879.03	1,819.54	59.49	31.586	
6,600.00	6,253.29	6,515.65	6,253.29	37.45	30.53	136.19	-1,478.31	-451.36	1,879.03	1,819.36	59.67	31.492	
6,700.00	6,353.29	6,615.65	6,353.29	37.53	30.61	136.19	-1,478.31	-451.36	1,879.03	1,819.18	59.85	31.396	
6,800.00	6,453.29	6,715.65	6,453.29	37.61	30.70	136.19	-1,478.31	-451.36	1,879.03	1,819.00	60.03	31.300	
6,900.00	6,553.29	6,815.65	6,553.29	37.69	30.78	136.19	-1,478.31	-451.36	1,879.03	1,818.81	60.22	31.202	
7,000.00	6,653.29	6,915.65	6,653.29	37.78	30.87	136.19	-1,478.31	-451.36	1,879.03	1,818.62	60.41	31.104	
7,100.00	6,753.29	7,015.65	6,753.29	37.86	30.95	136.19	-1,478.31	-451.36	1,879.03	1,818.43	60.60	31.005	
7,200.00	6,853.29	7,115.65	6,853.29	37.95	31.04	136.19	-1,478.31	-451.36	1,879.03	1,818.23	60.80	30.905	
7,300.00	6,953.29	7,215.65	6,953.29	38.03	31.13	136.19	-1,478.31	-451.36	1,879.03	1,818.03	61.00	30.805	
7,400.00	7,053.29	7,315.65	7,053.29	38.12	31.22	136.19	-1,478.31	-451.36	1,879.03	1,817.83	61.20	30.703	
7,500.00	7,153.29	7,415.65	7,153.29	38.21	31.32	136.19	-1,478.31	-451.36	1,879.03	1,817.63	61.40	30.602	
7,600.00	7,253.29	7,515.65	7,253.29	38.30	31.41	136.19	-1,478.31	-451.36	1,879.03	1,817.42	61.61	30.499	
7,700.00	7,353.29	7,615.65	7,353.29	38.39	31.51	136.19	-1,478.31	-451.36	1,879.03	1,817.21	61.82	30.396	
7,800.00	7,453.29	7,715.65	7,453.29	38.48	31.60	136.19	-1,478.31	-451.36	1,879.03	1,817.00	62.03	30.292	
7,900.00	7,553.29	7,815.65	7,553.29	38.57	31.70	136.19	-1,478.31	-451.36	1,879.03	1,816.79	62.24	30.188	
8,000.00	7,653.29	7,915.65	7,653.29	38.67	31.80	136.19	-1,478.31	-451.36	1,879.03	1,816.57	62.46	30.083	
8,100.00	7,753.29	8,015.65	7,753.29	38.76	31.90	136.19	-1,478.31	-451.36	1,879.03	1,816.35	62.68	29.978	
8,200.00	7,853.29	8,115.65	7,853.29	38.86	32.00	136.19	-1,478.31	-451.36	1,879.03	1,816.13	62.90	29.872	
8,207.48	7,860.77	8,123.14	7,860.77	38.87	32.01	136.19	-1,478.31	-451.36	1,879.03	1,816.11	62.92	29.864	
8,226.71	7,880.00	8,132.37	7,870.00	38.88	32.02	136.19	-1,478.31	-451.36	1,879.06	1,816.11	62.95	29.850	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

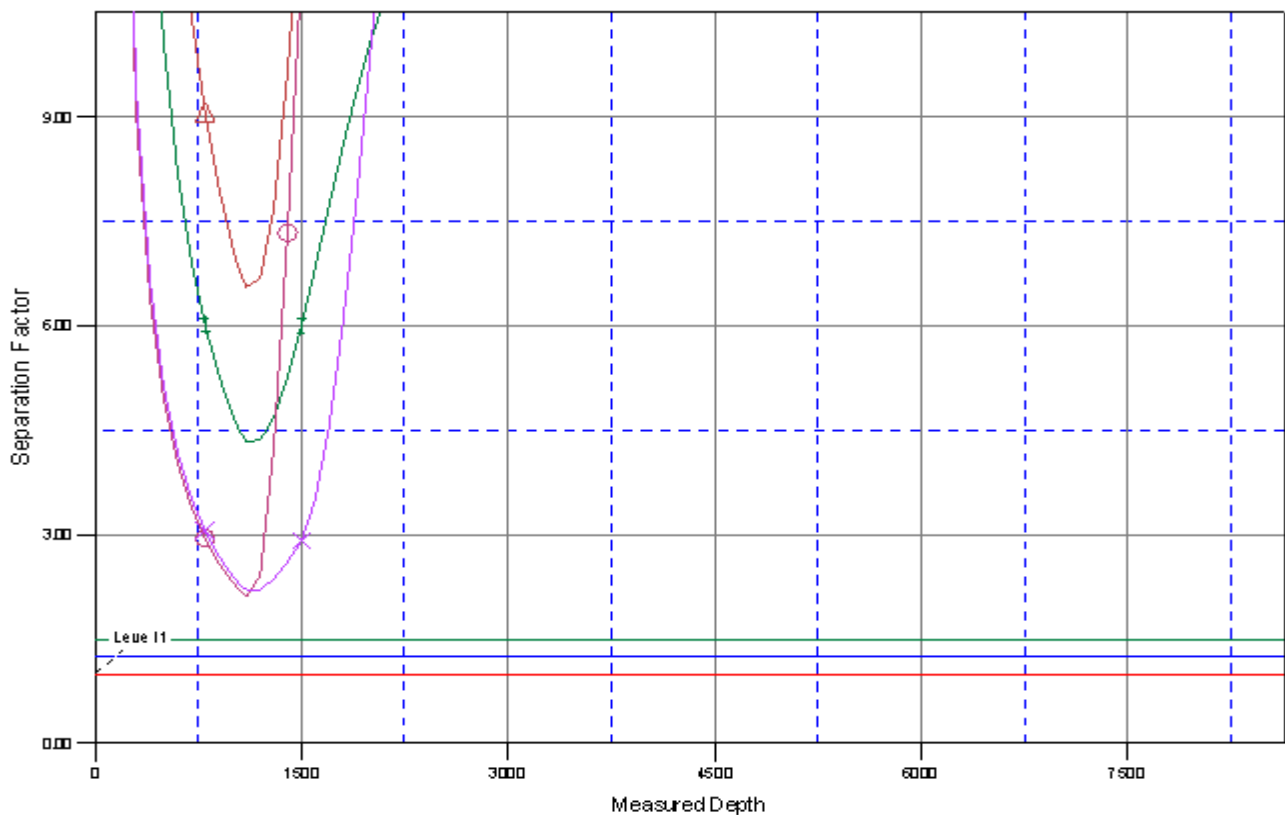
Reference Depths are relative to WELL @ 4994.00ft (Original Well Elev) Coordinates are relative to: P\_ENCORE 4-12  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.35°



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_ENCORE 4-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_ENCORE 3-12 PAD	<b>MD Reference:</b>	WELL @ 4994.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_ENCORE 4-12	<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_ENCORE 4-12	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-22-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4994.00ft (Original Well Elev) Coordinates are relative to: P\_ENCORE 4-12  
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: 0.35°

## Separation Factor Plot



### LEGEND

RE 18-12, P\_ENCORE 18-12, PLAN#1 3-22-10 RHS \0 P\_ENCORE 2-12, P\_ENCORE 2-12, PLAN#1 3-22-10 RHS \0 P\_ENCORE 5-12, P\_ENCORE 5-12, PLAN#1 3-22-10 RHS \0  
RE 21-12, P\_ENCORE 21-12, PLAN#1 3-22-10 RHS \0 P\_ENCORE 3-12, P\_ENCORE 3-12, PLAN#1 3-22-10 RHS \0 P\_ENCORE 6-12, P\_ENCORE 6-12, PLAN#1 3-22-10 RHS \0