



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**LARIMER\_MIRACLE 40-12 PAD**

**P\_MIRACLE 20-12**

**P\_MIRACLE 20-12**

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

## **Standard Planning Report**

**23 March, 2010**

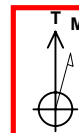




Project: COLORADO NORTHERN ZONE - 83  
 Site: LARIMER\_MIRACLE 40-12 PAD  
 Well: P\_MIRACLE 20-12  
 Wellbore: P\_MIRACLE 20-12  
 Section: SECTION 12 T5N R68W  
 SHL: 2480 FSL 325 FEL  
 Design: PLAN #1 3-22-10 RHS  
 Latitude: 40° 24' 49.622 N  
 Longitude: 104° 56' 44.200 W  
 GL: 4948.00  
 KB: WELL @ 4963.00ft (Original Well Elev)



**Weatherford®**



Azimuths to True North  
 Magnetic North: 9.13°  
 Magnetic Field  
 Strength: 53247.9nT  
 Dip Angle: 67.07°  
 Date: 3/22/2010  
 Model: IGRF2010

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3480.00	3623.06	PARKMAN
4110.00	4297.33	SUSSEX
4560.00	4778.96	SHANNON
6900.00	7164.33	NIO A
7190.00	7454.33	CODELL
7650.00	7914.33	JSAND

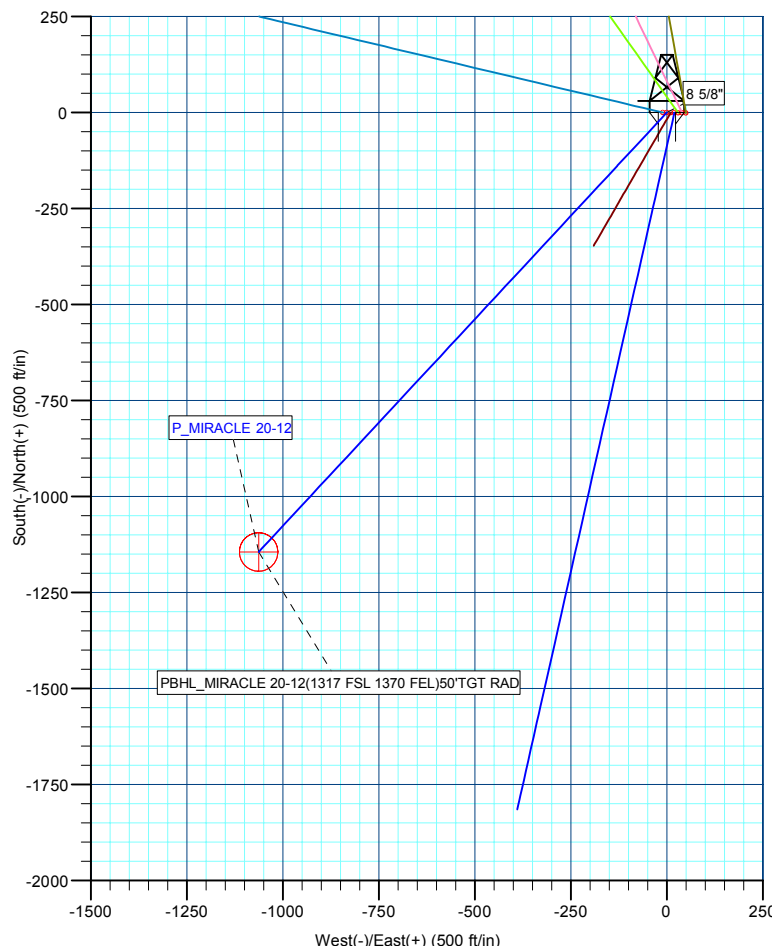
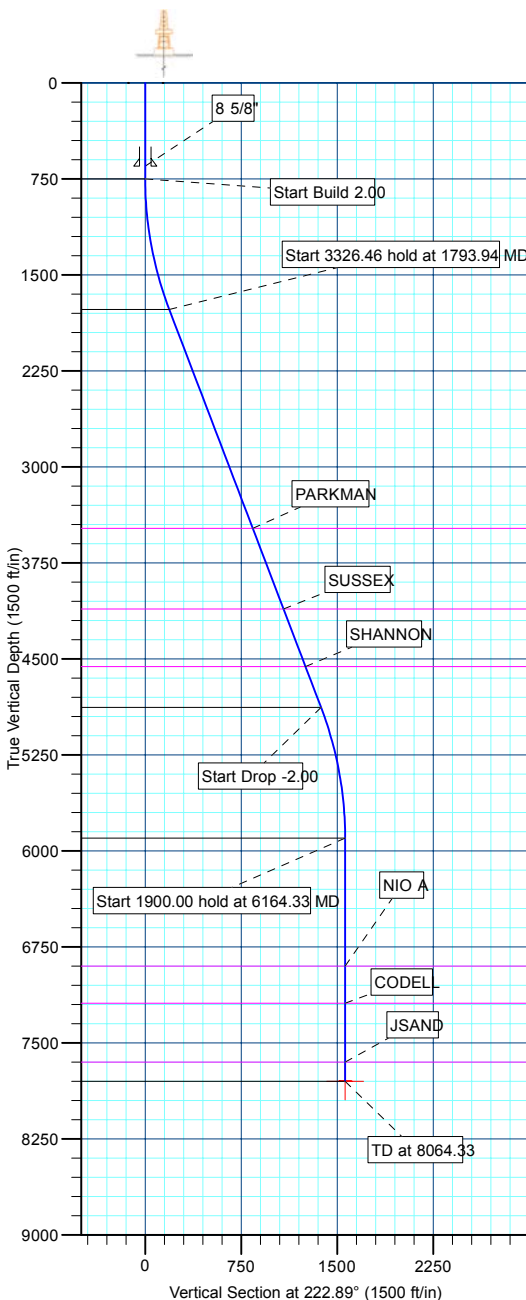
CASING DETAILS			
TVD	MD	Name	Size
650.00	650.00	8 5/8"	8.62

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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1793.94	20.88	222.89	1770.98	-137.82	-128.03	2.00	222.89	188.11	Start 3326.46 hold at 1793.94 MD
5120.39	20.88	222.89	4879.02	-1006.41	-934.88	0.00	0.00	1373.63	Start Drop -2.00
6164.33	0.00	0.00	5900.00	-1144.23	-1062.91	2.00	180.00	1561.74	Start 1900.00 hold at 6164.33 MD
8064.33	0.00	0.00	7800.00	-1144.23	-1062.91	0.00	0.00	1561.74	TD at 8064.33

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)							
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape	
PBHL	7800.00	-1144.23	-1062.91	40° 24' 38.315 N	104° 56' 57.941 W	Circle (Radius: 50.00)	

WELL DETAILS: P_MIRACLE 20-12						
+N/-S	+E/-W	Northing	Ground Level: Easting	4948.00 Latitude	Longitude	Slot
0.00	0.00	1394064.41	3154370.68	40° 24' 49.622 N	104° 56' 44.200 W	

LEGEND	
P_MIRACLE 1-12, P_MIRACLE 1-12, PLAN #1 3-22-10 RHS V0	
P_MIRACLE 16-12, P_MIRACLE 16-12, PLAN #1 3-22-10 RHS V0	
P_MIRACLE 17-12, P_MIRACLE 17-12, PLAN #1 3-22-10 RHS V0	
P_MIRACLE 24-12, P_MIRACLE 24-12, PLAN #1 3-22-10 RHS V0	
P_MIRACLE 8-12, P_MIRACLE 8-12, PLAN #1 3-22-10 RHS V0	
P_MIRACLE 9-12, P_MIRACLE 9-12, PLAN #1 3-22-10 RHS V0	
PLAN #1 3-22-10 RHS	



Plan: PLAN #1 3-22-10 RHS (P_MIRACLE 20-12/P_MIRACLE 20-12)	
Created By: Robert H. Scott	Date: 8:16, March 23 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_MIRACLE 20-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_MIRACLE 20-12		
<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_MIRACLE 40-12 PAD, SECTION 12 T5N R68W											
Site Position:						Northing:			1,394,063.65 ft			Latitude:			40° 24' 49.612 N		
From:			Lat/Long			Easting:			3,154,420.53 ft			Longitude:			104° 56' 43.555 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.36 °		

Well	P_MIRACLE 20-12					
Well Position	+N/-S	1.08 ft	Northing:	1,394,064.41 ft	Latitude:	40° 24' 49.622 N
	+E/-W	-49.84 ft	Easting:	3,154,370.68 ft	Longitude:	104° 56' 44.200 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,948.00 ft

<b>Wellbore</b>	P_MIRACLE 20-12				
<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	67.07	53,248

<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	222.89

<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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,793.94	20.88	222.89	1,770.98	-137.82	-128.03	2.00	2.00	0.00	222.89	
5,120.39	20.88	222.89	4,879.02	-1,006.41	-934.88	0.00	0.00	0.00	0.00	
6,164.33	0.00	0.00	5,900.00	-1,144.23	-1,062.91	2.00	-2.00	0.00	180.00	
8,064.33	0.00	0.00	7,800.00	-1,144.23	-1,062.91	0.00	0.00	0.00	0.00	PBHL_MIRACLE 20

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_MIRACLE 20-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_MIRACLE 20-12		
<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>									
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	1.00	222.89	800.00	-0.32	-0.30	0.44	2.00	2.00	0.00
900.00	3.00	222.89	899.93	-2.88	-2.67	3.93	2.00	2.00	0.00
1,000.00	5.00	222.89	999.68	-7.99	-7.42	10.90	2.00	2.00	0.00
1,100.00	7.00	222.89	1,099.13	-15.65	-14.53	21.35	2.00	2.00	0.00
1,200.00	9.00	222.89	1,198.15	-25.84	-24.00	35.27	2.00	2.00	0.00
1,300.00	11.00	222.89	1,296.63	-38.56	-35.82	52.63	2.00	2.00	0.00
1,400.00	13.00	222.89	1,394.44	-53.80	-49.97	73.42	2.00	2.00	0.00
1,500.00	15.00	222.89	1,491.46	-71.52	-66.44	97.62	2.00	2.00	0.00
1,600.00	17.00	222.89	1,587.58	-91.71	-85.20	125.18	2.00	2.00	0.00
1,700.00	19.00	222.89	1,682.68	-114.35	-106.23	156.08	2.00	2.00	0.00
<b>Start 3326.46 hold at 1793.94 MD</b>									
1,793.94	20.88	222.89	1,770.98	-137.82	-128.03	188.11	2.00	2.00	0.00
1,800.00	20.88	222.89	1,776.65	-139.41	-129.50	190.27	0.00	0.00	0.00
1,900.00	20.88	222.89	1,870.08	-165.52	-153.75	225.91	0.00	0.00	0.00
2,000.00	20.88	222.89	1,963.52	-191.63	-178.01	261.55	0.00	0.00	0.00
2,100.00	20.88	222.89	2,056.95	-217.74	-202.26	297.19	0.00	0.00	0.00
2,200.00	20.88	222.89	2,150.39	-243.85	-226.52	332.83	0.00	0.00	0.00
2,300.00	20.88	222.89	2,243.82	-269.96	-250.78	368.47	0.00	0.00	0.00
2,400.00	20.88	222.89	2,337.25	-296.07	-275.03	404.11	0.00	0.00	0.00
2,500.00	20.88	222.89	2,430.69	-322.18	-299.29	439.75	0.00	0.00	0.00
2,600.00	20.88	222.89	2,524.12	-348.30	-323.54	475.38	0.00	0.00	0.00
2,700.00	20.88	222.89	2,617.55	-374.41	-347.80	511.02	0.00	0.00	0.00
2,800.00	20.88	222.89	2,710.99	-400.52	-372.05	546.66	0.00	0.00	0.00
2,900.00	20.88	222.89	2,804.42	-426.63	-396.31	582.30	0.00	0.00	0.00
3,000.00	20.88	222.89	2,897.86	-452.74	-420.57	617.94	0.00	0.00	0.00
3,100.00	20.88	222.89	2,991.29	-478.85	-444.82	653.58	0.00	0.00	0.00
3,200.00	20.88	222.89	3,084.72	-504.96	-469.08	689.22	0.00	0.00	0.00
3,300.00	20.88	222.89	3,178.16	-531.08	-493.33	724.86	0.00	0.00	0.00
3,400.00	20.88	222.89	3,271.59	-557.19	-517.59	760.50	0.00	0.00	0.00
3,500.00	20.88	222.89	3,365.02	-583.30	-541.84	796.14	0.00	0.00	0.00
3,600.00	20.88	222.89	3,458.46	-609.41	-566.10	831.78	0.00	0.00	0.00
<b>PARKMAN</b>									
3,623.06	20.88	222.89	3,480.00	-615.43	-571.69	839.99	0.00	0.00	0.00
3,700.00	20.88	222.89	3,551.89	-635.52	-590.36	867.41	0.00	0.00	0.00
3,800.00	20.88	222.89	3,645.32	-661.63	-614.61	903.05	0.00	0.00	0.00
3,900.00	20.88	222.89	3,738.76	-687.74	-638.87	938.69	0.00	0.00	0.00
4,000.00	20.88	222.89	3,832.19	-713.86	-663.12	974.33	0.00	0.00	0.00
4,100.00	20.88	222.89	3,925.63	-739.97	-687.38	1,009.97	0.00	0.00	0.00
4,200.00	20.88	222.89	4,019.06	-766.08	-711.63	1,045.61	0.00	0.00	0.00
<b>SUSSEX</b>									
4,297.33	20.88	222.89	4,110.00	-791.49	-735.24	1,080.30	0.00	0.00	0.00
4,300.00	20.88	222.89	4,112.49	-792.19	-735.89	1,081.25	0.00	0.00	0.00
4,400.00	20.88	222.89	4,205.93	-818.30	-760.15	1,116.89	0.00	0.00	0.00
4,500.00	20.88	222.89	4,299.36	-844.41	-784.40	1,152.53	0.00	0.00	0.00
4,600.00	20.88	222.89	4,392.79	-870.52	-808.66	1,188.17	0.00	0.00	0.00
4,700.00	20.88	222.89	4,486.23	-896.64	-832.91	1,223.81	0.00	0.00	0.00
<b>SHANNON</b>									
4,778.96	20.88	222.89	4,560.00	-917.25	-852.06	1,251.94	0.00	0.00	0.00
4,800.00	20.88	222.89	4,579.66	-922.75	-857.17	1,259.44	0.00	0.00	0.00
4,900.00	20.88	222.89	4,673.10	-948.86	-881.42	1,295.08	0.00	0.00	0.00
5,000.00	20.88	222.89	4,766.53	-974.97	-905.68	1,330.72	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_MIRACLE 20-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_MIRACLE 20-12		
<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)
5,100.00	20.88	222.89	4,859.96	-1,001.08	-929.94	1,366.36	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,120.39	20.88	222.89	4,879.02	-1,006.41	-934.88	1,373.63	0.00	0.00	0.00
5,200.00	19.29	222.89	4,953.78	-1,026.43	-953.49	1,400.96	2.00	-2.00	0.00
5,300.00	17.29	222.89	5,048.73	-1,049.42	-974.84	1,432.34	2.00	-2.00	0.00
5,400.00	15.29	222.89	5,144.71	-1,069.97	-993.93	1,460.38	2.00	-2.00	0.00
5,500.00	13.29	222.89	5,241.61	-1,088.04	-1,010.72	1,485.06	2.00	-2.00	0.00
5,600.00	11.29	222.89	5,339.32	-1,103.64	-1,025.20	1,506.34	2.00	-2.00	0.00
5,700.00	9.29	222.89	5,437.70	-1,116.72	-1,037.36	1,524.19	2.00	-2.00	0.00
5,800.00	7.29	222.89	5,536.65	-1,127.28	-1,047.16	1,538.60	2.00	-2.00	0.00
5,900.00	5.29	222.89	5,636.05	-1,135.30	-1,054.62	1,549.55	2.00	-2.00	0.00
6,000.00	3.29	222.89	5,735.76	-1,140.77	-1,059.70	1,557.03	2.00	-2.00	0.00
6,100.00	1.29	222.89	5,835.68	-1,143.70	-1,062.42	1,561.02	2.00	-2.00	0.00
<b>Start 1900.00 hold at 6164.33 MD</b>									
6,164.33	0.00	0.00	5,900.00	-1,144.23	-1,062.91	1,561.74	2.00	-2.00	213.15
6,200.00	0.00	0.00	5,935.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,300.00	0.00	0.00	6,035.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,400.00	0.00	0.00	6,135.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,500.00	0.00	0.00	6,235.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,600.00	0.00	0.00	6,335.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,700.00	0.00	0.00	6,435.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,800.00	0.00	0.00	6,535.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
6,900.00	0.00	0.00	6,635.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,000.00	0.00	0.00	6,735.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,100.00	0.00	0.00	6,835.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
<b>NIO A</b>									
7,164.33	0.00	0.00	6,900.00	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,200.00	0.00	0.00	6,935.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,300.00	0.00	0.00	7,035.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,400.00	0.00	0.00	7,135.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
<b>CODELL</b>									
7,454.33	0.00	0.00	7,190.00	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,500.00	0.00	0.00	7,235.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,600.00	0.00	0.00	7,335.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,700.00	0.00	0.00	7,435.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,800.00	0.00	0.00	7,535.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
7,900.00	0.00	0.00	7,635.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
<b>JSAND</b>									
7,914.33	0.00	0.00	7,650.00	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
8,000.00	0.00	0.00	7,735.67	-1,144.23	-1,062.91	1,561.74	0.00	0.00	0.00
<b>PBHL_MIRACLE 20-12(1317 FSL 1370 FEL)50'TGT RAD</b>									
8,064.33	0.00	0.00	7,800.00	-1,144.23	-1,062.91	1,561.74	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_MIRACLE 20-1	0.00	0.00	7,800.00	-1,144.23	-1,062.91	1,392,913.57	3,153,314.95	40° 24' 38.315 N	104° 56' 57.941 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_MIRACLE 20-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_MIRACLE 20-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_MIRACLE 20-12		
<b>Design:</b>	PLAN #1 3-22-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
650.00	650.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,623.06	3,480.00	PARKMAN				
4,297.33	4,110.00	SUSSEX				
4,778.96	4,560.00	SHANNON				
7,164.33	6,900.00	NIO A				
7,454.33	7,190.00	CODELL				
7,914.33	7,650.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
750.00	750.00	0.00	0.00	Start Build 2.00	
1,793.94	1,770.98	-137.82	-128.03	Start 3326.46 hold at 1793.94 MD	
5,120.39	4,879.02	-1,006.41	-934.88	Start Drop -2.00	
6,164.33	5,900.00	-1,144.23	-1,062.91	Start 1900.00 hold at 6164.33 MD	
8,064.33	7,800.00	-1,144.23	-1,062.91	TD at 8064.33	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
LARIMER\_MIRACLE 40-12 PAD  
P\_MIRACLE 20-12**

**P\_MIRACLE 20-12  
PLAN #1 3-22-10 RHS**

## **Anticollision Report**

**23 March, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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	8,064.33	PLAN #1 3-22-10 RHS (P_MIRACLE 20-1	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_MIRACLE 40-12 PAD						
P_MIRACLE 1-12 - P_MIRACLE 1-12 - PLAN #1 3-22-10	536.00	536.26	48.89	46.74	22.644	CC, ES
P_MIRACLE 1-12 - P_MIRACLE 1-12 - PLAN #1 3-22-10	800.00	796.62	59.82	56.38	17.385	SF
P_MIRACLE 16-12 - P_MIRACLE 16-12 - PLAN #1 3-22-10	750.00	750.00	19.77	16.66	6.352	CC, ES
P_MIRACLE 16-12 - P_MIRACLE 16-12 - PLAN #1 3-22-10	900.00	900.18	21.62	17.95	5.897	SF
P_MIRACLE 17-12 - P_MIRACLE 17-12 - PLAN #1 3-22-10	750.00	750.00	29.80	26.69	9.574	CC
P_MIRACLE 17-12 - P_MIRACLE 17-12 - PLAN #1 3-22-10	800.00	800.30	29.84	26.51	8.976	ES
P_MIRACLE 17-12 - P_MIRACLE 17-12 - PLAN #1 3-22-10	900.00	900.69	30.66	26.94	8.234	SF
P_MIRACLE 24-12 - P_MIRACLE 24-12 - PLAN #1 3-22-10	750.00	750.00	10.02	6.91	3.220	CC
P_MIRACLE 24-12 - P_MIRACLE 24-12 - PLAN #1 3-22-10	800.00	799.83	10.16	6.84	3.061	ES, SF
P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-10	750.00	750.00	39.83	36.71	12.793	CC
P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-10	800.00	800.30	39.93	36.60	12.009	ES
P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-10	900.00	900.66	41.18	37.46	11.051	SF
P_MIRACLE 9-12 - P_MIRACLE 9-12 - PLAN #1 3-22-10	750.00	750.00	10.03	6.92	3.222	CC
P_MIRACLE 9-12 - P_MIRACLE 9-12 - PLAN #1 3-22-10	800.00	800.08	10.11	6.80	3.053	ES
P_MIRACLE 9-12 - P_MIRACLE 9-12 - PLAN #1 3-22-10	900.00	900.24	10.76	7.09	2.933	SF

<b>Offset Design</b> LARIMER_MIRACLE 40-12 PAD - P_MIRACLE 1-12 - P_MIRACLE 1-12 - PLAN #1 3-22-10 RHS											
Survey Program: 0-MWD											
Reference											
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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)
0.00	0.00	0.00	0.00	0.00	0.00	91.24	-1.08	49.84	49.86	49.66	0.19
100.00	100.00	100.00	100.00	0.10	0.10	91.24	-1.08	49.84	49.86	49.21	0.64
200.00	200.00	200.00	200.00	0.32	0.32	91.24	-1.08	49.84	49.86	48.76	1.09
300.00	300.00	300.00	300.00	0.55	0.55	91.24	-1.08	49.84	49.86	48.00	1.54
400.00	400.00	400.30	400.28	0.77	0.77	89.25	0.65	49.54	49.54	46.98	1.99
500.00	500.00	500.35	500.19	0.99	1.00	83.18	5.82	48.62	48.97	46.98	1.99
536.00	536.00	536.26	536.00	1.08	1.09	79.98	8.51	48.15	48.89	46.74	2.16
600.00	600.00	600.00	599.45	1.22	1.24	73.03	14.37	47.11	49.26	46.81	2.45
700.00	700.00	698.77	697.48	1.44	1.51	59.80	26.21	45.02	52.15	49.24	2.91
750.00	750.00	747.85	746.03	1.56	1.67	52.72	33.32	43.76	55.15	52.01	3.14
800.00	800.00	796.62	794.14	1.66	1.82	-177.10	41.20	42.37	59.82	56.38	3.44
900.00	899.93	892.87	888.64	1.84	2.17	171.07	59.12	39.21	75.66	71.78	3.88
1,000.00	999.68	986.98	980.41	2.04	2.55	162.89	79.64	35.58	99.50	95.19	4.31
											23.092

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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													
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
1,100.00	1,099.13	1,078.51	1,068.96	2.26	2.98	157.64	102.45	31.55	130.30	125.56	4.75	27.459	
1,200.00	1,198.15	1,167.07	1,153.89	2.52	3.44	154.26	127.15	27.18	167.29	162.10	5.19	32.232	
1,300.00	1,296.63	1,252.33	1,234.89	2.82	3.93	152.00	153.36	22.55	209.89	204.25	5.64	37.183	
1,400.00	1,394.44	1,334.02	1,311.72	3.17	4.43	150.41	180.70	17.72	257.71	251.59	6.11	42.173	
1,500.00	1,491.46	1,411.95	1,384.24	3.58	4.95	149.20	208.77	12.76	310.37	303.79	6.59	47.113	
1,600.00	1,587.58	1,485.96	1,452.37	4.06	5.49	148.22	237.22	7.73	367.58	360.50	7.08	51.923	
1,700.00	1,682.68	1,559.98	1,519.83	4.60	6.05	147.37	267.23	2.43	428.87	421.27	7.60	56.445	
1,793.94	1,770.98	1,632.29	1,585.62	5.17	6.61	146.74	296.79	-2.79	488.81	480.69	8.12	60.204	
1,800.00	1,776.65	1,636.91	1,589.81	5.21	6.64	146.76	298.68	-3.13	492.74	484.58	8.16	60.391	
1,900.00	1,870.08	1,712.98	1,659.03	5.86	7.24	147.06	329.78	-8.62	557.61	548.78	8.83	63.181	
2,000.00	1,963.52	1,789.06	1,728.24	6.53	7.84	147.29	360.88	-14.12	622.48	612.98	9.51	65.480	
2,100.00	2,056.95	1,865.14	1,797.45	7.22	8.44	147.48	391.99	-19.61	687.36	677.17	10.20	67.397	
2,200.00	2,150.39	1,941.22	1,866.66	7.91	9.04	147.64	423.09	-25.11	752.25	741.35	10.90	69.017	
2,300.00	2,243.82	2,017.29	1,935.87	8.61	9.65	147.78	454.19	-30.61	817.13	805.53	11.61	70.398	
2,400.00	2,337.25	2,093.37	2,005.08	9.31	10.26	147.89	485.30	-36.10	882.02	869.70	12.32	71.587	
2,500.00	2,430.69	2,169.45	2,074.29	10.02	10.87	147.99	516.40	-41.60	946.91	933.87	13.04	72.618	
2,600.00	2,524.12	2,245.53	2,143.50	10.73	11.48	148.07	547.50	-47.09	1,011.80	998.04	13.76	73.520	
2,700.00	2,617.55	2,321.61	2,212.72	11.44	12.09	148.15	578.61	-52.59	1,076.70	1,062.21	14.49	74.316	
2,800.00	2,710.99	2,397.68	2,281.93	12.16	12.70	148.21	609.71	-58.09	1,141.59	1,126.37	15.22	75.021	
2,900.00	2,804.42	2,473.76	2,351.14	12.88	13.31	148.27	640.81	-63.58	1,206.49	1,190.54	15.95	75.649	
3,000.00	2,897.86	2,549.84	2,420.35	13.60	13.92	148.33	671.92	-69.08	1,271.38	1,254.70	16.68	76.213	
3,100.00	2,991.29	2,625.92	2,489.56	14.32	14.54	148.37	703.02	-74.57	1,336.28	1,318.86	17.42	76.721	
3,200.00	3,084.72	2,701.99	2,558.77	15.04	15.15	148.42	734.12	-80.07	1,401.17	1,383.02	18.15	77.182	
3,300.00	3,178.16	2,778.07	2,627.98	15.76	15.77	148.46	765.23	-85.57	1,466.07	1,447.18	18.89	77.600	
3,400.00	3,271.59	2,854.15	2,697.20	16.49	16.38	148.49	796.33	-91.06	1,530.97	1,511.33	19.63	77.982	
3,500.00	3,365.02	2,930.23	2,766.41	17.21	17.00	148.53	827.43	-96.56	1,595.86	1,575.49	20.37	78.331	
3,600.00	3,458.46	3,006.31	2,835.62	17.94	17.61	148.56	858.54	-102.06	1,660.76	1,639.65	21.12	78.653	
3,700.00	3,551.89	3,082.38	2,904.83	18.67	18.23	148.59	889.64	-107.55	1,725.66	1,703.80	21.86	78.949	
3,800.00	3,645.32	3,158.46	2,974.04	19.39	18.84	148.61	920.74	-113.05	1,790.56	1,767.96	22.60	79.223	
3,900.00	3,738.76	3,234.54	3,043.25	20.12	19.46	148.64	951.85	-118.54	1,855.46	1,832.11	23.35	79.477	
4,000.00	3,832.19	3,310.62	3,112.46	20.85	20.07	148.66	982.95	-124.04	1,920.36	1,896.27	24.09	79.713	
4,100.00	3,925.63	3,386.70	3,181.68	21.58	20.69	148.68	1,014.05	-129.54	1,985.25	1,960.42	24.84	79.933	
4,200.00	4,019.06	3,462.77	3,250.89	22.30	21.31	148.70	1,045.16	-135.03	2,050.15	2,024.57	25.58	80.138	
4,300.00	4,112.49	3,538.85	3,320.10	23.03	21.92	148.72	1,076.26	-140.53	2,115.05	2,088.72	26.33	80.331	
4,400.00	4,205.93	3,614.93	3,389.31	23.76	22.54	148.74	1,107.36	-146.02	2,179.95	2,152.88	27.08	80.511	
4,500.00	4,299.36	3,691.01	3,458.52	24.49	23.16	148.76	1,138.47	-151.52	2,244.85	2,217.03	27.82	80.680	
4,600.00	4,392.79	3,767.08	3,527.73	25.22	23.78	148.77	1,169.57	-157.02	2,309.75	2,281.18	28.57	80.839	
4,700.00	4,486.23	3,843.16	3,596.94	25.95	24.39	148.79	1,200.67	-162.51	2,374.65	2,345.33	29.32	80.990	
4,800.00	4,579.66	3,919.24	3,666.15	26.68	25.01	148.80	1,231.78	-168.01	2,439.55	2,409.48	30.07	81.131	
4,900.00	4,673.10	3,995.32	3,735.37	27.41	25.63	148.81	1,262.88	-173.51	2,504.45	2,473.63	30.82	81.266	
5,000.00	4,766.53	4,071.40	3,804.58	28.14	26.24	148.83	1,293.98	-179.00	2,569.35	2,537.78	31.57	81.392	
5,100.00	4,859.96	4,147.47	3,873.79	28.87	26.86	148.84	1,325.09	-184.50	2,634.25	2,601.93	32.32	81.513	
5,120.39	4,879.02	4,162.99	3,887.90	29.02	26.99	148.84	1,331.43	-185.62	2,647.48	2,615.01	32.47	81.537	
5,200.00	4,953.78	4,224.16	3,943.55	29.51	27.48	149.51	1,356.44	-190.04	2,698.42	2,665.16	33.26	81.130	
5,300.00	5,048.73	4,302.68	4,014.99	29.99	28.12	150.25	1,388.54	-195.71	2,760.31	2,726.11	34.20	80.717	
5,400.00	5,144.71	4,382.98	4,088.04	30.42	28.77	150.89	1,421.37	-201.51	2,819.79	2,784.68	35.11	80.307	
5,500.00	5,241.61	4,464.96	4,162.62	30.82	29.44	151.43	1,454.88	-207.43	2,876.80	2,840.80	36.00	79.909	
5,600.00	5,339.32	4,548.52	4,238.63	31.17	30.12	151.88	1,489.05	-213.47	2,931.28	2,894.42	36.86	79.533	
5,700.00	5,437.70	4,633.55	4,316.00	31.47	30.81	152.25	1,523.81	-219.61	2,983.17	2,945.50	37.67	79.185	
5,800.00	5,536.65	4,719.96	4,394.61	31.73	31.51	152.56	1,559.14	-225.86	3,032.43	2,993.98	38.45	78.869	
5,900.00	5,636.05	4,807.65	4,474.38	31.95	32.22	152.79	1,594.99	-232.19	3,079.01	3,039.84	39.18	78.589	
6,000.00	5,735.76	4,896.49	4,555.20	32.11	32.95	152.96	1,631.31	-238.61	3,122.88	3,083.02	39.86	78.348	

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 1-12 - P_MIRACLE 1-12 - 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 +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,100.00	5,835.68	4,986.39	4,636.99	32.23	33.68	153.07	1,668.06	-245.10	3,164.00	3,123.51	40.49	78.147	
6,164.33	5,900.00	5,044.72	4,690.06	32.29	34.15	16.01	1,691.91	-249.32	3,188.98	3,148.11	40.87	78.035	
6,200.00	5,935.67	5,077.18	4,719.58	32.32	34.41	15.89	1,705.18	-251.66	3,202.52	3,161.46	41.06	78.005	
6,300.00	6,035.67	5,168.15	4,802.35	32.40	35.15	15.58	1,742.38	-258.23	3,240.54	3,198.95	41.58	77.930	
6,400.00	6,135.67	5,259.13	4,885.11	32.47	35.89	15.27	1,779.57	-264.81	3,278.64	3,236.53	42.11	77.864	
6,500.00	6,235.67	5,350.10	4,967.87	32.55	36.63	14.97	1,816.76	-271.38	3,316.82	3,274.19	42.63	77.806	
6,600.00	6,335.67	5,441.08	5,050.64	32.63	37.37	14.67	1,853.96	-277.95	3,355.08	3,311.93	43.15	77.755	
6,700.00	6,435.67	5,532.06	5,141.62	32.71	38.11	14.37	1,891.17	-284.52	3,393.20	3,349.05	43.67	77.697	
6,800.00	6,535.67	5,623.04	5,232.60	32.79	38.85	14.07	1,928.38	-291.09	3,431.32	3,387.17	44.19	77.639	
6,900.00	6,635.67	5,714.02	5,323.58	32.88	39.59	13.77	1,965.59	-297.66	3,469.44	3,425.29	44.71	77.581	
7,000.00	6,735.67	5,805.00	5,414.56	32.96	40.33	13.47	2,002.80	-304.23	3,507.56	3,463.41	45.23	77.523	
7,100.00	6,835.67	5,896.00	5,505.54	33.05	41.07	13.17	2,040.01	-310.80	3,545.68	3,501.53	45.75	77.465	
7,200.00	6,935.67	5,987.00	5,596.52	33.14	41.81	12.87	2,077.22	-317.37	3,583.80	3,539.65	46.27	77.407	
7,300.00	7,035.67	6,078.00	5,687.50	33.23	42.55	12.57	2,114.43	-323.94	3,621.92	3,577.77	46.79	77.349	
7,400.00	7,135.67	6,169.00	5,778.48	33.32	43.29	12.27	2,151.64	-330.51	3,660.04	3,615.89	47.31	77.291	
7,500.00	7,235.67	6,260.00	5,869.46	33.41	44.03	11.97	2,188.85	-337.08	3,698.16	3,654.01	47.83	77.233	
7,600.00	7,335.67	6,351.00	5,960.44	33.50	44.77	11.67	2,226.06	-343.65	3,736.28	3,692.13	48.35	77.175	
7,700.00	7,435.67	6,442.00	6,051.42	33.59	45.51	11.37	2,263.27	-350.22	3,774.40	3,730.25	48.87	77.117	
7,800.00	7,535.67	6,533.00	6,142.40	33.69	46.25	11.07	2,300.48	-356.79	3,812.52	3,768.37	49.39	77.059	
7,900.00	7,635.67	6,624.00	6,233.38	33.79	46.99	10.77	2,337.69	-363.36	3,850.64	3,806.49	49.91	77.001	
8,000.00	7,735.67	6,715.00	6,324.36	33.88	47.73	10.47	2,374.90	-369.93	3,888.76	3,844.61	50.43	76.943	
8,064.33	7,800.00	8,233.52	7,800.00	33.95	43.43	12.63	2,135.54	-327.71	3,361.15	3,311.04	50.12	67.067	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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	91.06	-0.36	19.77	19.77				
100.00	100.00	100.00	100.00	0.10	0.10	91.06	-0.36	19.77	19.77	19.58	0.19	103.499	
200.00	200.00	200.00	200.00	0.32	0.32	91.06	-0.36	19.77	19.77	19.13	0.64	30.868	
300.00	300.00	300.00	300.00	0.55	0.55	91.06	-0.36	19.77	19.77	18.68	1.09	18.139	
400.00	400.00	400.00	400.00	0.77	0.77	91.06	-0.36	19.77	19.77	18.23	1.54	12.843	
500.00	500.00	500.00	500.00	0.99	0.99	91.06	-0.36	19.77	19.77	17.78	1.99	9.941	
600.00	600.00	600.00	600.00	1.22	1.22	91.06	-0.36	19.77	19.77	17.33	2.44	8.108	
700.00	700.00	700.00	700.00	1.44	1.44	91.06	-0.36	19.77	19.77	16.89	2.89	6.846	
750.00	750.00	750.00	750.00	1.56	1.56	91.06	-0.36	19.77	19.77	16.66	3.11	6.352 CC, ES	
800.00	800.00	800.07	800.07	1.66	1.65	-131.54	-0.79	19.67	19.98	16.67	3.31	6.034	
900.00	899.93	900.18	900.11	1.84	1.83	-129.35	-4.20	18.90	21.62	17.95	3.67	5.897 SF	
1,000.00	999.68	1,000.22	999.90	2.04	2.02	-125.85	-11.02	17.37	24.97	20.92	4.05	6.164	
1,100.00	1,099.13	1,100.13	1,099.26	2.26	2.24	-122.07	-21.21	15.07	30.12	25.64	4.48	6.721	
1,200.00	1,198.15	1,199.88	1,198.03	2.52	2.49	-118.67	-34.75	12.02	37.11	32.13	4.98	7.455	
1,300.00	1,296.63	1,299.40	1,296.04	2.82	2.78	-115.86	-51.60	8.22	45.93	40.37	5.56	8.264	
1,400.00	1,394.44	1,398.66	1,393.13	3.17	3.12	-113.61	-71.70	3.69	56.58	50.34	6.24	9.068	
1,500.00	1,491.46	1,497.62	1,489.16	3.58	3.52	-111.83	-94.99	-1.57	69.02	61.99	7.03	9.814	
1,600.00	1,587.58	1,596.22	1,583.97	4.06	3.98	-110.41	-121.40	-7.52	83.23	75.28	7.95	10.472	
1,700.00	1,682.68	1,694.44	1,677.43	4.60	4.50	-109.26	-150.86	-14.16	99.17	90.19	8.99	11.034	
1,793.94	1,770.98	1,786.32	1,763.87	5.17	5.04	-108.35	-181.23	-21.01	115.70	105.62	10.08	11.477	
1,800.00	1,776.65	1,792.24	1,769.40	5.21	5.07	-108.31	-183.28	-21.48	116.82	106.66	10.15	11.504	
1,900.00	1,870.08	1,889.64	1,859.82	5.86	5.71	-107.07	-218.59	-29.44	135.56	124.13	11.43	11.855	
2,000.00	1,963.52	1,986.77	1,948.74	6.53	6.41	-104.95	-256.71	-38.03	155.07	142.28	12.79	12.126	
2,100.00	2,056.95	2,084.60	2,037.90	7.22	7.14	-102.95	-296.00	-46.89	175.01	160.83	14.18	12.341	
2,200.00	2,150.39	2,182.44	2,127.05	7.91	7.88	-101.37	-335.30	-55.75	195.11	179.53	15.58	12.520	
2,300.00	2,243.82	2,280.27	2,216.20	8.61	8.63	-100.08	-374.60	-64.62	215.33	198.34	17.00	12.670	
2,400.00	2,337.25	2,378.10	2,305.35	9.31	9.39	-99.01	-413.90	-73.48	235.64	217.23	18.41	12.798	
2,500.00	2,430.69	2,475.93	2,394.50	10.02	10.16	-98.11	-453.20	-82.34	256.01	236.18	19.83	12.907	
2,600.00	2,524.12	2,573.76	2,483.65	10.73	10.93	-97.35	-492.50	-91.20	276.43	255.17	21.26	13.002	
2,700.00	2,617.55	2,671.59	2,572.80	11.44	11.70	-96.69	-531.80	-100.06	296.90	274.21	22.69	13.086	
2,800.00	2,710.99	2,769.42	2,661.95	12.16	12.48	-96.11	-571.10	-108.92	317.40	293.28	24.12	13.160	
2,900.00	2,804.42	2,867.25	2,751.10	12.88	13.26	-95.61	-610.40	-117.78	337.92	312.37	25.55	13.225	
3,000.00	2,897.86	2,965.08	2,840.25	13.60	14.04	-95.16	-649.69	-126.65	358.47	331.48	26.98	13.284	
3,100.00	2,991.29	3,062.91	2,929.40	14.32	14.82	-94.76	-688.99	-135.51	379.03	350.61	28.42	13.337	
3,200.00	3,084.72	3,160.74	3,018.55	15.04	15.60	-94.40	-728.29	-144.37	399.61	369.76	29.86	13.385	
3,300.00	3,178.16	3,258.57	3,107.70	15.76	16.39	-94.08	-767.59	-153.23	420.21	388.91	31.29	13.429	
3,400.00	3,271.59	3,356.40	3,196.85	16.49	17.18	-93.79	-806.89	-162.09	440.81	408.08	32.73	13.469	
3,500.00	3,365.02	3,454.23	3,286.00	17.21	17.96	-93.52	-846.19	-170.95	461.43	427.26	34.17	13.505	
3,600.00	3,458.46	3,552.06	3,375.15	17.94	18.75	-93.28	-885.49	-179.81	482.05	446.45	35.60	13.539	
3,700.00	3,551.89	3,649.89	3,464.31	18.67	19.54	-93.05	-924.79	-188.68	502.69	465.64	37.04	13.571	
3,800.00	3,645.32	3,747.72	3,553.46	19.39	20.33	-92.85	-964.09	-197.54	523.32	484.84	38.48	13.600	
3,900.00	3,738.76	3,845.55	3,642.61	20.12	21.12	-92.66	-1,003.38	-206.40	543.97	504.05	39.92	13.627	
4,000.00	3,832.19	3,943.38	3,731.76	20.85	21.91	-92.48	-1,042.68	-215.26	564.62	523.26	41.36	13.653	
4,100.00	3,925.63	4,041.21	3,820.91	21.58	22.70	-92.32	-1,081.98	-224.12	585.28	542.48	42.79	13.677	
4,200.00	4,019.06	4,139.04	3,910.06	22.30	23.49	-92.16	-1,121.28	-232.98	605.93	561.70	44.23	13.699	
4,300.00	4,112.49	4,236.87	3,999.21	23.03	24.28	-92.02	-1,160.58	-241.85	626.60	580.93	45.67	13.720	
4,400.00	4,205.93	4,334.70	4,088.36	23.76	25.07	-91.89	-1,199.88	-250.71	647.27	600.16	47.11	13.740	
4,500.00	4,299.36	4,432.53	4,177.51	24.49	25.86	-91.76	-1,239.18	-259.57	667.94	619.39	48.55	13.759	
4,600.00	4,392.79	4,530.36	4,266.66	25.22	26.65	-91.64	-1,278.48	-268.43	688.61	638.63	49.98	13.777	
4,700.00	4,486.23	4,628.19	4,355.81	25.95	27.45	-91.53	-1,317.77	-277.29	709.28	657.86	51.42	13.794	
4,800.00	4,579.66	4,726.02	4,444.96	26.68	28.24	-91.43	-1,357.07	-286.15	729.96	677.11	52.86	13.810	
4,900.00	4,673.10	4,823.85	4,534.11	27.41	29.03	-91.33	-1,396.37	-295.01	750.64	696.35	54.29	13.826	

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 16-12 - P_MIRACLE 16-12 - 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 +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,766.53	4,921.68	4,623.26	28.14	29.83	-91.23	-1,435.67	-303.88	771.32	715.59	55.73	13.841	
5,100.00	4,859.96	5,019.51	4,712.41	28.87	30.62	-91.15	-1,474.97	-312.74	792.01	734.84	57.17	13.855	
5,120.39	4,879.02	5,039.46	4,730.59	29.02	30.78	-91.13	-1,482.98	-314.54	796.23	738.77	57.46	13.857	
5,200.00	4,953.78	5,117.32	4,801.55	29.51	31.41	-91.32	-1,514.26	-321.60	812.67	754.12	58.55	13.879	
5,300.00	5,048.73	5,215.01	4,890.57	29.99	32.20	-91.34	-1,553.50	-330.45	833.28	773.53	59.75	13.946	
5,400.00	5,144.71	5,323.01	4,989.39	30.42	32.95	-91.13	-1,596.00	-340.03	853.48	792.66	60.81	14.034	
5,500.00	5,241.61	5,437.24	5,095.54	30.82	33.55	-90.87	-1,637.14	-349.30	871.96	810.27	61.69	14.134	
5,600.00	5,339.32	5,532.60	5,204.36	31.17	34.11	-90.58	-1,674.47	-357.72	888.59	826.11	62.48	14.222	
5,700.00	5,437.70	5,669.03	5,315.66	31.47	34.62	-90.28	-1,707.77	-365.23	903.32	840.15	63.18	14.299	
5,800.00	5,536.65	5,786.44	5,429.21	31.73	35.09	-89.96	-1,736.87	-371.79	916.12	852.35	63.77	14.365	
5,900.00	5,636.05	5,904.77	5,544.79	31.95	35.50	-89.61	-1,761.57	-377.36	926.94	862.67	64.27	14.424	
6,000.00	5,735.76	6,023.91	5,662.12	32.11	35.84	-89.23	-1,781.72	-381.90	935.76	871.11	64.65	14.475	
6,100.00	5,835.68	6,143.78	5,780.92	32.23	36.13	-88.83	-1,797.17	-385.39	942.54	877.62	64.92	14.518	
6,164.33	5,900.00	6,221.22	5,857.99	32.29	36.28	134.33	-1,804.57	-387.06	945.83	880.78	65.05	14.540	
6,200.00	5,935.67	6,264.28	5,900.93	32.32	36.35	134.51	-1,807.80	-387.79	947.27	882.18	65.10	14.552	
6,300.00	6,035.67	6,385.42	6,021.91	32.40	36.50	134.81	-1,813.52	-389.08	949.84	884.59	65.25	14.558	
6,400.00	6,135.67	6,499.19	6,135.67	32.47	36.60	134.86	-1,814.56	-389.31	950.30	884.89	65.41	14.528	
6,500.00	6,235.67	6,599.19	6,235.67	32.55	36.67	134.86	-1,814.56	-389.31	950.30	884.74	65.56	14.494	
6,600.00	6,335.67	6,699.19	6,335.67	32.63	36.73	134.86	-1,814.56	-389.31	950.30	884.58	65.72	14.460	
6,700.00	6,435.67	6,799.19	6,435.67	32.71	36.80	134.86	-1,814.56	-389.31	950.30	884.43	65.88	14.426	
6,800.00	6,535.67	6,899.19	6,535.67	32.79	36.86	134.86	-1,814.56	-389.31	950.30	884.27	66.04	14.391	
6,900.00	6,635.67	6,999.19	6,635.67	32.88	36.93	134.86	-1,814.56	-389.31	950.30	884.10	66.20	14.355	
7,000.00	6,735.67	7,099.19	6,735.67	32.96	37.00	134.86	-1,814.56	-389.31	950.30	883.94	66.37	14.319	
7,100.00	6,835.67	7,199.19	6,835.67	33.05	37.07	134.86	-1,814.56	-389.31	950.30	883.77	66.53	14.283	
7,200.00	6,935.67	7,299.19	6,935.67	33.14	37.15	134.86	-1,814.56	-389.31	950.30	883.60	66.70	14.246	
7,300.00	7,035.67	7,399.19	7,035.67	33.23	37.22	134.86	-1,814.56	-389.31	950.30	883.43	66.88	14.210	
7,400.00	7,135.67	7,499.19	7,135.67	33.32	37.30	134.86	-1,814.56	-389.31	950.30	883.25	67.05	14.172	
7,500.00	7,235.67	7,599.19	7,235.67	33.41	37.37	134.86	-1,814.56	-389.31	950.30	883.07	67.23	14.135	
7,600.00	7,335.67	7,699.19	7,335.67	33.50	37.45	134.86	-1,814.56	-389.31	950.30	882.89	67.41	14.097	
7,700.00	7,435.67	7,799.19	7,435.67	33.59	37.53	134.86	-1,814.56	-389.31	950.30	882.71	67.60	14.058	
7,800.00	7,535.67	7,899.19	7,535.67	33.69	37.61	134.86	-1,814.56	-389.31	950.30	882.52	67.78	14.020	
7,900.00	7,635.67	7,999.19	7,635.67	33.79	37.69	134.86	-1,814.56	-389.31	950.30	882.33	67.97	13.981	
8,000.00	7,735.67	8,099.19	7,735.67	33.88	37.77	134.86	-1,814.56	-389.31	950.30	882.14	68.16	13.942	
8,064.33	7,800.00	8,163.51	7,800.00	33.95	37.82	134.86	-1,814.56	-389.31	950.30	882.02	68.29	13.916	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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	91.40	-0.73	29.79	29.80				
100.00	100.00	100.00	100.00	0.10	0.10	91.40	-0.73	29.79	29.80	29.61	0.19	155.997	
200.00	200.00	200.00	200.00	0.32	0.32	91.40	-0.73	29.79	29.80	29.16	0.64	46.526	
300.00	300.00	300.00	300.00	0.55	0.55	91.40	-0.73	29.79	29.80	28.71	1.09	27.340	
400.00	400.00	400.00	400.00	0.77	0.77	91.40	-0.73	29.79	29.80	28.26	1.54	19.357	
500.00	500.00	500.00	500.00	0.99	0.99	91.40	-0.73	29.79	29.80	27.81	1.99	14.983	
600.00	600.00	600.00	600.00	1.22	1.22	91.40	-0.73	29.79	29.80	27.36	2.44	12.221	
700.00	700.00	700.00	700.00	1.44	1.44	91.40	-0.73	29.79	29.80	26.92	2.89	10.319	
750.00	750.00	750.00	750.00	1.56	1.56	91.40	-0.73	29.79	29.80	26.69	3.11	9.574 CC	
800.00	800.00	800.30	800.30	1.66	1.67	-132.80	-0.37	29.54	29.84	26.51	3.32	8.976 ES	
900.00	899.93	900.69	900.62	1.84	1.89	-143.01	2.51	27.51	30.66	26.94	3.72	8.234 SF	
1,000.00	999.68	1,000.41	1,000.09	2.04	2.12	-160.49	8.20	23.48	34.89	30.76	4.13	8.439	
1,100.00	1,099.13	1,099.03	1,098.17	2.26	2.36	-178.04	16.62	17.54	45.50	40.95	4.56	9.984	
1,200.00	1,198.15	1,196.16	1,194.36	2.52	2.62	169.19	27.59	9.79	63.34	58.33	5.00	12.663	
1,300.00	1,296.63	1,291.42	1,288.20	2.82	2.91	160.91	40.93	0.36	87.75	82.28	5.47	16.033	
1,400.00	1,394.44	1,384.46	1,379.29	3.17	3.23	155.53	56.42	-10.57	118.02	112.05	5.98	19.746	
1,500.00	1,491.46	1,474.98	1,467.27	3.58	3.58	151.86	73.80	-22.85	153.63	147.11	6.52	23.574	
1,600.00	1,587.58	1,562.73	1,551.87	4.06	3.97	149.22	92.80	-36.27	194.20	187.11	7.10	27.368	
1,700.00	1,682.68	1,647.48	1,632.87	4.60	4.39	147.21	113.16	-50.65	239.44	231.72	7.72	31.035	
1,793.94	1,770.98	1,724.21	1,705.54	5.17	4.81	145.67	133.27	-64.86	285.94	277.61	8.33	34.313	
1,800.00	1,776.65	1,729.06	1,710.12	5.21	4.84	145.62	134.60	-65.79	289.07	280.69	8.38	34.501	
1,900.00	1,870.08	1,808.08	1,784.19	5.86	5.32	144.77	157.06	-81.66	341.51	332.38	9.13	37.390	
2,000.00	1,963.52	1,885.07	1,855.60	6.53	5.83	143.88	180.55	-98.25	395.63	385.70	9.92	39.867	
2,100.00	2,056.95	1,959.98	1,924.33	7.22	6.37	142.99	204.90	-115.45	451.38	440.64	10.74	42.025	
2,200.00	2,150.39	2,037.22	1,994.46	7.91	6.95	142.10	231.34	-134.13	508.58	496.99	11.59	43.864	
2,300.00	2,243.82	2,118.83	2,068.43	8.61	7.59	141.31	259.48	-154.01	566.07	553.58	12.49	45.332	
2,400.00	2,337.25	2,200.43	2,142.41	9.31	8.23	140.67	287.62	-173.88	623.61	610.22	13.39	46.571	
2,500.00	2,430.69	2,282.03	2,216.38	10.02	8.89	140.14	315.75	-193.76	681.20	666.89	14.30	47.621	
2,600.00	2,524.12	2,363.64	2,290.36	10.73	9.55	139.69	343.89	-213.64	738.82	723.59	15.23	48.526	
2,700.00	2,617.55	2,445.24	2,364.33	11.44	10.22	139.31	372.03	-233.51	796.46	780.31	16.15	49.312	
2,800.00	2,710.99	2,526.84	2,438.31	12.16	10.89	138.97	400.17	-253.39	854.13	837.05	17.08	50.000	
2,900.00	2,804.42	2,608.45	2,512.28	12.88	11.56	138.68	428.31	-273.26	911.82	893.80	18.02	50.605	
3,000.00	2,897.86	2,690.05	2,586.25	13.60	12.24	138.43	456.45	-293.14	969.51	950.56	18.96	51.140	
3,100.00	2,991.29	2,771.65	2,660.23	14.32	12.92	138.20	484.59	-313.02	1,027.22	1,007.32	19.90	51.617	
3,200.00	3,084.72	2,853.26	2,734.20	15.04	13.60	138.00	512.72	-332.89	1,084.94	1,064.10	20.85	52.044	
3,300.00	3,178.16	2,934.86	2,808.18	15.76	14.29	137.81	540.86	-352.77	1,142.67	1,120.88	21.79	52.429	
3,400.00	3,271.59	3,016.46	2,882.15	16.49	14.97	137.65	569.00	-372.65	1,200.40	1,177.66	22.74	52.778	
3,500.00	3,365.02	3,098.07	2,956.13	17.21	15.66	137.50	597.14	-392.52	1,258.14	1,234.45	23.70	53.094	
3,600.00	3,458.46	3,179.67	3,030.10	17.94	16.35	137.36	625.28	-412.40	1,315.89	1,291.24	24.65	53.383	
3,700.00	3,551.89	3,261.27	3,104.08	18.67	17.04	137.24	653.42	-432.27	1,373.64	1,348.04	25.61	53.647	
3,800.00	3,645.32	3,342.88	3,178.05	19.39	17.73	137.12	681.56	-452.15	1,431.40	1,404.83	26.56	53.889	
3,900.00	3,738.76	3,424.48	3,252.03	20.12	18.42	137.01	709.69	-472.03	1,489.15	1,461.63	27.52	54.113	
4,000.00	3,832.19	3,506.08	3,326.00	20.85	19.11	136.91	737.83	-491.90	1,546.91	1,518.44	28.48	54.320	
4,100.00	3,925.63	3,587.69	3,399.98	21.58	19.80	136.82	765.97	-511.78	1,604.68	1,575.24	29.44	54.511	
4,200.00	4,019.06	3,669.29	3,473.95	22.30	20.49	136.74	794.11	-531.66	1,662.45	1,632.05	30.40	54.689	
4,300.00	4,112.49	3,750.89	3,547.93	23.03	21.18	136.66	822.25	-551.53	1,720.21	1,688.85	31.36	54.855	
4,400.00	4,205.93	3,832.50	3,621.90	23.76	21.88	136.58	850.39	-571.41	1,777.98	1,745.66	32.32	55.009	
4,500.00	4,299.36	3,914.10	3,695.88	24.49	22.57	136.52	878.53	-591.28	1,835.76	1,802.47	33.28	55.154	
4,600.00	4,392.79	3,995.70	3,769.85	25.22	23.26	136.45	906.66	-611.16	1,893.53	1,859.28	34.25	55.290	
4,700.00	4,486.23	4,077.31	3,843.82	25.95	23.96	136.39	934.80	-631.04	1,951.31	1,916.10	35.21	55.417	
4,800.00	4,579.66	4,158.91	3,917.80	26.68	24.65	136.33	962.94	-650.91	2,009.09	1,972.91	36.18	55.537	
4,900.00	4,673.10	4,240.51	3,991.77	27.41	25.35	136.28	991.08	-670.79	2,066.86	2,029.72	37.14	55.650	

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 17-12 - P_MIRACLE 17-12 - 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	4,766.53	4,322.12	4,065.75	28.14	26.04	136.22	1,019.22	-690.67	2,124.64	2,086.54	38.11	55.756	
5,100.00	4,859.96	4,403.72	4,139.72	28.87	26.74	136.18	1,047.36	-710.54	2,182.43	2,143.35	39.07	55.857	
5,120.39	4,879.02	4,420.36	4,154.81	29.02	26.88	136.17	1,053.10	-714.59	2,194.21	2,154.94	39.27	55.877	
5,200.00	4,953.78	4,485.76	4,214.10	29.51	27.44	136.86	1,075.65	-730.52	2,239.55	2,199.36	40.19	55.722	
5,300.00	5,048.73	4,569.11	4,289.65	29.99	28.15	137.62	1,104.39	-750.82	2,294.62	2,253.35	41.27	55.600	
5,400.00	5,144.71	4,653.68	4,366.32	30.42	28.87	138.26	1,133.55	-771.42	2,347.53	2,305.20	42.32	55.468	
5,500.00	5,241.61	4,739.38	4,444.00	30.82	29.60	138.79	1,163.10	-792.30	2,398.24	2,354.90	43.34	55.334	
5,600.00	5,339.32	4,826.10	4,522.62	31.17	30.34	139.21	1,193.00	-813.42	2,446.71	2,402.39	44.32	55.204	
5,700.00	5,437.70	4,913.74	4,602.07	31.47	31.09	139.54	1,223.22	-834.77	2,492.92	2,447.66	45.26	55.082	
5,800.00	5,536.65	5,002.19	4,682.25	31.73	31.85	139.78	1,253.72	-856.31	2,536.85	2,490.70	46.15	54.973	
5,900.00	5,636.05	5,266.78	4,926.19	31.95	33.59	139.22	1,337.21	-915.29	2,576.17	2,528.52	47.65	54.069	
6,000.00	5,735.76	5,614.15	5,258.82	32.11	35.25	138.61	1,418.38	-972.62	2,604.67	2,555.61	49.06	53.088	
6,100.00	5,835.68	5,984.86	5,624.25	32.23	36.36	138.23	1,468.07	-1,007.72	2,620.88	2,570.78	50.10	52.314	
6,164.33	5,900.00	6,230.00	5,868.91	32.29	36.72	1.03	1,479.56	-1,015.84	2,624.40	2,573.87	50.52	51.945	
6,200.00	5,935.67	6,296.77	5,935.67	32.32	36.77	1.02	1,479.82	-1,016.02	2,624.46	2,573.84	50.62	51.843	
6,300.00	6,035.67	6,396.77	6,035.67	32.40	36.85	1.02	1,479.82	-1,016.02	2,624.46	2,573.63	50.83	51.631	
6,400.00	6,135.67	6,496.77	6,135.67	32.47	36.92	1.02	1,479.82	-1,016.02	2,624.46	2,573.42	51.04	51.418	
6,500.00	6,235.67	6,596.77	6,235.67	32.55	37.00	1.02	1,479.82	-1,016.02	2,624.46	2,573.21	51.26	51.203	
6,600.00	6,335.67	6,696.77	6,335.67	32.63	37.08	1.02	1,479.82	-1,016.02	2,624.46	2,572.99	51.47	50.986	
6,700.00	6,435.67	6,796.77	6,435.67	32.71	37.16	1.02	1,479.82	-1,016.02	2,624.46	2,572.77	51.69	50.769	
6,800.00	6,535.67	6,896.77	6,535.67	32.79	37.24	1.02	1,479.82	-1,016.02	2,624.46	2,572.54	51.92	50.551	
6,900.00	6,635.67	6,996.77	6,635.67	32.88	37.32	1.02	1,479.82	-1,016.02	2,624.46	2,572.32	52.14	50.331	
7,000.00	6,735.67	7,096.77	6,735.67	32.96	37.40	1.02	1,479.82	-1,016.02	2,624.46	2,572.09	52.37	50.111	
7,100.00	6,835.67	7,196.77	6,835.67	33.05	37.49	1.02	1,479.82	-1,016.02	2,624.46	2,571.86	52.60	49.890	
7,200.00	6,935.67	7,296.77	6,935.67	33.14	37.57	1.02	1,479.82	-1,016.02	2,624.46	2,571.62	52.84	49.669	
7,300.00	7,035.67	7,396.77	7,035.67	33.23	37.66	1.02	1,479.82	-1,016.02	2,624.46	2,571.39	53.08	49.446	
7,400.00	7,135.67	7,496.77	7,135.67	33.32	37.75	1.02	1,479.82	-1,016.02	2,624.46	2,571.15	53.32	49.224	
7,500.00	7,235.67	7,596.77	7,235.67	33.41	37.84	1.02	1,479.82	-1,016.02	2,624.46	2,570.90	53.56	49.000	
7,600.00	7,335.67	7,696.77	7,335.67	33.50	37.93	1.02	1,479.82	-1,016.02	2,624.46	2,570.66	53.81	48.777	
7,700.00	7,435.67	7,796.77	7,435.67	33.59	38.02	1.02	1,479.82	-1,016.02	2,624.46	2,570.41	54.05	48.553	
7,800.00	7,535.67	7,896.77	7,535.67	33.69	38.11	1.02	1,479.82	-1,016.02	2,624.46	2,570.16	54.30	48.328	
7,900.00	7,635.67	7,996.77	7,635.67	33.79	38.21	1.02	1,479.82	-1,016.02	2,624.46	2,569.90	54.56	48.104	
8,000.00	7,735.67	8,096.77	7,735.67	33.88	38.30	1.02	1,479.82	-1,016.02	2,624.46	2,569.65	54.81	47.879	
8,064.33	7,800.00	8,161.09	7,800.00	33.95	38.36	1.02	1,479.82	-1,016.02	2,624.46	2,569.48	54.98	47.735	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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	-90.00	0.00	-10.02	10.02				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-10.02	10.02	9.83	0.19	52.469	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-10.02	10.02	9.38	0.64	15.649	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-10.02	10.02	8.93	1.09	9.196	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-10.02	10.02	8.48	1.54	6.511	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-10.02	10.02	8.04	1.99	5.039	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-10.02	10.02	7.59	2.44	4.111	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-10.02	10.02	7.14	2.89	3.471	
750.00	750.00	750.00	750.00	1.56	1.56	-90.00	0.00	-10.02	10.02	6.91	3.11	3.220 CC	
800.00	800.00	799.83	799.82	1.66	1.66	49.47	0.10	-10.45	10.16	6.84	3.32	3.061 ES, SF	
900.00	899.93	899.39	899.32	1.84	1.87	65.73	0.90	-13.81	11.78	8.07	3.71	3.179	
1,000.00	999.68	998.67	998.36	2.04	2.09	85.40	2.50	-20.52	16.83	12.71	4.12	4.086	
1,100.00	1,099.13	1,097.51	1,096.66	2.26	2.33	98.48	4.87	-30.50	26.12	21.55	4.57	5.716	
1,200.00	1,198.15	1,195.72	1,193.92	2.52	2.59	105.80	8.01	-43.69	39.38	34.32	5.07	7.775	
1,300.00	1,296.63	1,293.13	1,289.88	2.82	2.89	109.93	11.88	-59.96	56.32	50.70	5.62	10.020	
1,400.00	1,394.44	1,389.59	1,384.29	3.17	3.23	112.37	16.45	-79.20	76.76	70.51	6.25	12.285	
1,500.00	1,491.46	1,485.76	1,477.77	3.58	3.62	114.01	21.67	-101.16	100.39	93.44	6.95	14.435	
1,600.00	1,587.58	1,582.33	1,571.51	4.06	4.04	116.10	27.04	-123.73	125.88	118.14	7.73	16.275	
1,700.00	1,682.68	1,678.30	1,664.67	4.60	4.47	118.49	32.37	-146.15	153.12	144.56	8.57	17.872	
1,793.94	1,770.98	1,767.81	1,751.56	5.17	4.89	120.81	37.35	-167.07	180.52	171.12	9.39	19.221	
1,800.00	1,776.65	1,773.56	1,757.15	5.21	4.91	120.99	37.67	-168.41	182.34	172.90	9.45	19.302	
1,900.00	1,870.08	1,868.48	1,849.28	5.86	5.36	123.52	42.94	-190.59	212.71	202.34	10.37	20.507	
2,000.00	1,963.52	1,963.39	1,941.42	6.53	5.82	125.42	48.22	-212.77	243.36	232.04	11.31	21.513	
2,100.00	2,056.95	2,058.31	2,033.56	7.22	6.28	126.89	53.49	-234.95	274.19	261.93	12.26	22.360	
2,200.00	2,150.39	2,153.22	2,125.69	7.91	6.74	128.07	58.77	-257.13	305.16	291.94	13.22	23.081	
2,300.00	2,243.82	2,248.14	2,217.83	8.61	7.21	129.03	64.04	-279.31	336.22	322.04	14.19	23.700	
2,400.00	2,337.25	2,343.05	2,309.97	9.31	7.68	129.83	69.31	-301.49	367.36	352.20	15.16	24.236	
2,500.00	2,430.69	2,437.97	2,402.10	10.02	8.15	130.50	74.59	-323.67	398.55	382.42	16.13	24.704	
2,600.00	2,524.12	2,532.88	2,494.24	10.73	8.63	131.08	79.86	-345.85	429.78	412.67	17.11	25.116	
2,700.00	2,617.55	2,627.80	2,586.38	11.44	9.11	131.58	85.14	-368.03	461.05	442.95	18.09	25.480	
2,800.00	2,710.99	2,722.72	2,678.51	12.16	9.58	132.01	90.41	-390.21	492.34	473.26	19.08	25.805	
2,900.00	2,804.42	2,817.63	2,770.65	12.88	10.06	132.39	95.69	-412.38	523.65	503.59	20.07	26.097	
3,000.00	2,897.86	2,912.55	2,862.79	13.60	10.54	132.73	100.96	-434.56	554.99	533.93	21.06	26.359	
3,100.00	2,991.29	3,007.46	2,954.93	14.32	11.03	133.04	106.24	-456.74	586.34	564.29	22.05	26.596	
3,200.00	3,084.72	3,102.38	3,047.06	15.04	11.51	133.31	111.51	-478.92	617.70	594.66	23.04	26.812	
3,300.00	3,178.16	3,197.29	3,139.20	15.76	11.99	133.56	116.78	-501.10	649.08	625.05	24.03	27.010	
3,400.00	3,271.59	3,292.21	3,231.34	16.49	12.48	133.78	122.06	-523.28	680.46	655.44	25.03	27.190	
3,500.00	3,365.02	3,387.12	3,323.47	17.21	12.96	133.98	127.33	-545.46	711.85	685.83	26.02	27.356	
3,600.00	3,458.46	3,482.04	3,415.61	17.94	13.44	134.17	132.61	-567.64	743.26	716.24	27.02	27.510	
3,700.00	3,551.89	3,576.95	3,507.75	18.67	13.93	134.34	137.88	-589.82	774.66	746.65	28.02	27.651	
3,800.00	3,645.32	3,671.87	3,599.88	19.39	14.42	134.50	143.16	-612.00	806.08	777.06	29.01	27.783	
3,900.00	3,738.76	3,766.79	3,692.02	20.12	14.90	134.65	148.43	-634.18	837.49	807.48	30.01	27.905	
4,000.00	3,832.19	3,861.70	3,784.16	20.85	15.39	134.78	153.71	-656.35	868.92	837.91	31.01	28.020	
4,100.00	3,925.63	3,956.62	3,876.29	21.58	15.87	134.91	158.98	-678.53	900.34	868.33	32.01	28.126	
4,200.00	4,019.06	4,051.53	3,968.43	22.30	16.36	135.03	164.25	-700.71	931.77	898.76	33.01	28.226	
4,300.00	4,112.49	4,146.45	4,060.57	23.03	16.85	135.14	169.53	-722.89	963.21	929.20	34.01	28.320	
4,400.00	4,205.93	4,241.36	4,152.70	23.76	17.34	135.24	174.80	-745.07	994.64	959.63	35.01	28.408	
4,500.00	4,299.36	4,336.28	4,244.84	24.49	17.82	135.34	180.08	-767.25	1,026.08	990.07	36.01	28.491	
4,600.00	4,392.79	4,431.19	4,336.98	25.22	18.31	135.43	185.35	-789.43	1,057.53	1,020.51	37.02	28.569	
4,700.00	4,486.23	4,526.11	4,429.12	25.95	18.80	135.51	190.63	-811.61	1,088.97	1,050.95	38.02	28.644	
4,800.00	4,579.66	4,621.02	4,521.25	26.68	19.29	135.59	195.90	-833.79	1,120.42	1,081.40	39.02	28.714	
4,900.00	4,673.10	4,715.94	4,613.39	27.41	19.77	135.67	201.18	-855.97	1,151.86	1,111.84	40.02	28.780	

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 24-12 - P_MIRACLE 24-12 - 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	4,766.53	4,810.85	4,705.53	28.14	20.26	135.74	206.45	-878.15	1,183.31	1,142.29	41.03	28.843	
5,100.00	4,859.96	4,905.77	4,797.66	28.87	20.75	135.81	211.72	-900.32	1,214.77	1,172.74	42.03	28.903	
5,120.39	4,879.02	4,925.12	4,816.45	29.02	20.85	135.83	212.80	-904.85	1,221.18	1,178.95	42.23	28.915	
5,200.00	4,953.78	5,000.94	4,890.04	29.51	21.24	136.19	217.01	-922.56	1,245.46	1,202.42	43.04	28.938	
5,300.00	5,048.73	5,096.81	4,983.11	29.99	21.73	136.52	222.34	-944.97	1,273.80	1,229.82	43.98	28.962	
5,400.00	5,144.71	5,193.30	5,076.78	30.42	22.23	136.70	227.70	-967.51	1,299.71	1,254.80	44.91	28.939	
5,500.00	5,241.61	5,290.29	5,170.93	30.82	22.73	136.74	233.09	-990.18	1,323.19	1,277.36	45.83	28.873	
5,600.00	5,339.32	5,399.31	5,277.23	31.17	23.14	136.68	238.68	-1,013.69	1,343.80	1,297.18	46.62	28.826	
5,700.00	5,437.70	5,509.59	5,385.62	31.47	23.49	136.65	243.38	-1,033.45	1,361.10	1,313.80	47.30	28.776	
5,800.00	5,536.65	5,620.92	5,495.74	31.73	23.79	136.64	247.14	-1,049.26	1,375.03	1,327.15	47.88	28.720	
5,900.00	5,636.05	5,733.06	5,607.23	31.95	24.04	136.65	249.93	-1,060.98	1,385.54	1,337.20	48.35	28.659	
6,000.00	5,735.76	5,845.76	5,719.66	32.11	24.23	136.68	251.71	-1,068.46	1,392.60	1,343.90	48.70	28.593	
6,100.00	5,835.68	5,958.78	5,832.62	32.23	24.38	136.72	252.47	-1,071.64	1,396.20	1,347.24	48.95	28.521	
6,164.33	5,900.00	6,026.16	5,900.00	32.29	24.46	-0.36	252.49	-1,071.76	1,396.75	1,347.68	49.07	28.464	
6,200.00	5,935.67	6,061.83	5,935.67	32.32	24.50	-0.36	252.49	-1,071.76	1,396.75	1,347.60	49.15	28.420	
6,300.00	6,035.67	6,161.83	6,035.67	32.40	24.61	-0.36	252.49	-1,071.76	1,396.75	1,347.38	49.37	28.294	
6,400.00	6,135.67	6,261.83	6,135.67	32.47	24.73	-0.36	252.49	-1,071.76	1,396.75	1,347.16	49.59	28.168	
6,500.00	6,235.67	6,361.83	6,235.67	32.55	24.85	-0.36	252.49	-1,071.76	1,396.75	1,346.94	49.81	28.041	
6,600.00	6,335.67	6,461.83	6,335.67	32.63	24.97	-0.36	252.49	-1,071.76	1,396.75	1,346.71	50.04	27.914	
6,700.00	6,435.67	6,561.83	6,435.67	32.71	25.09	-0.36	252.49	-1,071.76	1,396.75	1,346.48	50.27	27.786	
6,800.00	6,535.67	6,661.83	6,535.67	32.79	25.21	-0.36	252.49	-1,071.76	1,396.75	1,346.25	50.50	27.658	
6,900.00	6,635.67	6,761.83	6,635.67	32.88	25.34	-0.36	252.49	-1,071.76	1,396.75	1,346.01	50.74	27.530	
7,000.00	6,735.67	6,861.83	6,735.67	32.96	25.46	-0.36	252.49	-1,071.76	1,396.75	1,345.77	50.97	27.401	
7,100.00	6,835.67	6,961.83	6,835.67	33.05	25.59	-0.36	252.49	-1,071.76	1,396.75	1,345.53	51.22	27.272	
7,200.00	6,935.67	7,061.83	6,935.67	33.14	25.72	-0.36	252.49	-1,071.76	1,396.75	1,345.29	51.46	27.142	
7,300.00	7,035.67	7,161.83	7,035.67	33.23	25.85	-0.36	252.49	-1,071.76	1,396.75	1,345.04	51.71	27.012	
7,400.00	7,135.67	7,261.83	7,135.67	33.32	25.98	-0.36	252.49	-1,071.76	1,396.75	1,344.79	51.96	26.883	
7,500.00	7,235.67	7,361.83	7,235.67	33.41	26.11	-0.36	252.49	-1,071.76	1,396.75	1,344.54	52.21	26.753	
7,600.00	7,335.67	7,461.83	7,335.67	33.50	26.25	-0.36	252.49	-1,071.76	1,396.75	1,344.28	52.46	26.622	
7,700.00	7,435.67	7,561.83	7,435.67	33.59	26.38	-0.36	252.49	-1,071.76	1,396.75	1,344.03	52.72	26.492	
7,800.00	7,535.67	7,661.83	7,535.67	33.69	26.52	-0.36	252.49	-1,071.76	1,396.75	1,343.77	52.98	26.362	
7,900.00	7,635.67	7,761.83	7,635.67	33.79	26.66	-0.36	252.49	-1,071.76	1,396.75	1,343.50	53.25	26.232	
8,000.00	7,735.67	7,861.83	7,735.67	33.88	26.80	-0.36	252.49	-1,071.76	1,396.75	1,343.24	53.51	26.102	
8,064.33	7,800.00	7,926.16	7,800.00	33.95	26.88	-0.36	252.49	-1,071.76	1,396.75	1,343.07	53.68	26.019	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-10 RHS													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	91.05	-0.73	39.82	39.83					
100.00	100.00	100.00	100.00	0.10	0.10	91.05	-0.73	39.82	39.83	39.63	0.19	208.456		
200.00	200.00	200.00	200.00	0.32	0.32	91.05	-0.73	39.82	39.83	39.19	0.64	62.171		
300.00	300.00	300.00	300.00	0.55	0.55	91.05	-0.73	39.82	39.83	38.74	1.09	36.533		
400.00	400.00	400.00	400.00	0.77	0.77	91.05	-0.73	39.82	39.83	38.29	1.54	25.867		
500.00	500.00	500.00	500.00	0.99	0.99	91.05	-0.73	39.82	39.83	37.84	1.99	20.021		
600.00	600.00	600.00	600.00	1.22	1.22	91.05	-0.73	39.82	39.83	37.39	2.44	16.331		
700.00	700.00	700.00	700.00	1.44	1.44	91.05	-0.73	39.82	39.83	36.94	2.89	13.789		
750.00	750.00	750.00	750.00	1.56	1.56	91.05	-0.73	39.82	39.83	36.71	3.11	12.793 CC		
800.00	800.00	800.30	800.30	1.66	1.67	-132.87	-0.33	39.63	39.93	36.60	3.32	12.009 ES		
900.00	899.93	900.66	900.59	1.84	1.89	-140.86	2.84	38.11	41.18	37.46	3.73	11.051 SF		
1,000.00	999.68	1,000.26	999.94	2.04	2.12	-154.73	9.12	35.09	45.83	41.69	4.14	11.075		
1,100.00	1,099.13	1,098.63	1,097.77	2.26	2.36	-169.76	18.37	30.66	56.58	52.02	4.56	12.410		
1,200.00	1,198.15	1,195.31	1,193.52	2.52	2.62	178.06	30.41	24.88	74.67	69.67	4.99	14.953		
1,300.00	1,296.63	1,289.88	1,286.69	2.82	2.90	169.45	45.00	17.88	99.83	94.38	5.45	18.330		
1,400.00	1,394.44	1,381.96	1,376.85	3.17	3.22	163.54	61.86	9.79	131.37	125.45	5.92	22.186		
1,500.00	1,491.46	1,473.73	1,466.24	3.58	3.56	159.53	80.57	0.82	168.20	161.78	6.42	26.189		
1,600.00	1,587.58	1,565.04	1,555.16	4.06	3.93	157.14	99.29	-8.16	208.49	201.54	6.95	30.008		
1,700.00	1,682.68	1,655.08	1,642.84	4.60	4.30	155.71	117.74	-17.02	251.82	244.33	7.49	33.614		
1,793.94	1,770.98	1,738.40	1,723.98	5.17	4.66	154.90	134.82	-25.21	295.15	287.13	8.02	36.812		
1,800.00	1,776.65	1,743.74	1,729.18	5.21	4.68	154.88	135.92	-25.73	298.03	289.97	8.06	36.992		
1,900.00	1,870.08	1,831.76	1,814.90	5.86	5.06	154.70	153.96	-34.39	345.48	336.77	8.71	39.682		
2,000.00	1,963.52	1,919.78	1,900.61	6.53	5.45	154.56	172.00	-43.04	392.93	383.56	9.37	41.930		
2,100.00	2,056.95	2,007.80	1,986.33	7.22	5.85	154.45	190.04	-51.70	440.39	430.34	10.05	43.829		
2,200.00	2,150.39	2,095.82	2,072.04	7.91	6.24	154.36	208.08	-60.35	487.84	477.11	10.73	45.446		
2,300.00	2,243.82	2,183.84	2,157.76	8.61	6.65	154.28	226.12	-69.01	535.30	523.87	11.43	46.836		
2,400.00	2,337.25	2,271.86	2,243.48	9.31	7.05	154.22	244.16	-77.66	582.75	570.62	12.13	48.042		
2,500.00	2,430.69	2,359.88	2,329.19	10.02	7.46	154.17	262.20	-86.32	630.21	617.37	12.84	49.095		
2,600.00	2,524.12	2,447.90	2,414.91	10.73	7.87	154.13	280.24	-94.97	677.67	664.12	13.55	50.022		
2,700.00	2,617.55	2,535.93	2,500.62	11.44	8.27	154.09	298.28	-103.62	725.13	710.86	14.26	50.843		
2,800.00	2,710.99	2,623.95	2,586.34	12.16	8.69	154.05	316.32	-112.28	772.58	757.60	14.98	51.574		
2,900.00	2,804.42	2,711.97	2,672.06	12.88	9.10	154.02	334.37	-120.93	820.04	804.34	15.70	52.230		
3,000.00	2,897.86	2,799.99	2,757.77	13.60	9.51	154.00	352.41	-129.59	867.50	851.08	16.42	52.820		
3,100.00	2,991.29	2,888.01	2,843.49	14.32	9.93	153.97	370.45	-138.24	914.96	897.81	17.15	53.353		
3,200.00	3,084.72	2,976.03	2,929.20	15.04	10.34	153.95	388.49	-146.90	962.42	944.54	17.88	53.838		
3,300.00	3,178.16	3,064.05	3,014.92	15.76	10.76	153.93	406.53	-155.55	1,009.87	991.27	18.61	54.280		
3,400.00	3,271.59	3,152.07	3,100.64	16.49	11.17	153.91	424.57	-164.21	1,057.33	1,038.00	19.34	54.684		
3,500.00	3,365.02	3,240.09	3,186.35	17.21	11.59	153.90	442.61	-172.86	1,104.79	1,084.72	20.07	55.056		
3,600.00	3,458.46	3,328.11	3,272.07	17.94	12.01	153.88	460.65	-181.52	1,152.25	1,131.45	20.80	55.398		
3,700.00	3,551.89	3,416.13	3,357.78	18.67	12.43	153.87	478.69	-190.17	1,199.71	1,178.18	21.53	55.715		
3,800.00	3,645.32	3,504.15	3,443.50	19.39	12.84	153.85	496.73	-198.82	1,247.17	1,224.90	22.27	56.008		
3,900.00	3,738.76	3,592.17	3,529.22	20.12	13.26	153.84	514.78	-207.48	1,294.63	1,271.62	23.00	56.281		
4,000.00	3,832.19	3,680.19	3,614.93	20.85	13.68	153.83	532.82	-216.13	1,342.09	1,318.35	23.74	56.534		
4,100.00	3,925.63	3,768.21	3,700.65	21.58	14.10	153.82	550.86	-224.79	1,389.54	1,365.07	24.48	56.771		
4,200.00	4,019.06	3,856.23	3,786.36	22.30	14.52	153.81	568.90	-233.44	1,437.00	1,411.79	25.21	56.993		
4,300.00	4,112.49	3,944.25	3,872.08	23.03	14.94	153.80	586.94	-242.10	1,484.46	1,458.51	25.95	57.201		
4,400.00	4,205.93	4,032.27	3,957.80	23.76	15.36	153.79	604.98	-250.75	1,531.92	1,505.23	26.69	57.396		
4,500.00	4,299.36	4,120.29	4,043.51	24.49	15.78	153.79	623.02	-259.41	1,579.38	1,551.95	27.43	57.580		
4,600.00	4,392.79	4,208.31	4,129.23	25.22	16.20	153.78	641.06	-268.06	1,626.84	1,598.67	28.17	57.753		
4,700.00	4,486.23	4,296.34	4,214.94	25.95	16.62	153.77	659.10	-276.72	1,674.30	1,645.39	28.91	57.916		
4,800.00	4,579.66	4,384.36	4,300.66	26.68	17.04	153.76	677.14	-285.37	1,721.76	1,692.11	29.65	58.070		
4,900.00	4,673.10	4,472.38	4,386.38	27.41	17.46	153.76	695.19	-294.03	1,769.22	1,738.83	30.39	58.217		

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_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 8-12 - P_MIRACLE 8-12 - 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	4,766.53	4,560.40	4,472.09	28.14	17.88	153.75	713.23	-302.68	1,816.67	1,785.54	31.13	58.356	
5,100.00	4,859.96	4,648.42	4,557.81	28.87	18.30	153.75	731.27	-311.33	1,864.13	1,832.26	31.87	58.487	
5,120.39	4,879.02	4,666.37	4,575.29	29.02	18.39	153.75	734.95	-313.10	1,873.81	1,841.79	32.02	58.513	
5,200.00	4,953.78	4,736.90	4,643.97	29.51	18.73	154.09	749.40	-320.03	1,910.72	1,878.00	32.72	58.404	
5,300.00	5,048.73	4,826.75	4,731.47	29.99	19.16	154.44	767.82	-328.87	1,954.56	1,921.03	33.53	58.295	
5,400.00	5,144.71	4,917.88	4,820.22	30.42	19.60	154.72	786.50	-337.83	1,995.55	1,961.23	34.32	58.153	
5,500.00	5,241.61	5,010.19	4,910.11	30.82	20.04	154.91	805.42	-346.91	2,033.65	1,998.58	35.07	57.985	
5,600.00	5,339.32	5,103.57	5,001.04	31.17	20.48	155.04	824.56	-356.09	2,068.83	2,033.04	35.80	57.796	
5,700.00	5,437.70	5,197.89	5,092.90	31.47	20.94	155.09	843.89	-365.36	2,101.06	2,064.58	36.48	57.592	
5,800.00	5,536.65	5,293.05	5,185.57	31.73	21.39	155.09	863.39	-374.72	2,130.31	2,093.18	37.13	57.378	
5,900.00	5,636.05	5,420.32	5,309.63	31.95	21.95	154.93	888.98	-386.99	2,156.38	2,118.56	37.82	57.016	
6,000.00	5,735.76	5,538.51	5,524.57	32.11	22.62	154.59	922.50	-403.07	2,175.51	2,136.93	38.58	56.388	
6,100.00	5,835.68	5,628.82	5,747.83	32.23	23.11	154.40	941.48	-412.18	2,185.98	2,146.83	39.15	55.832	
6,164.33	5,900.00	6,008.71	5,893.64	32.29	23.31	17.25	945.35	-414.03	2,188.02	2,148.60	39.42	55.511	
6,200.00	5,935.67	6,050.74	5,935.67	32.32	23.36	17.25	945.37	-414.04	2,188.02	2,148.51	39.51	55.374	
6,300.00	6,035.67	6,150.74	6,035.67	32.40	23.47	17.25	945.37	-414.04	2,188.02	2,148.25	39.78	55.007	
6,400.00	6,135.67	6,250.74	6,135.67	32.47	23.59	17.25	945.37	-414.04	2,188.02	2,147.97	40.05	54.631	
6,500.00	6,235.67	6,350.74	6,235.67	32.55	23.72	17.25	945.37	-414.04	2,188.02	2,147.70	40.33	54.256	
6,600.00	6,335.67	6,450.74	6,335.67	32.63	23.84	17.25	945.37	-414.04	2,188.02	2,147.42	40.61	53.882	
6,700.00	6,435.67	6,550.74	6,435.67	32.71	23.97	17.25	945.37	-414.04	2,188.02	2,147.13	40.89	53.509	
6,800.00	6,535.67	6,650.74	6,535.67	32.79	24.09	17.25	945.37	-414.04	2,188.02	2,146.85	41.18	53.137	
6,900.00	6,635.67	6,750.74	6,635.67	32.88	24.22	17.25	945.37	-414.04	2,188.02	2,146.56	41.47	52.767	
7,000.00	6,735.67	6,850.74	6,735.67	32.96	24.35	17.25	945.37	-414.04	2,188.02	2,146.27	41.76	52.398	
7,100.00	6,835.67	6,950.74	6,835.67	33.05	24.49	17.25	945.37	-414.04	2,188.02	2,145.97	42.05	52.031	
7,200.00	6,935.67	7,050.74	6,935.67	33.14	24.62	17.25	945.37	-414.04	2,188.02	2,145.67	42.35	51.666	
7,300.00	7,035.67	7,150.74	7,035.67	33.23	24.75	17.25	945.37	-414.04	2,188.02	2,145.37	42.65	51.303	
7,400.00	7,135.67	7,250.74	7,135.67	33.32	24.89	17.25	945.37	-414.04	2,188.02	2,145.07	42.95	50.941	
7,500.00	7,235.67	7,350.74	7,235.67	33.41	25.03	17.25	945.37	-414.04	2,188.02	2,144.77	43.26	50.582	
7,600.00	7,335.67	7,450.74	7,335.67	33.50	25.16	17.25	945.37	-414.04	2,188.02	2,144.46	43.56	50.225	
7,700.00	7,435.67	7,550.74	7,435.67	33.59	25.30	17.25	945.37	-414.04	2,188.02	2,144.15	43.87	49.870	
7,800.00	7,535.67	7,650.74	7,535.67	33.69	25.44	17.25	945.37	-414.04	2,188.02	2,143.84	44.19	49.518	
7,900.00	7,635.67	7,750.74	7,635.67	33.79	25.59	17.25	945.37	-414.04	2,188.02	2,143.52	44.50	49.168	
8,000.00	7,735.67	7,850.74	7,735.67	33.88	25.73	17.25	945.37	-414.04	2,188.02	2,143.21	44.82	48.820	
8,064.33	7,800.00	7,915.06	7,800.00	33.95	25.82	17.25	945.37	-414.04	2,188.02	2,143.00	45.02	48.598	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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													
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	92.08	-0.36	10.02	10.03				
100.00	100.00	100.00	100.00	0.10	0.10	92.08	-0.36	10.02	10.03	9.84	0.19	52.504	
200.00	200.00	200.00	200.00	0.32	0.32	92.08	-0.36	10.02	10.03	9.39	0.64	15.659	
300.00	300.00	300.00	300.00	0.55	0.55	92.08	-0.36	10.02	10.03	8.94	1.09	9.202	
400.00	400.00	400.00	400.00	0.77	0.77	92.08	-0.36	10.02	10.03	8.49	1.54	6.515	
500.00	500.00	500.00	500.00	0.99	0.99	92.08	-0.36	10.02	10.03	8.04	1.99	5.043	
600.00	600.00	600.00	600.00	1.22	1.22	92.08	-0.36	10.02	10.03	7.59	2.44	4.113	
700.00	700.00	700.00	700.00	1.44	1.44	92.08	-0.36	10.02	10.03	7.14	2.89	3.473	
750.00	750.00	750.00	750.00	1.56	1.56	92.08	-0.36	10.02	10.03	6.92	3.11	3.222 CC	
800.00	800.00	800.00	800.00	1.66	1.66	-130.49	-0.74	9.81	10.11	6.80	3.31	3.053 ES	
900.00	899.93	900.24	900.17	1.84	1.84	-128.12	-3.77	8.05	10.76	7.09	3.67	2.933 SF	
1,000.00	999.68	1,000.36	1,000.05	2.04	2.03	-124.43	-9.78	4.58	12.13	8.08	4.06	2.991	
1,100.00	1,099.13	1,100.30	1,099.66	2.26	2.24	-128.56	-16.78	0.52	15.11	10.64	4.47	3.378	
1,200.00	1,198.15	1,200.10	1,199.13	2.52	2.47	-138.59	-23.77	-3.52	20.61	15.71	4.90	4.210	
1,300.00	1,296.63	1,299.62	1,298.33	2.82	2.70	-148.21	-30.75	-7.56	29.37	24.06	5.31	5.531	
1,400.00	1,394.44	1,398.75	1,397.13	3.17	2.94	-155.43	-37.69	-11.58	41.72	36.00	5.72	7.292	
1,500.00	1,491.46	1,497.37	1,495.42	3.58	3.18	-160.50	-44.60	-15.58	57.68	51.54	6.13	9.403	
1,600.00	1,587.58	1,595.35	1,593.08	4.06	3.43	-164.07	-51.47	-19.55	77.19	70.64	6.55	11.785	
1,700.00	1,682.68	1,692.58	1,689.99	4.60	3.68	-166.63	-58.28	-23.49	100.21	93.24	6.97	14.376	
1,793.94	1,770.98	1,783.12	1,780.23	5.17	3.91	-168.42	-64.63	-27.17	124.96	117.60	7.37	16.960	
1,800.00	1,776.65	1,788.94	1,786.03	5.21	3.93	-168.53	-65.03	-27.40	126.66	119.26	7.40	17.121	
1,900.00	1,870.08	1,884.88	1,881.66	5.86	4.18	-169.95	-71.76	-31.29	154.67	146.77	7.89	19.595	
2,000.00	1,963.52	1,980.82	1,977.28	6.53	4.43	-170.93	-78.48	-35.18	182.73	174.33	8.40	21.757	
2,100.00	2,056.95	2,076.76	2,072.91	7.22	4.68	-171.66	-85.20	-39.07	210.84	201.92	8.91	23.657	
2,200.00	2,150.39	2,172.70	2,168.53	7.91	4.94	-172.21	-91.93	-42.96	238.96	229.53	9.43	25.337	
2,300.00	2,243.82	2,268.64	2,264.16	8.61	5.19	-172.65	-98.65	-46.86	267.11	257.15	9.96	26.829	
2,400.00	2,337.25	2,364.58	2,359.79	9.31	5.45	-173.00	-105.37	-50.75	295.26	284.78	10.48	28.162	
2,500.00	2,430.69	2,460.52	2,455.41	10.02	5.70	-173.29	-112.09	-54.64	323.42	312.41	11.02	29.358	
2,600.00	2,524.12	2,556.46	2,551.04	10.73	5.96	-173.53	-118.82	-58.53	351.59	340.04	11.55	30.438	
2,700.00	2,617.55	2,652.40	2,646.66	11.44	6.22	-173.74	-125.54	-62.42	379.77	367.68	12.09	31.416	
2,800.00	2,710.99	2,748.34	2,742.29	12.16	6.48	-173.92	-132.26	-66.31	407.95	395.32	12.63	32.305	
2,900.00	2,804.42	2,844.28	2,837.91	12.88	6.74	-174.08	-138.99	-70.20	436.13	422.96	13.17	33.118	
3,000.00	2,897.86	2,940.22	2,933.54	13.60	7.00	-174.22	-145.71	-74.09	464.31	450.60	13.71	33.862	
3,100.00	2,991.29	3,036.16	3,029.16	14.32	7.26	-174.34	-152.43	-77.98	492.50	478.25	14.26	34.547	
3,200.00	3,084.72	3,132.10	3,124.79	15.04	7.52	-174.45	-159.15	-81.87	520.69	505.89	14.80	35.178	
3,300.00	3,178.16	3,228.04	3,220.41	15.76	7.78	-174.55	-165.88	-85.76	548.88	533.53	15.35	35.762	
3,400.00	3,271.59	3,323.98	3,316.04	16.49	8.04	-174.63	-172.60	-89.65	577.07	561.18	15.90	36.304	
3,500.00	3,365.02	3,419.92	3,411.66	17.21	8.30	-174.71	-179.32	-93.54	605.27	588.82	16.44	36.808	
3,600.00	3,458.46	3,515.86	3,507.29	17.94	8.56	-174.79	-186.05	-97.43	633.46	616.47	16.99	37.277	
3,700.00	3,551.89	3,611.80	3,602.92	18.67	8.82	-174.85	-192.77	-101.32	661.65	644.11	17.54	37.716	
3,800.00	3,645.32	3,707.74	3,698.54	19.39	9.09	-174.91	-199.49	-105.22	689.85	671.76	18.09	38.127	
3,900.00	3,738.76	3,803.68	3,794.17	20.12	9.35	-174.97	-206.21	-109.11	718.04	699.40	18.64	38.512	
4,000.00	3,832.19	3,899.62	3,889.79	20.85	9.61	-175.02	-212.94	-113.00	746.24	727.05	19.20	38.874	
4,100.00	3,925.63	3,995.56	3,985.42	21.58	9.87	-175.07	-219.66	-116.89	774.44	754.69	19.75	39.215	
4,200.00	4,019.06	4,091.50	4,081.04	22.30	10.14	-175.11	-226.38	-120.78	802.64	782.34	20.30	39.537	
4,300.00	4,112.49	4,187.44	4,176.67	23.03	10.40	-175.16	-233.11	-124.67	830.83	809.98	20.85	39.841	
4,400.00	4,205.93	4,283.38	4,272.29	23.76	10.66	-175.20	-239.83	-128.56	859.03	837.63	21.41	40.128	
4,500.00	4,299.36	4,379.32	4,367.92	24.49	10.92	-175.23	-246.55	-132.45	887.23	865.27	21.96	40.401	
4,600.00	4,392.79	4,475.26	4,463.54	25.22	11.19	-175.27	-253.27	-136.34	915.43	892.92	22.51	40.659	
4,700.00	4,486.23	4,571.21	4,559.17	25.95	11.45	-175.30	-260.00	-140.23	943.63	920.56	23.07	40.905	
4,800.00	4,579.66	4,667.15	4,654.79	26.68	11.71	-175.33	-266.72	-144.12	971.83	948.21	23.62	41.138	
4,900.00	4,673.10	4,763.09	4,750.42	27.41	11.98	-175.36	-273.44	-148.01	1,000.03	975.85	24.18	41.361	

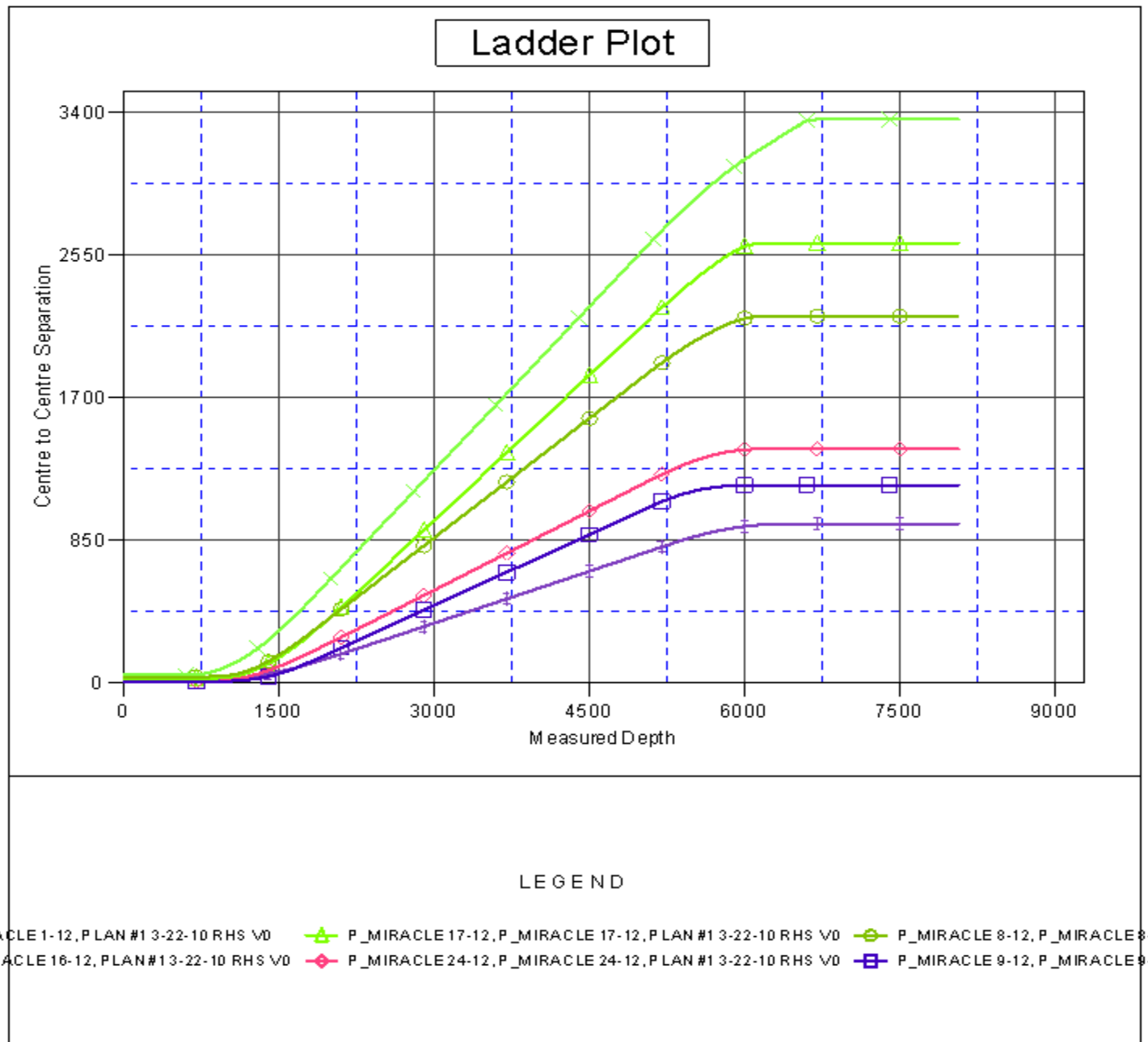
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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_MIRACLE 40-12 PAD - P_MIRACLE 9-12 - P_MIRACLE 9-12 - 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	4,766.53	4,859.03	4,846.05	28.14	12.24	-175.38	-280.17	-151.90	1,028.23	1,003.50	24.73	41.573	
5,100.00	4,859.96	4,954.97	4,941.67	28.87	12.50	-175.41	-286.89	-155.79	1,056.43	1,031.14	25.29	41.775	
5,120.39	4,879.02	4,974.53	4,961.17	29.02	12.56	-175.42	-288.26	-156.59	1,062.18	1,036.78	25.40	41.815	
5,200.00	4,953.78	5,051.21	5,037.60	29.51	12.77	-175.46	-293.63	-159.70	1,083.57	1,057.65	25.92	41.805	
5,300.00	5,048.73	5,148.32	5,134.39	29.99	13.03	-175.51	-300.44	-163.63	1,107.41	1,080.89	26.52	41.758	
5,400.00	5,144.71	5,246.20	5,231.95	30.42	13.30	-175.53	-307.30	-167.60	1,127.87	1,100.79	27.08	41.647	
5,500.00	5,241.61	5,344.73	5,330.16	30.82	13.57	-175.53	-314.20	-171.60	1,144.90	1,117.30	27.60	41.478	
5,600.00	5,339.32	5,443.80	5,428.89	31.17	13.85	-175.52	-321.14	-175.62	1,158.50	1,130.42	28.08	41.255	
5,700.00	5,437.70	5,543.27	5,528.04	31.47	14.12	-175.48	-328.11	-179.65	1,168.64	1,140.12	28.52	40.982	
5,800.00	5,536.65	5,643.03	5,627.48	31.73	14.39	-175.43	-335.10	-183.70	1,175.31	1,146.41	28.91	40.660	
5,900.00	5,636.05	5,729.10	5,713.28	31.95	14.60	-175.38	-340.95	-187.08	1,178.80	1,149.61	29.20	40.373	
6,000.00	5,735.76	5,800.00	5,784.07	32.11	14.73	-175.34	-344.40	-189.08	1,180.90	1,151.52	29.38	40.191	
6,100.00	5,835.68	5,872.64	5,856.66	32.23	14.86	-175.32	-346.37	-190.22	1,181.91	1,152.39	29.52	40.044	
6,164.33	5,900.00	5,918.80	5,902.82	32.29	14.93	47.57	-346.79	-190.46	1,181.98	1,152.40	29.58	39.957	
6,180.85	5,916.52	5,932.50	5,916.52	32.30	14.96	47.57	-346.80	-190.47	1,181.97	1,152.34	29.63	39.887	
6,200.00	5,935.67	5,951.65	5,935.67	32.32	14.99	47.57	-346.80	-190.47	1,181.97	1,152.27	29.70	39.799	
6,300.00	6,035.67	6,051.65	6,035.67	32.40	15.15	47.57	-346.80	-190.47	1,181.97	1,151.94	30.03	39.362	
6,400.00	6,135.67	6,151.65	6,135.67	32.47	15.31	47.57	-346.80	-190.47	1,181.97	1,151.62	30.35	38.943	
6,500.00	6,235.67	6,251.65	6,235.67	32.55	15.47	47.57	-346.80	-190.47	1,181.97	1,151.29	30.68	38.528	
6,600.00	6,335.67	6,351.65	6,335.67	32.63	15.63	47.57	-346.80	-190.47	1,181.97	1,150.96	31.01	38.118	
6,700.00	6,435.67	6,451.65	6,435.67	32.71	15.79	47.57	-346.80	-190.47	1,181.97	1,150.63	31.34	37.714	
6,800.00	6,535.67	6,551.65	6,535.67	32.79	15.95	47.57	-346.80	-190.47	1,181.97	1,150.29	31.68	37.314	
6,900.00	6,635.67	6,651.65	6,635.67	32.88	16.12	47.57	-346.80	-190.47	1,181.97	1,149.95	32.01	36.920	
7,000.00	6,735.67	6,751.65	6,735.67	32.96	16.29	47.57	-346.80	-190.47	1,181.97	1,149.61	32.35	36.531	
7,100.00	6,835.67	6,851.65	6,835.67	33.05	16.45	47.57	-346.80	-190.47	1,181.97	1,149.27	32.70	36.148	
7,200.00	6,935.67	6,951.65	6,935.67	33.14	16.62	47.57	-346.80	-190.47	1,181.97	1,148.92	33.04	35.769	
7,300.00	7,035.67	7,051.65	7,035.67	33.23	16.79	47.57	-346.80	-190.47	1,181.97	1,148.58	33.39	35.396	
7,400.00	7,135.67	7,151.65	7,135.67	33.32	16.96	47.57	-346.80	-190.47	1,181.97	1,148.22	33.74	35.028	
7,500.00	7,235.67	7,251.65	7,235.67	33.41	17.14	47.57	-346.80	-190.47	1,181.97	1,147.87	34.10	34.666	
7,600.00	7,335.67	7,351.65	7,335.67	33.50	17.31	47.57	-346.80	-190.47	1,181.97	1,147.52	34.45	34.308	
7,700.00	7,435.67	7,451.65	7,435.67	33.59	17.49	47.57	-346.80	-190.47	1,181.97	1,147.16	34.81	33.956	
7,800.00	7,535.67	7,551.65	7,535.67	33.69	17.66	47.57	-346.80	-190.47	1,181.97	1,146.80	35.17	33.609	
7,900.00	7,635.67	7,651.65	7,635.67	33.79	17.84	47.57	-346.80	-190.47	1,181.97	1,146.44	35.53	33.268	
8,000.00	7,735.67	7,751.65	7,735.67	33.88	18.02	47.57	-346.80	-190.47	1,181.97	1,146.08	35.89	32.931	
8,064.33	7,800.00	7,815.98	7,800.00	33.95	18.13	47.57	-346.80	-190.47	1,181.97	1,145.84	36.13	32.717	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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 @ 4963.00ft (Original Well Elev) Coordinates are relative to: P\_MIRACLE 20-12  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W °  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.36°



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_MIRACLE 20-12
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Reference Site:</b>	LARIMER_MIRACLE 40-12 PAD	<b>MD Reference:</b>	WELL @ 4963.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_MIRACLE 20-12	<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_MIRACLE 20-12	<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 @ 4963.00ft (Original Well Elev) Coordinates are relative to: P\_MIRACLE 20-12  
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: 0.36°

