



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

LARIMER_MIRACLE 40-12 PAD

P_MIRACLE 1-12

P_MIRACLE 1-12

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 1-12
 Wellbore: P_MIRACLE 1-12
 Section: SECTION 12 T5N R68W
 SHL: 2480 FSL 275 FEL
 Design: PLAN #1 3-22-10 RHS
 Latitude: 40° 24' 49.612 N
 Longitude: 104° 56' 43.555 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

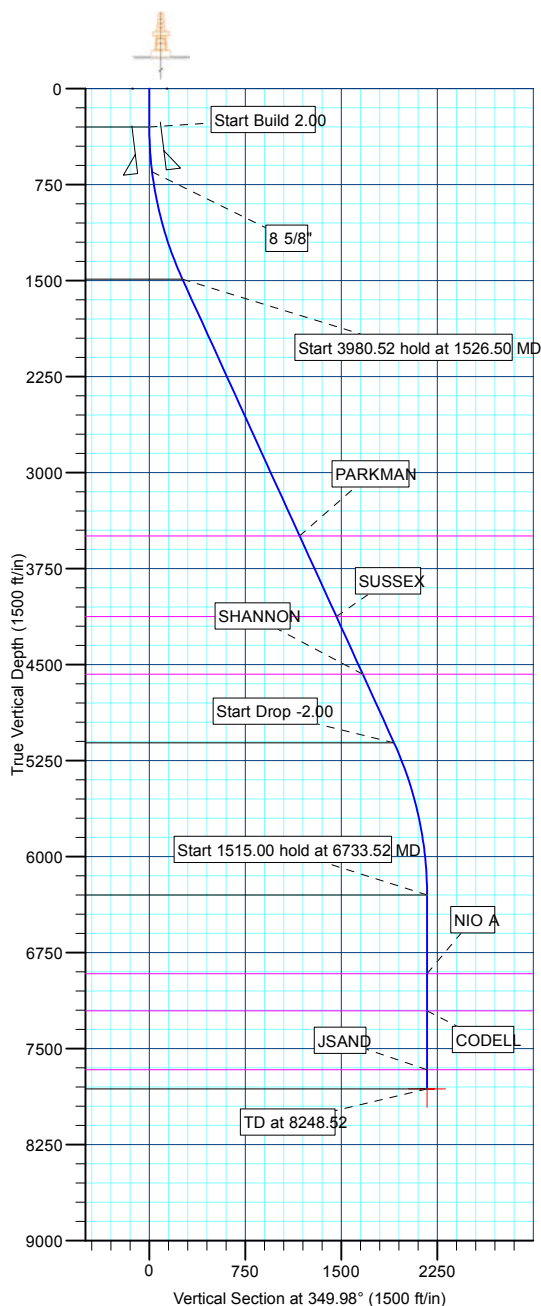
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3495.00	3731.11	PARKMAN
4125.00	4423.61	SUSSEX
4575.00	4918.25	SHANNON
6915.00	7348.52	NIO A
7205.00	7638.52	CODELL
7665.00	8098.52	JSAND

CASING DETAILS			
TVD	MD	Name	Size
650.00	650.88	8 5/8"	8.62

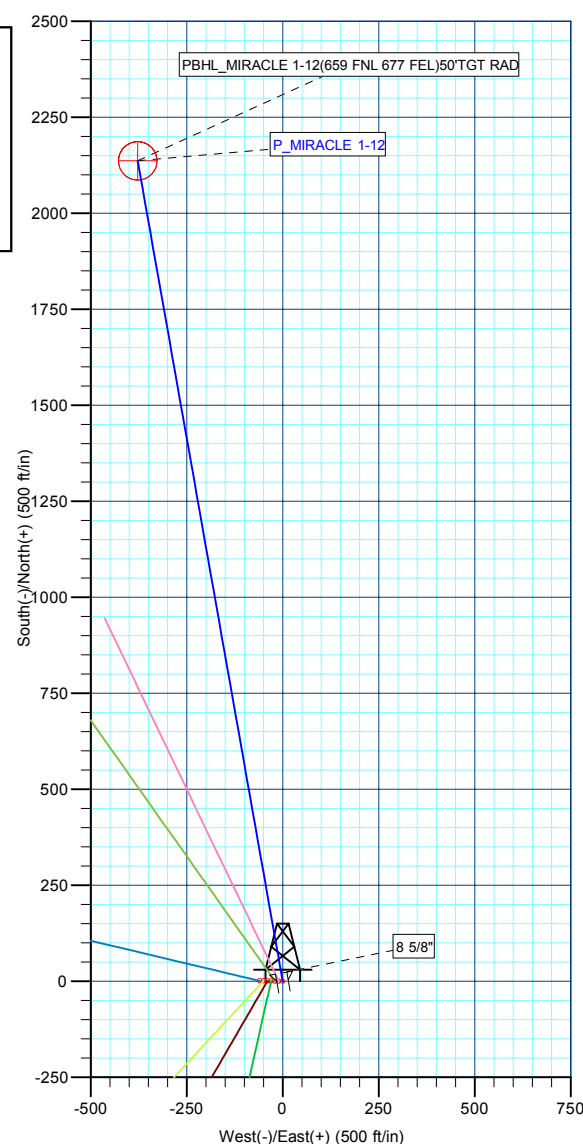
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1526.50	24.53	349.98	1489.37	254.62	-44.99	2.00	349.98	258.56	Start 3980.52 hold at 1526.50 MD
5507.02	24.53	349.98	5110.63	1882.00	-332.56	0.00	0.00	1911.15	Start Drop -2.00
6733.52	0.00	0.00	6300.00	2136.62	-377.55	2.00	180.00	2169.72	Start 1515.00 hold at 6733.52 MD
8248.52	0.00	0.00	7815.00	2136.62	-377.55	0.00	0.00	2169.72	TD at 8248.52

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7815.00	2136.62	-377.55	40° 25' 10.726 N	104° 56' 48.437 W	Circle (Radius: 50.00)

WELL DETAILS: P_MIRACLE 1-12						
+N/-S	+E/-W	Northing	Ground Level: Easting	4948.00 Latitude	Longitude	Slot
0.00	0.00	1394063.65	3154420.53	40° 24' 49.612 N	104° 56' 43.555 W	



LEGEND	
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 20-12, P_MIRACLE 20-12, 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 1-12/P_MIRACLE 1-12)	
Created By: Robert H. Scott	Date: 7:50, March 23 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site:	LARIMER_MIRACLE 40-12 PAD	North Reference:	True
Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MIRACLE 1-12		
Design:	PLAN #1 3-22-10 RHS		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site						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 1-12					
Well Position	+N/-S	0.00 ft	Northing:	1,394,063.65 ft	Latitude:	40° 24' 49.612 N
	+E/-W	0.00 ft	Easting:	3,154,420.53 ft	Longitude:	104° 56' 43.555 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,948.00 ft

Wellbore	P_MIRACLE 1-12				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/22/2010	9.13	67.07	53,248

Design	PLAN #1 3-22-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	349.98

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,526.50	24.53	349.98	1,489.37	254.62	-44.99	2.00	2.00	0.00	349.98	
5,507.02	24.53	349.98	5,110.63	1,882.00	-332.56	0.00	0.00	0.00	0.00	
6,733.52	0.00	0.00	6,300.00	2,136.62	-377.55	2.00	-2.00	0.00	180.00	
8,248.52	0.00	0.00	7,815.00	2,136.62	-377.55	0.00	0.00	0.00	0.00	PBHL_MIRACLE 1-

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site:	LARIMER_MIRACLE 40-12 PAD	North Reference:	True
Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MIRACLE 1-12		
Design:	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)
Start Build 2.00									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	349.98	399.98	1.72	-0.30	1.75	2.00	2.00	0.00
500.00	4.00	349.98	499.84	6.87	-1.21	6.98	2.00	2.00	0.00
600.00	6.00	349.98	599.45	15.45	-2.73	15.69	2.00	2.00	0.00
8 5/8"									
650.88	7.02	349.98	650.00	21.13	-3.73	21.46	2.00	2.00	0.00
700.00	8.00	349.98	698.70	27.45	-4.85	27.88	2.00	2.00	0.00
800.00	10.00	349.98	797.47	42.86	-7.57	43.52	2.00	2.00	0.00
900.00	12.00	349.98	895.62	61.65	-10.89	62.60	2.00	2.00	0.00
1,000.00	14.00	349.98	993.06	83.80	-14.81	85.10	2.00	2.00	0.00
1,100.00	16.00	349.98	1,089.64	109.28	-19.31	110.98	2.00	2.00	0.00
1,200.00	18.00	349.98	1,185.27	138.07	-24.40	140.21	2.00	2.00	0.00
1,300.00	20.00	349.98	1,279.82	170.13	-30.06	172.77	2.00	2.00	0.00
1,400.00	22.00	349.98	1,373.17	205.42	-36.30	208.60	2.00	2.00	0.00
1,500.00	24.00	349.98	1,465.21	243.90	-43.10	247.67	2.00	2.00	0.00
Start 3980.52 hold at 1526.50 MD									
1,526.50	24.53	349.98	1,489.37	254.62	-44.99	258.56	2.00	2.00	0.00
1,600.00	24.53	349.98	1,556.24	284.67	-50.30	289.08	0.00	0.00	0.00
1,700.00	24.53	349.98	1,647.21	325.55	-57.53	330.60	0.00	0.00	0.00
1,800.00	24.53	349.98	1,738.19	366.44	-64.75	372.11	0.00	0.00	0.00
1,900.00	24.53	349.98	1,829.16	407.32	-71.98	413.63	0.00	0.00	0.00
2,000.00	24.53	349.98	1,920.14	448.20	-79.20	455.15	0.00	0.00	0.00
2,100.00	24.53	349.98	2,011.11	489.09	-86.42	496.66	0.00	0.00	0.00
2,200.00	24.53	349.98	2,102.09	529.97	-93.65	538.18	0.00	0.00	0.00
2,300.00	24.53	349.98	2,193.06	570.85	-100.87	579.70	0.00	0.00	0.00
2,400.00	24.53	349.98	2,284.03	611.74	-108.10	621.21	0.00	0.00	0.00
2,500.00	24.53	349.98	2,375.01	652.62	-115.32	662.73	0.00	0.00	0.00
2,600.00	24.53	349.98	2,465.98	693.50	-122.55	704.25	0.00	0.00	0.00
2,700.00	24.53	349.98	2,556.96	734.39	-129.77	745.77	0.00	0.00	0.00
2,800.00	24.53	349.98	2,647.93	775.27	-136.99	787.28	0.00	0.00	0.00
2,900.00	24.53	349.98	2,738.91	816.16	-144.22	828.80	0.00	0.00	0.00
3,000.00	24.53	349.98	2,829.88	857.04	-151.44	870.32	0.00	0.00	0.00
3,100.00	24.53	349.98	2,920.86	897.92	-158.67	911.83	0.00	0.00	0.00
3,200.00	24.53	349.98	3,011.83	938.81	-165.89	953.35	0.00	0.00	0.00
3,300.00	24.53	349.98	3,102.80	979.69	-173.12	994.87	0.00	0.00	0.00
3,400.00	24.53	349.98	3,193.78	1,020.57	-180.34	1,036.38	0.00	0.00	0.00
3,500.00	24.53	349.98	3,284.75	1,061.46	-187.56	1,077.90	0.00	0.00	0.00
3,600.00	24.53	349.98	3,375.73	1,102.34	-194.79	1,119.42	0.00	0.00	0.00
3,700.00	24.53	349.98	3,466.70	1,143.22	-202.01	1,160.93	0.00	0.00	0.00
PARKMAN									
3,731.11	24.53	349.98	3,495.00	1,155.94	-204.26	1,173.85	0.00	0.00	0.00
3,800.00	24.53	349.98	3,557.68	1,184.11	-209.24	1,202.45	0.00	0.00	0.00
3,900.00	24.53	349.98	3,648.65	1,224.99	-216.46	1,243.97	0.00	0.00	0.00
4,000.00	24.53	349.98	3,739.63	1,265.87	-223.69	1,285.49	0.00	0.00	0.00
4,100.00	24.53	349.98	3,830.60	1,306.76	-230.91	1,327.00	0.00	0.00	0.00
4,200.00	24.53	349.98	3,921.57	1,347.64	-238.14	1,368.52	0.00	0.00	0.00
4,300.00	24.53	349.98	4,012.55	1,388.52	-245.36	1,410.04	0.00	0.00	0.00
4,400.00	24.53	349.98	4,103.52	1,429.41	-252.58	1,451.55	0.00	0.00	0.00
SUSSEX									
4,423.61	24.53	349.98	4,125.00	1,439.06	-254.29	1,461.35	0.00	0.00	0.00
4,500.00	24.53	349.98	4,194.50	1,470.29	-259.81	1,493.07	0.00	0.00	0.00
4,600.00	24.53	349.98	4,285.47	1,511.18	-267.03	1,534.59	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site:	LARIMER_MIRACLE 40-12 PAD	North Reference:	True
Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MIRACLE 1-12		
Design:	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)
4,700.00	24.53	349.98	4,376.45	1,552.06	-274.26	1,576.10	0.00	0.00	0.00
4,800.00	24.53	349.98	4,467.42	1,592.94	-281.48	1,617.62	0.00	0.00	0.00
4,900.00	24.53	349.98	4,558.40	1,633.83	-288.71	1,659.14	0.00	0.00	0.00
SHANNON									
4,918.25	24.53	349.98	4,575.00	1,641.29	-290.02	1,666.72	0.00	0.00	0.00
5,000.00	24.53	349.98	4,649.37	1,674.71	-295.93	1,700.65	0.00	0.00	0.00
5,100.00	24.53	349.98	4,740.34	1,715.59	-303.15	1,742.17	0.00	0.00	0.00
5,200.00	24.53	349.98	4,831.32	1,756.48	-310.38	1,783.69	0.00	0.00	0.00
5,300.00	24.53	349.98	4,922.29	1,797.36	-317.60	1,825.21	0.00	0.00	0.00
5,400.00	24.53	349.98	5,013.27	1,838.24	-324.83	1,866.72	0.00	0.00	0.00
5,500.00	24.53	349.98	5,104.24	1,879.13	-332.05	1,908.24	0.00	0.00	0.00
Start Drop -2.00									
5,507.02	24.53	349.98	5,110.63	1,882.00	-332.56	1,911.15	0.00	0.00	0.00
5,600.00	22.67	349.98	5,195.83	1,918.65	-339.04	1,948.38	2.00	-2.00	0.00
5,700.00	20.67	349.98	5,288.76	1,955.01	-345.46	1,985.30	2.00	-2.00	0.00
5,800.00	18.67	349.98	5,382.92	1,988.16	-351.32	2,018.96	2.00	-2.00	0.00
5,900.00	16.67	349.98	5,478.19	2,018.05	-356.60	2,049.31	2.00	-2.00	0.00
6,000.00	14.67	349.98	5,574.47	2,044.65	-361.30	2,076.32	2.00	-2.00	0.00
6,100.00	12.67	349.98	5,671.63	2,067.92	-365.41	2,099.95	2.00	-2.00	0.00
6,200.00	10.67	349.98	5,769.56	2,087.84	-368.93	2,120.18	2.00	-2.00	0.00
6,300.00	8.67	349.98	5,868.13	2,104.38	-371.85	2,136.98	2.00	-2.00	0.00
6,400.00	6.67	349.98	5,967.23	2,117.52	-374.18	2,150.33	2.00	-2.00	0.00
6,500.00	4.67	349.98	6,066.74	2,127.25	-375.90	2,160.21	2.00	-2.00	0.00
6,600.00	2.67	349.98	6,166.53	2,133.55	-377.01	2,166.61	2.00	-2.00	0.00
6,700.00	0.67	349.98	6,266.48	2,136.42	-377.52	2,169.52	2.00	-2.00	0.00
Start 1515.00 hold at 6733.52 MD									
6,733.52	0.00	0.00	6,300.00	2,136.62	-377.55	2,169.72	2.00	-2.00	29.90
6,800.00	0.00	0.00	6,366.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
6,900.00	0.00	0.00	6,466.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,000.00	0.00	0.00	6,566.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,100.00	0.00	0.00	6,666.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,200.00	0.00	0.00	6,766.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,300.00	0.00	0.00	6,866.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
NIO A									
7,348.52	0.00	0.00	6,915.00	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,400.00	0.00	0.00	6,966.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,500.00	0.00	0.00	7,066.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,600.00	0.00	0.00	7,166.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
CODELL									
7,638.52	0.00	0.00	7,205.00	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,700.00	0.00	0.00	7,266.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,800.00	0.00	0.00	7,366.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
7,900.00	0.00	0.00	7,466.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
8,000.00	0.00	0.00	7,566.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
JSAND									
8,098.52	0.00	0.00	7,665.00	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
8,100.00	0.00	0.00	7,666.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
8,200.00	0.00	0.00	7,766.48	2,136.62	-377.55	2,169.72	0.00	0.00	0.00
PBHL_MIRACLE 1-12(659 FNL 677 FEL)50'TGT RAD									
8,248.52	0.00	0.00	7,815.00	2,136.62	-377.55	2,169.72	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site:	LARIMER_MIRACLE 40-12 PAD	North Reference:	True
Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MIRACLE 1-12		
Design:	PLAN #1 3-22-10 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_MIRACLE 1-12	0.00	0.00	7,815.00	2,136.62	-377.55	1,396,197.85	3,154,029.62	40° 25' 10.726 N	104° 56' 48.437 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
650.88	650.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,731.11	3,495.00	PARKMAN				
4,423.61	4,125.00	SUSSEX				
4,918.25	4,575.00	SHANNON				
7,348.52	6,915.00	NIO A				
7,638.52	7,205.00	CODELL				
8,098.52	7,665.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,526.50	1,489.37	254.62	-44.99	Start 3980.52 hold at 1526.50 MD	
5,507.02	5,110.63	1,882.00	-332.56	Start Drop -2.00	
6,733.52	6,300.00	2,136.62	-377.55	Start 1515.00 hold at 6733.52 MD	
8,248.52	7,815.00	2,136.62	-377.55	TD at 8248.52	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
LARIMER_MIRACLE 40-12 PAD
P_MIRACLE 1-12**

**P_MIRACLE 1-12
PLAN #1 3-22-10 RHS**

Anticollision Report

23 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 3-22-10 RHS		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 3/22/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,248.52	PLAN #1 3-22-10 RHS (P_MIRACLE 1-12	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_MIRACLE 40-12 PAD						
P_MIRACLE 16-12 - P_MIRACLE 16-12 - PLAN #1 3-22	484.49	484.36	29.49	27.57	15.337	CC
P_MIRACLE 16-12 - P_MIRACLE 16-12 - PLAN #1 3-22	500.00	499.84	29.51	27.51	14.805	ES
P_MIRACLE 16-12 - P_MIRACLE 16-12 - PLAN #1 3-22	700.00	698.70	36.76	33.82	12.523	SF
P_MIRACLE 17-12 - P_MIRACLE 17-12 - PLAN #1 3-22	448.26	448.19	19.68	17.92	11.192	CC, ES
P_MIRACLE 17-12 - P_MIRACLE 17-12 - PLAN #1 3-22	600.00	599.45	22.98	20.52	9.354	SF
P_MIRACLE 20-12 - P_MIRACLE 20-12 - PLAN #1 3-22	536.27	536.01	48.89	46.73	22.586	CC, ES
P_MIRACLE 20-12 - P_MIRACLE 20-12 - PLAN #1 3-22	800.00	796.50	59.82	56.38	17.408	SF
P_MIRACLE 24-12 - P_MIRACLE 24-12 - PLAN #1 3-22	556.58	556.23	58.77	56.51	26.001	CC
P_MIRACLE 24-12 - P_MIRACLE 24-12 - PLAN #1 3-22	600.00	599.45	58.92	56.45	23.911	ES
P_MIRACLE 24-12 - P_MIRACLE 24-12 - PLAN #1 3-22	800.00	796.79	67.17	63.71	19.412	SF
P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-1C	409.36	409.33	9.81	8.23	6.201	CC, ES
P_MIRACLE 8-12 - P_MIRACLE 8-12 - PLAN #1 3-22-1C	500.00	499.84	10.96	8.97	5.503	SF
P_MIRACLE 9-12 - P_MIRACLE 9-12 - PLAN #1 3-22-1C	509.19	509.00	39.09	37.05	19.182	CC, ES
P_MIRACLE 9-12 - P_MIRACLE 9-12 - PLAN #1 3-22-1C	700.00	698.70	44.02	41.07	14.934	SF

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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	-88.64	0.72	-30.07	30.08				
100.00	100.00	100.00	100.00	0.10	0.10	-88.64	0.72	-30.07	30.08	29.89	0.19	157.453	
200.00	200.00	200.00	200.00	0.32	0.32	-88.64	0.72	-30.07	30.08	29.44	0.64	46.960	
300.00	300.00	300.00	300.00	0.55	0.55	-88.64	0.72	-30.07	30.08	28.99	1.09	27.595	
400.00	399.98	399.98	399.98	0.77	0.77	-81.91	0.72	-30.07	29.79	28.25	1.54	19.354	
484.49	484.36	484.36	484.36	0.96	0.96	-90.00	0.72	-30.07	29.49	27.57	1.92	15.337	CC
500.00	499.84	499.84	499.84	1.00	0.99	-92.01	0.72	-30.07	29.51	27.51	1.99	14.805	ES
600.00	599.45	599.45	599.45	1.24	1.22	-108.21	0.72	-30.07	31.06	28.60	2.46	12.619	
700.00	698.70	698.70	698.70	1.52	1.44	-126.38	0.72	-30.07	36.76	33.82	2.94	12.523	SF
800.00	797.47	796.71	796.71	1.83	1.65	-141.48	0.34	-30.16	48.15	44.77	3.38	14.244	
900.00	895.62	892.34	892.28	2.19	1.82	-151.95	-2.73	-30.85	67.49	63.71	3.78	17.871	
1,000.00	993.06	985.57	985.30	2.61	1.99	-158.32	-8.73	-32.20	94.46	90.29	4.18	22.621	
1,100.00	1,089.64	1,075.86	1,075.16	3.08	2.19	-162.09	-17.34	-34.15	128.31	123.73	4.58	28.002	
1,200.00	1,185.27	1,162.77	1,161.34	3.61	2.39	-164.36	-28.24	-36.60	168.47	163.48	4.99	33.730	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	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
1,300.00	1,279.82	1,245.90	1,243.43	4.21	2.62	-165.76	-41.05	-39.49	214.50	209.09	5.41	39.634	
1,400.00	1,373.17	1,324.97	1,321.12	4.87	2.87	-166.63	-55.38	-42.72	266.02	260.19	5.83	45.604	
1,500.00	1,465.21	1,400.00	1,394.44	5.59	3.13	-167.16	-70.91	-46.22	322.68	316.42	6.26	51.562	
1,526.50	1,489.37	1,418.83	1,412.77	5.79	3.20	-167.26	-75.10	-47.17	338.51	332.14	6.37	53.129	
1,600.00	1,556.24	1,470.61	1,463.03	6.36	3.41	-167.68	-87.23	-49.90	383.40	376.67	6.73	56.948	
1,700.00	1,647.21	1,538.83	1,528.90	7.14	3.71	-168.07	-104.56	-53.81	446.10	438.88	7.23	61.713	
1,800.00	1,738.19	1,600.00	1,587.58	7.92	4.00	-168.29	-121.40	-57.61	510.60	502.88	7.72	66.148	
1,900.00	1,829.16	1,667.85	1,652.23	8.72	4.35	-168.45	-141.50	-62.14	576.71	568.48	8.23	70.056	
2,000.00	1,920.14	1,728.79	1,709.86	9.51	4.70	-168.52	-160.82	-66.50	644.42	635.69	8.74	73.754	
2,100.00	2,011.11	1,787.46	1,764.93	10.31	5.05	-168.55	-180.54	-70.94	713.62	704.37	9.24	77.202	
2,200.00	2,102.09	1,843.92	1,817.53	11.11	5.41	-168.55	-200.56	-75.46	784.21	774.46	9.75	80.423	
2,300.00	2,193.06	1,900.00	1,869.36	11.91	5.78	-168.52	-221.44	-80.17	856.12	845.86	10.26	83.438	
2,400.00	2,284.03	1,950.56	1,915.73	12.72	6.14	-168.48	-241.11	-84.60	929.28	918.52	10.76	86.338	
2,500.00	2,375.01	2,012.86	1,972.52	13.52	6.60	-168.42	-266.10	-90.24	1,003.34	992.04	11.30	88.820	
2,600.00	2,465.98	2,079.99	2,033.69	14.33	7.10	-168.37	-293.07	-96.32	1,077.45	1,065.60	11.84	90.970	
2,700.00	2,556.96	2,147.13	2,094.87	15.13	7.61	-168.32	-320.04	-102.40	1,151.56	1,139.17	12.39	92.906	
2,800.00	2,647.93	2,214.26	2,156.05	15.94	8.12	-168.28	-347.01	-108.48	1,225.67	1,212.72	12.95	94.662	
2,900.00	2,738.91	2,281.40	2,217.23	16.75	8.64	-168.24	-373.98	-114.56	1,299.79	1,286.28	13.50	96.251	
3,000.00	2,829.88	2,348.53	2,278.41	17.56	9.16	-168.20	-400.94	-120.64	1,373.90	1,359.84	14.06	97.699	
3,100.00	2,920.86	2,415.67	2,339.58	18.37	9.69	-168.17	-427.91	-126.72	1,448.01	1,433.39	14.62	99.025	
3,200.00	3,011.83	2,482.80	2,400.76	19.18	10.21	-168.15	-454.88	-132.81	1,522.12	1,506.94	15.18	100.240	
3,300.00	3,102.80	2,549.93	2,461.94	19.99	10.74	-168.12	-481.85	-138.89	1,596.24	1,580.49	15.75	101.357	
3,400.00	3,193.78	2,617.07	2,523.12	20.80	11.27	-168.10	-508.82	-144.97	1,670.35	1,654.04	16.31	102.389	
3,500.00	3,284.75	2,684.20	2,584.30	21.61	11.80	-168.08	-535.79	-151.05	1,744.46	1,727.58	16.88	103.343	
3,600.00	3,375.73	2,751.34	2,645.47	22.42	12.34	-168.06	-562.75	-157.13	1,818.58	1,801.13	17.45	104.227	
3,700.00	3,466.70	2,818.47	2,706.65	23.23	12.87	-168.04	-589.72	-163.21	1,892.69	1,874.67	18.02	105.050	
3,800.00	3,557.68	2,885.61	2,767.83	24.04	13.40	-168.02	-616.69	-169.29	1,966.80	1,948.22	18.59	105.817	
3,900.00	3,648.65	2,952.74	2,829.01	24.85	13.94	-168.01	-643.66	-175.37	2,040.92	2,021.76	19.16	106.532	
4,000.00	3,739.63	3,019.88	2,890.19	25.67	14.48	-167.99	-670.63	-181.45	2,115.03	2,095.30	19.73	107.203	
4,100.00	3,830.60	3,087.01	2,951.37	26.48	15.01	-167.98	-697.59	-187.53	2,189.15	2,168.84	20.30	107.831	
4,200.00	3,921.57	3,154.14	3,012.54	27.29	15.55	-167.97	-724.56	-193.62	2,263.26	2,242.39	20.87	108.420	
4,300.00	4,012.55	3,221.28	3,073.72	28.10	16.09	-167.96	-751.53	-199.70	2,337.37	2,315.93	21.45	108.975	
4,400.00	4,103.52	3,288.41	3,134.90	28.91	16.63	-167.95	-778.50	-205.78	2,411.49	2,389.47	22.02	109.499	
4,500.00	4,194.50	3,355.55	3,196.08	29.72	17.17	-167.94	-805.47	-211.86	2,485.60	2,463.00	22.60	109.992	
4,600.00	4,285.47	3,422.68	3,257.26	30.54	17.71	-167.93	-832.43	-217.94	2,559.72	2,536.54	23.17	110.459	
4,700.00	4,376.45	3,489.82	3,318.43	31.35	18.25	-167.92	-859.40	-224.02	2,633.83	2,610.08	23.75	110.901	
4,800.00	4,467.42	3,556.95	3,379.61	32.16	18.79	-167.91	-886.37	-230.10	2,707.95	2,683.62	24.33	111.319	
4,900.00	4,558.40	3,624.08	3,440.79	32.97	19.33	-167.90	-913.34	-236.18	2,782.06	2,757.16	24.90	111.717	
5,000.00	4,649.37	3,691.22	3,501.97	33.79	19.87	-167.89	-940.31	-242.26	2,856.17	2,830.69	25.48	112.095	
5,100.00	4,740.34	3,758.35	3,563.15	34.60	20.41	-167.89	-967.28	-248.34	2,930.29	2,904.23	26.06	112.454	
5,200.00	4,831.32	3,825.49	3,624.32	35.41	20.96	-167.88	-994.24	-254.43	3,004.40	2,977.77	26.64	112.797	
5,300.00	4,922.29	3,892.62	3,685.50	36.22	21.50	-167.87	-1,021.21	-260.51	3,078.52	3,051.30	27.21	113.123	
5,400.00	5,013.27	3,959.76	3,746.68	37.04	22.04	-167.87	-1,048.18	-266.59	3,152.63	3,124.84	27.79	113.435	
5,507.02	5,110.63	4,031.60	3,812.15	37.91	22.62	-167.86	-1,077.04	-273.10	3,231.95	3,203.54	28.41	113.753	
5,600.00	5,195.83	4,095.11	3,870.02	38.56	23.13	-168.26	-1,102.55	-278.85	3,299.86	3,270.70	29.15	113.195	
5,700.00	5,288.76	4,165.76	3,934.41	39.12	23.70	-168.63	-1,130.93	-285.25	3,370.60	3,340.69	29.91	112.704	
5,800.00	5,382.92	4,238.79	4,000.95	39.65	24.30	-168.95	-1,160.27	-291.86	3,438.89	3,408.25	30.64	112.237	
5,900.00	5,478.19	4,314.08	4,069.57	40.13	24.90	-169.22	-1,190.51	-298.68	3,504.63	3,473.29	31.35	111.803	
6,000.00	5,574.47	4,391.56	4,140.17	40.57	25.53	-169.45	-1,221.64	-305.70	3,567.76	3,535.73	32.02	111.406	
6,100.00	5,671.63	4,471.12	4,212.68	40.96	26.18	-169.64	-1,253.60	-312.91	3,628.19	3,595.52	32.67	111.052	
6,200.00	5,769.56	4,552.68	4,287.00	41.30	26.84	-169.81	-1,286.36	-320.29	3,685.86	3,652.58	33.28	110.742	
6,300.00	5,868.13	4,636.13	4,363.05	41.60	27.51	-169.94	-1,319.88	-327.85	3,740.69	3,706.83	33.86	110.480	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	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
6,400.00	5,967.23	4,721.37	4,440.72	41.85	28.20	-170.04	-1,354.12	-335.57	3,792.63	3,758.24	34.39	110.267	
6,500.00	6,066.74	4,808.29	4,519.94	42.05	28.91	-170.12	-1,389.04	-343.45	3,841.61	3,806.72	34.89	110.104	
6,600.00	6,166.53	4,896.80	4,600.59	42.21	29.62	-170.18	-1,424.59	-351.46	3,887.58	3,852.23	35.34	109.992	
6,700.00	6,266.48	4,986.78	4,682.58	42.31	30.35	-170.21	-1,460.74	-359.61	3,930.48	3,894.72	35.75	109.932	
6,733.52	6,300.00	5,017.25	4,710.35	42.33	30.60	179.76	-1,472.98	-362.37	3,944.16	3,908.28	35.88	109.924	
6,800.00	6,366.48	6,730.00	6,366.48	42.38	36.75	-179.11	-1,813.47	-439.15	3,950.57	3,910.52	40.05	98.641	
6,900.00	6,466.48	6,830.00	6,466.48	42.44	36.82	-179.11	-1,813.47	-439.15	3,950.57	3,910.25	40.32	97.982	
7,000.00	6,566.48	6,930.00	6,566.48	42.51	36.89	-179.11	-1,813.47	-439.15	3,950.57	3,909.98	40.59	97.325	
7,100.00	6,666.48	7,030.00	6,666.48	42.58	36.95	-179.11	-1,813.47	-439.15	3,950.57	3,909.70	40.87	96.669	
7,200.00	6,766.48	7,130.00	6,766.48	42.65	37.03	-179.11	-1,813.47	-439.15	3,950.57	3,909.43	41.15	96.014	
7,300.00	6,866.48	7,230.00	6,866.48	42.72	37.10	-179.11	-1,813.47	-439.15	3,950.57	3,909.14	41.43	95.362	
7,400.00	6,966.48	7,330.00	6,966.48	42.79	37.17	-179.11	-1,813.47	-439.15	3,950.57	3,908.86	41.71	94.711	
7,500.00	7,066.48	7,430.00	7,066.48	42.87	37.24	-179.11	-1,813.47	-439.15	3,950.57	3,908.57	42.00	94.063	
7,600.00	7,166.48	7,530.00	7,166.48	42.94	37.32	-179.11	-1,813.47	-439.15	3,950.57	3,908.28	42.29	93.418	
7,700.00	7,266.48	7,630.00	7,266.48	43.01	37.39	-179.11	-1,813.47	-439.15	3,950.57	3,907.99	42.58	92.775	
7,800.00	7,366.48	7,730.00	7,366.48	43.09	37.47	-179.11	-1,813.47	-439.15	3,950.57	3,907.69	42.88	92.135	
7,900.00	7,466.48	7,830.00	7,466.48	43.17	37.55	-179.11	-1,813.47	-439.15	3,950.57	3,907.39	43.18	91.498	
8,000.00	7,566.48	7,930.00	7,566.48	43.25	37.63	-179.11	-1,813.47	-439.15	3,950.57	3,907.09	43.48	90.865	
8,100.00	7,666.48	8,030.00	7,666.48	43.32	37.71	-179.11	-1,813.47	-439.15	3,950.57	3,906.79	43.78	90.235	
8,200.00	7,766.48	8,130.00	7,766.48	43.40	37.79	-179.11	-1,813.47	-439.15	3,950.57	3,906.48	44.09	89.608	
8,230.49	7,796.97	8,160.48	7,796.97	43.43	37.82	-179.11	-1,813.47	-439.15	3,950.57	3,906.39	44.18	89.418	
8,248.52	7,815.00	8,173.51	7,810.00	43.44	37.83	-179.11	-1,813.47	-439.15	3,950.57	3,906.35	44.23	89.321	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design LARIMER_MIRACLE 40-12 PAD - P_MIRACLE 17-12 - P_MIRACLE 17-12 - 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		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	-88.99	0.35	-20.05	20.05				
100.00	100.00	100.00	100.00	0.10	0.10	-88.99	0.35	-20.05	20.05	19.86	0.19	104.955	
200.00	200.00	200.00	200.00	0.32	0.32	-88.99	0.35	-20.05	20.05	19.41	0.64	31.302	
300.00	300.00	300.00	300.00	0.55	0.55	-88.99	0.35	-20.05	20.05	18.96	1.09	18.394	
400.00	399.98	399.98	399.98	0.77	0.77	-83.94	0.35	-20.05	19.79	18.25	1.54	12.860	
448.26	448.19	448.19	448.19	0.88	0.88	-90.00	0.35	-20.05	19.68	17.92	1.76	11.192 CC, ES	
500.00	499.84	499.84	499.84	1.00	0.99	-99.05	0.35	-20.05	19.93	17.94	1.99	10.000	
600.00	599.45	599.45	599.45	1.24	1.22	-120.93	0.35	-20.05	22.98	20.52	2.46	9.354 SF	
700.00	698.70	698.70	698.70	1.52	1.44	-140.42	0.35	-20.05	31.07	28.16	2.91	10.665	
800.00	797.47	797.92	797.92	1.83	1.66	-152.91	0.68	-20.28	44.05	40.69	3.36	13.104	
900.00	895.62	897.80	897.74	2.19	1.88	-158.67	3.47	-22.25	59.32	55.50	3.82	15.548	
1,000.00	993.06	998.09	997.78	2.61	2.11	-161.03	9.12	-26.24	75.70	71.41	4.29	17.662	
1,100.00	1,089.64	1,098.74	1,097.88	3.08	2.36	-161.70	17.67	-32.28	92.90	88.11	4.78	19.426	
1,200.00	1,185.27	1,199.74	1,197.90	3.61	2.63	-161.44	29.13	-40.37	110.83	105.52	5.31	20.854	
1,300.00	1,279.82	1,301.05	1,297.66	4.21	2.94	-160.62	43.51	-50.53	129.50	123.61	5.90	21.961	
1,400.00	1,373.17	1,402.64	1,397.01	4.87	3.29	-159.46	60.81	-62.75	148.93	142.39	6.54	22.759	
1,500.00	1,465.21	1,504.49	1,495.80	5.59	3.70	-158.09	81.03	-77.04	169.15	161.88	7.27	23.265	
1,526.50	1,489.37	1,531.52	1,521.86	5.79	3.83	-157.70	86.88	-81.17	174.64	167.16	7.48	23.343	
1,600.00	1,556.24	1,606.73	1,594.01	6.36	4.18	-156.58	104.21	-93.41	189.34	181.21	8.13	23.284	
1,700.00	1,647.21	1,709.62	1,691.77	7.14	4.73	-154.65	130.40	-111.91	207.43	198.30	9.13	22.727	
1,800.00	1,738.19	1,812.93	1,788.71	7.92	5.35	-152.29	159.58	-132.52	223.46	213.20	10.26	21.772	
1,900.00	1,829.16	1,916.40	1,884.44	8.72	6.05	-149.53	191.63	-155.16	237.69	226.13	11.56	20.558	
2,000.00	1,920.14	2,018.74	1,977.70	9.51	6.80	-146.43	226.04	-179.47	250.44	237.42	13.02	19.230	
2,100.00	2,011.11	2,117.07	2,066.84	10.31	7.57	-143.54	259.95	-203.42	263.24	248.69	14.55	18.091	
2,200.00	2,102.09	2,215.39	2,155.97	11.11	8.35	-140.92	293.86	-227.37	276.65	260.52	16.13	17.152	
2,300.00	2,193.06	2,313.72	2,245.11	11.91	9.15	-138.54	327.76	-251.32	290.58	272.84	17.74	16.376	
2,400.00	2,284.03	2,412.05	2,334.24	12.72	9.95	-136.38	361.67	-275.27	304.96	285.58	19.38	15.733	
2,500.00	2,375.01	2,510.37	2,423.38	13.52	10.75	-134.41	395.57	-299.22	319.74	298.70	21.04	15.196	
2,600.00	2,465.98	2,608.70	2,512.51	14.33	11.57	-132.62	429.48	-323.17	334.85	312.14	22.71	14.744	
2,700.00	2,556.96	2,707.03	2,601.64	15.13	12.38	-130.99	463.38	-347.12	350.26	325.87	24.39	14.362	
2,800.00	2,647.93	2,805.36	2,690.78	15.94	13.20	-129.49	497.29	-371.07	365.93	339.86	26.07	14.037	
2,900.00	2,738.91	2,903.68	2,779.91	16.75	14.03	-128.11	531.19	-395.02	381.82	354.07	27.75	13.758	
3,000.00	2,829.88	3,002.01	2,869.05	17.56	14.85	-126.84	565.10	-418.97	397.91	368.47	29.44	13.517	
3,100.00	2,920.86	3,100.34	2,958.18	18.37	15.68	-125.67	599.00	-442.92	414.18	383.06	31.12	13.308	
3,200.00	3,011.83	3,198.66	3,047.32	19.18	16.51	-124.59	632.91	-466.87	430.60	397.80	32.81	13.126	
3,300.00	3,102.80	3,296.99	3,136.45	19.99	17.34	-123.59	666.81	-490.82	447.17	412.68	34.49	12.966	
3,400.00	3,193.78	3,395.32	3,225.59	20.80	18.17	-122.66	700.72	-514.77	463.85	427.69	36.17	12.825	
3,500.00	3,284.75	3,493.64	3,314.72	21.61	19.00	-121.80	734.62	-538.72	480.65	442.81	37.84	12.701	
3,600.00	3,375.73	3,591.97	3,403.86	22.42	19.83	-120.99	768.53	-562.67	497.55	458.03	39.52	12.590	
3,700.00	3,466.70	3,690.30	3,492.99	23.23	20.67	-120.24	802.43	-586.61	514.54	473.34	41.19	12.491	
3,800.00	3,557.68	3,788.62	3,582.13	24.04	21.50	-119.53	836.34	-610.56	531.60	488.74	42.86	12.402	
3,900.00	3,648.65	3,886.95	3,671.26	24.85	22.34	-118.87	870.24	-634.51	548.75	504.21	44.53	12.322	
4,000.00	3,739.63	3,985.28	3,760.40	25.67	23.18	-118.25	904.15	-658.46	565.96	519.76	46.20	12.250	
4,100.00	3,830.60	4,083.61	3,849.53	26.48	24.01	-117.66	938.06	-682.41	583.23	535.36	47.86	12.185	
4,200.00	3,921.57	4,181.93	3,938.67	27.29	24.85	-117.11	971.96	-706.36	600.55	551.03	49.53	12.126	
4,300.00	4,012.55	4,280.26	4,027.80	28.10	25.69	-116.59	1,005.87	-730.31	617.93	566.75	51.19	12.072	
4,400.00	4,103.52	4,378.59	4,116.94	28.91	26.52	-116.10	1,039.77	-754.26	635.36	582.51	52.84	12.023	
4,500.00	4,194.50	4,476.91	4,206.07	29.72	27.36	-115.63	1,073.68	-778.21	652.82	598.32	54.50	11.978	
4,600.00	4,285.47	4,575.24	4,295.21	30.54	28.20	-115.19	1,107.58	-802.16	670.33	614.18	56.16	11.937	
4,700.00	4,376.45	4,673.57	4,384.34	31.35	29.04	-114.77	1,141.49	-826.11	687.88	630.07	57.81	11.899	
4,800.00	4,467.42	4,771.89	4,473.48	32.16	29.88	-114.37	1,175.39	-850.06	705.46	646.00	59.46	11.864	
4,900.00	4,558.40	4,870.22	4,562.61	32.97	30.72	-113.99	1,209.30	-874.01	723.07	661.96	61.11	11.832	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,649.37	4,968.55	4,651.75	33.79	31.56	-113.63	1,243.20	-897.96	740.71	677.95	62.76	11.802	
5,100.00	4,740.34	5,066.85	4,741.00	34.60	32.35	-113.31	1,276.86	-921.73	758.37	694.02	64.36	11.784	
5,200.00	4,831.32	5,165.24	4,831.48	35.41	33.00	-113.22	1,308.41	-944.02	776.06	710.29	65.77	11.799	
5,300.00	4,922.29	5,263.59	4,923.20	36.22	33.58	-113.38	1,337.40	-964.50	793.75	726.68	67.07	11.834	
5,400.00	5,013.27	5,361.68	5,015.83	37.04	34.10	-113.78	1,363.73	-983.10	811.47	743.19	68.28	11.884	
5,507.02	5,110.63	5,466.09	5,115.59	37.91	34.62	-114.44	1,388.90	-1,000.87	830.55	761.09	69.46	11.957	
5,600.00	5,195.83	5,556.43	5,202.75	38.56	35.02	-115.40	1,408.26	-1,014.55	846.68	776.35	70.34	12.038	
5,700.00	5,288.76	5,653.42	5,297.13	39.12	35.40	-116.39	1,426.55	-1,027.47	862.83	791.74	71.09	12.137	
5,800.00	5,382.92	5,750.24	5,392.03	39.65	35.74	-117.34	1,442.18	-1,038.51	877.73	805.98	71.75	12.233	
5,900.00	5,478.19	5,846.85	5,487.32	40.13	36.03	-118.26	1,455.17	-1,047.68	891.36	819.05	72.30	12.328	
6,000.00	5,574.47	5,943.24	5,582.87	40.57	36.27	-119.14	1,465.50	-1,054.98	903.70	830.95	72.75	12.421	
6,100.00	5,671.63	6,039.37	5,678.54	40.96	36.46	-120.00	1,473.18	-1,060.41	914.76	841.66	73.10	12.514	
6,200.00	5,769.56	6,135.24	5,774.19	41.30	36.61	-120.84	1,478.23	-1,063.97	924.52	851.17	73.34	12.606	
6,300.00	5,868.13	6,230.80	5,869.71	41.60	36.72	-121.65	1,480.65	-1,065.69	932.97	859.50	73.48	12.697	
6,400.00	5,967.23	6,328.33	5,967.23	41.85	36.79	-122.43	1,480.90	-1,065.86	940.06	866.54	73.53	12.786	
6,500.00	6,066.74	6,427.83	6,066.74	42.05	36.87	-123.02	1,480.90	-1,065.86	945.42	871.85	73.57	12.851	
6,600.00	6,166.53	6,527.62	6,166.53	42.21	36.95	-123.40	1,480.90	-1,065.86	948.93	875.30	73.63	12.888	
6,700.00	6,266.48	6,627.58	6,266.48	42.31	37.02	-123.58	1,480.90	-1,065.86	950.54	876.83	73.71	12.896	
6,733.52	6,300.00	6,661.09	6,300.00	42.33	37.05	-133.61	1,480.90	-1,065.86	950.65	876.91	73.74	12.892	
6,800.00	6,366.48	6,727.58	6,366.48	42.38	37.10	-133.61	1,480.90	-1,065.86	950.65	876.81	73.84	12.874	
6,900.00	6,466.48	6,827.58	6,466.48	42.44	37.18	-133.61	1,480.90	-1,065.86	950.65	876.65	74.00	12.847	
7,000.00	6,566.48	6,927.58	6,566.48	42.51	37.26	-133.61	1,480.90	-1,065.86	950.65	876.49	74.16	12.819	
7,100.00	6,666.48	7,027.58	6,666.48	42.58	37.35	-133.61	1,480.90	-1,065.86	950.65	876.32	74.33	12.790	
7,200.00	6,766.48	7,127.58	6,766.48	42.65	37.43	-133.61	1,480.90	-1,065.86	950.65	876.16	74.49	12.762	
7,300.00	6,866.48	7,227.58	6,866.48	42.72	37.52	-133.61	1,480.90	-1,065.86	950.65	875.99	74.66	12.733	
7,400.00	6,966.48	7,327.58	6,966.48	42.79	37.60	-133.61	1,480.90	-1,065.86	950.65	875.82	74.83	12.704	
7,500.00	7,066.48	7,427.58	7,066.48	42.87	37.69	-133.61	1,480.90	-1,065.86	950.65	875.65	75.01	12.674	
7,600.00	7,166.48	7,527.58	7,166.48	42.94	37.78	-133.61	1,480.90	-1,065.86	950.65	875.47	75.18	12.645	
7,700.00	7,266.48	7,627.58	7,266.48	43.01	37.87	-133.61	1,480.90	-1,065.86	950.65	875.29	75.36	12.615	
7,800.00	7,366.48	7,727.58	7,366.48	43.09	37.96	-133.61	1,480.90	-1,065.86	950.65	875.11	75.54	12.585	
7,900.00	7,466.48	7,827.58	7,466.48	43.17	38.05	-133.61	1,480.90	-1,065.86	950.65	874.93	75.72	12.555	
8,000.00	7,566.48	7,927.58	7,566.48	43.25	38.14	-133.61	1,480.90	-1,065.86	950.65	874.75	75.91	12.524	
8,100.00	7,666.48	8,027.58	7,666.48	43.32	38.23	-133.61	1,480.90	-1,065.86	950.65	874.56	76.09	12.493	
8,200.00	7,766.48	8,127.58	7,766.48	43.40	38.33	-133.61	1,480.90	-1,065.86	950.65	874.37	76.28	12.463	
8,230.89	7,797.37	8,158.47	7,797.37	43.43	38.36	-133.61	1,480.90	-1,065.86	950.65	874.31	76.34	12.453	
8,248.52	7,815.00	8,172.09	7,811.00	43.44	38.37	-133.61	1,480.90	-1,065.86	950.66	874.29	76.37	12.448	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-88.76	1.08	-49.84	49.86				
100.00	100.00	100.00	100.00	0.10	0.10	-88.76	1.08	-49.84	49.86	49.66	0.19	260.951	
200.00	200.00	200.00	200.00	0.32	0.32	-88.76	1.08	-49.84	49.86	49.21	0.64	77.828	
300.00	300.00	300.00	300.00	0.55	0.55	-88.76	1.08	-49.84	49.86	48.76	1.09	45.734	
400.00	399.98	399.98	399.98	0.77	0.77	-80.72	1.08	-49.84	49.54	48.00	1.54	32.192	
500.00	499.84	499.84	499.84	1.00	0.99	-86.78	1.08	-49.84	48.97	46.98	1.99	24.573	
536.27	536.01	536.01	536.01	1.09	1.08	-90.00	1.08	-49.84	48.89	46.73	2.16	22.586 CC, ES	
600.00	599.45	599.45	599.45	1.24	1.22	-96.91	1.08	-49.84	49.26	46.79	2.46	19.992	
700.00	698.70	698.70	698.70	1.52	1.44	-110.18	1.08	-49.84	52.15	49.20	2.95	17.649	
800.00	797.47	796.50	796.50	1.83	1.65	-124.12	0.80	-50.10	59.82	56.38	3.44	17.408 SF	
900.00	895.62	891.99	891.93	2.19	1.83	-135.72	-1.50	-52.24	75.57	71.69	3.87	19.519	
1,000.00	993.06	985.56	985.30	2.61	2.01	-143.64	-6.01	-56.43	99.29	94.99	4.30	23.067	
1,100.00	1,089.64	1,076.76	1,076.05	3.08	2.21	-148.58	-12.56	-62.51	129.99	125.24	4.75	27.363	
1,200.00	1,185.27	1,165.16	1,163.71	3.61	2.43	-151.59	-20.92	-70.28	166.88	161.67	5.21	32.010	
1,300.00	1,279.82	1,250.43	1,247.89	4.21	2.67	-153.39	-30.86	-79.52	209.44	203.74	5.70	36.767	
1,400.00	1,373.17	1,332.26	1,328.26	4.87	2.93	-154.43	-42.12	-89.98	257.25	251.05	6.20	41.492	
1,500.00	1,465.21	1,410.43	1,404.59	5.59	3.22	-155.00	-54.45	-101.42	309.98	303.25	6.72	46.099	
1,526.50	1,489.37	1,430.50	1,424.12	5.79	3.30	-155.09	-57.86	-104.59	324.73	317.86	6.87	47.278	
1,600.00	1,556.24	1,485.22	1,477.17	6.36	3.52	-155.60	-67.66	-113.70	366.62	359.31	7.30	50.207	
1,700.00	1,647.21	1,557.76	1,547.09	7.14	3.86	-155.99	-81.80	-126.84	425.16	417.25	7.91	53.739	
1,800.00	1,738.19	1,628.11	1,614.42	7.92	4.21	-156.15	-96.75	-140.72	485.42	476.88	8.54	56.871	
1,900.00	1,829.16	1,700.00	1,682.68	8.72	4.60	-156.15	-113.27	-156.07	547.31	538.12	9.18	59.610	
2,000.00	1,920.14	1,762.32	1,741.39	9.51	4.98	-156.06	-128.61	-170.31	610.71	600.88	9.82	62.164	
2,100.00	2,011.11	1,832.70	1,807.21	10.31	5.42	-155.89	-146.86	-187.27	675.41	664.91	10.50	64.305	
2,200.00	2,102.09	1,908.78	1,878.29	11.11	5.92	-155.72	-166.73	-205.73	740.29	729.09	11.21	66.046	
2,300.00	2,193.06	1,984.86	1,949.37	11.91	6.43	-155.59	-186.59	-224.18	805.18	793.26	11.92	67.533	
2,400.00	2,284.03	2,060.94	2,020.45	12.72	6.95	-155.47	-206.46	-242.63	870.07	857.43	12.64	68.820	
2,500.00	2,375.01	2,137.01	2,091.53	13.52	7.47	-155.37	-226.32	-261.09	934.96	921.59	13.37	69.947	
2,600.00	2,465.98	2,213.09	2,162.62	14.33	8.00	-155.28	-246.19	-279.54	999.85	985.76	14.09	70.939	
2,700.00	2,556.96	2,289.17	2,233.70	15.13	8.53	-155.20	-266.05	-297.99	1,064.74	1,049.92	14.83	71.815	
2,800.00	2,647.93	2,365.25	2,304.78	15.94	9.06	-155.14	-285.92	-316.45	1,129.64	1,114.08	15.56	72.592	
2,900.00	2,738.91	2,441.32	2,375.86	16.75	9.60	-155.08	-305.78	-334.90	1,194.53	1,178.23	16.30	73.289	
3,000.00	2,829.88	2,517.40	2,446.95	17.56	10.14	-155.02	-325.65	-353.35	1,259.43	1,242.39	17.04	73.917	
3,100.00	2,920.86	2,593.48	2,518.03	18.37	10.68	-154.97	-345.51	-371.81	1,324.32	1,306.54	17.78	74.483	
3,200.00	3,011.83	2,669.56	2,589.11	19.18	11.22	-154.93	-365.38	-390.26	1,389.22	1,370.69	18.52	74.996	
3,300.00	3,102.80	2,745.64	2,660.19	19.99	11.77	-154.89	-385.24	-408.71	1,454.11	1,434.85	19.27	75.464	
3,400.00	3,193.78	2,821.71	2,731.28	20.80	12.31	-154.85	-405.11	-427.17	1,519.01	1,499.00	20.02	75.892	
3,500.00	3,284.75	2,897.79	2,802.36	21.61	12.86	-154.82	-424.97	-445.62	1,583.91	1,563.15	20.76	76.285	
3,600.00	3,375.73	2,973.87	2,873.44	22.42	13.41	-154.79	-444.84	-464.07	1,648.81	1,627.29	21.51	76.645	
3,700.00	3,466.70	3,049.95	2,944.52	23.23	13.96	-154.76	-464.70	-482.52	1,713.71	1,691.44	22.26	76.978	
3,800.00	3,557.68	3,126.02	3,015.60	24.04	14.51	-154.73	-484.57	-500.98	1,778.60	1,755.59	23.01	77.287	
3,900.00	3,648.65	3,202.10	3,086.69	24.85	15.06	-154.70	-504.43	-519.43	1,843.50	1,819.74	23.76	77.574	
4,000.00	3,739.63	3,278.18	3,157.77	25.67	15.61	-154.68	-524.30	-537.88	1,908.40	1,883.88	24.52	77.840	
4,100.00	3,830.60	3,354.26	3,228.85	26.48	16.16	-154.66	-544.16	-556.34	1,973.30	1,948.03	25.27	78.088	
4,200.00	3,921.57	3,430.34	3,299.93	27.29	16.71	-154.64	-564.03	-574.79	2,038.20	2,012.17	26.02	78.321	
4,300.00	4,012.55	3,506.41	3,371.02	28.10	17.26	-154.62	-583.89	-593.24	2,103.10	2,076.32	26.78	78.538	
4,400.00	4,103.52	3,582.49	3,442.10	28.91	17.81	-154.60	-603.76	-611.70	2,168.00	2,140.46	27.53	78.742	
4,500.00	4,194.50	3,658.57	3,513.18	29.72	18.36	-154.59	-623.62	-630.15	2,232.90	2,204.61	28.29	78.934	
4,600.00	4,285.47	3,734.65	3,584.26	30.54	18.92	-154.57	-643.49	-648.60	2,297.80	2,268.75	29.04	79.115	
4,700.00	4,376.45	3,810.73	3,655.35	31.35	19.47	-154.55	-663.35	-667.06	2,362.69	2,332.89	29.80	79.286	
4,800.00	4,467.42	3,886.80	3,726.43	32.16	20.02	-154.54	-683.22	-685.51	2,427.59	2,397.04	30.56	79.447	
4,900.00	4,558.40	3,962.88	3,797.51	32.97	20.58	-154.53	-703.08	-703.96	2,492.49	2,461.18	31.31	79.599	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design LARIMER_MIRACLE 40-12 PAD - P_MIRACLE 20-12 - P_MIRACLE 20-12 - 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	4,649.37	4,038.96	3,868.59	33.79	21.13	-154.51	-722.95	-722.42	2,557.39	2,525.32	32.07	79.743	
5,100.00	4,740.34	4,115.04	3,939.68	34.60	21.68	-154.50	-742.81	-740.87	2,622.29	2,589.47	32.83	79.880	
5,200.00	4,831.32	4,191.11	4,010.76	35.41	22.24	-154.49	-762.68	-759.32	2,687.19	2,653.61	33.59	80.011	
5,300.00	4,922.29	4,267.19	4,081.84	36.22	22.79	-154.48	-782.54	-777.78	2,752.09	2,717.75	34.34	80.134	
5,400.00	5,013.27	4,343.27	4,152.92	37.04	23.35	-154.47	-802.41	-796.23	2,816.99	2,781.89	35.10	80.252	
5,507.02	5,110.63	4,424.69	4,228.99	37.91	23.94	-154.46	-823.67	-815.98	2,886.45	2,850.54	35.91	80.372	
5,600.00	5,195.83	4,496.29	4,295.90	38.56	24.46	-155.09	-842.36	-833.35	2,945.75	2,908.97	36.78	80.086	
5,700.00	5,288.76	4,575.18	4,369.61	39.12	25.04	-155.68	-862.96	-852.48	3,007.14	2,969.48	37.66	79.844	
5,800.00	5,382.92	4,655.93	4,445.05	39.65	25.63	-156.18	-884.05	-872.07	3,066.00	3,027.47	38.52	79.587	
5,900.00	5,478.19	4,738.42	4,522.13	40.13	26.23	-156.60	-905.59	-892.08	3,122.25	3,082.89	39.36	79.326	
6,000.00	5,574.47	4,822.57	4,600.75	40.57	26.85	-156.96	-927.56	-912.49	3,175.84	3,135.67	40.17	79.068	
6,100.00	5,671.63	4,908.28	4,680.83	40.96	27.47	-157.25	-949.94	-933.28	3,226.70	3,185.77	40.94	78.821	
6,200.00	5,769.56	4,995.43	4,762.26	41.30	28.11	-157.48	-972.69	-954.42	3,274.80	3,233.13	41.67	78.590	
6,300.00	5,868.13	5,083.92	4,844.94	41.60	28.75	-157.66	-995.80	-975.88	3,320.07	3,277.71	42.36	78.379	
6,400.00	5,967.23	5,173.56	4,927.23	41.85	29.34	-157.80	-1,143.15	-1,112.75	3,343.27	3,297.85	45.41	73.619	
6,500.00	6,066.74	5,263.07	5,016.74	42.05	29.92	-157.91	-1,143.15	-1,112.75	3,352.38	3,306.65	45.73	73.304	
6,600.00	6,166.53	5,353.86	5,116.53	42.21	30.50	-157.96	-1,143.15	-1,112.75	3,358.28	3,312.30	45.99	73.025	
6,700.00	6,266.48	5,443.81	5,216.48	42.31	31.08	-157.98	-1,143.15	-1,112.75	3,360.97	3,314.79	46.18	72.777	
6,733.52	6,300.00	5,534.33	5,300.00	42.33	31.60	-167.37	-1,143.15	-1,112.75	3,361.15	3,314.92	46.23	72.701	
6,800.00	6,366.48	5,624.81	5,366.48	42.38	32.16	-167.37	-1,143.15	-1,112.75	3,361.15	3,314.77	46.38	72.463	
6,900.00	6,466.48	5,714.81	5,466.48	42.44	32.74	-167.37	-1,143.15	-1,112.75	3,361.15	3,314.53	46.63	72.089	
7,000.00	6,566.48	5,804.81	5,566.48	42.51	33.32	-167.37	-1,143.15	-1,112.75	3,361.15	3,314.29	46.87	71.713	
7,100.00	6,666.48	5,894.81	5,666.48	42.58	33.90	-167.37	-1,143.15	-1,112.75	3,361.15	3,314.04	47.12	71.337	
7,200.00	6,766.48	5,984.81	5,766.48	42.65	34.49	-167.37	-1,143.15	-1,112.75	3,361.15	3,313.79	47.37	70.960	
7,300.00	6,866.48	6,074.81	5,866.48	42.72	35.08	-167.37	-1,143.15	-1,112.75	3,361.15	3,313.53	47.62	70.583	
7,400.00	6,966.48	6,164.81	5,966.48	42.79	35.66	-167.37	-1,143.15	-1,112.75	3,361.15	3,313.28	47.88	70.205	
7,500.00	7,066.48	6,254.81	6,066.48	42.87	36.25	-167.37	-1,143.15	-1,112.75	3,361.15	3,313.02	48.13	69.828	
7,600.00	7,166.48	6,344.81	6,166.48	42.94	36.84	-167.37	-1,143.15	-1,112.75	3,361.15	3,312.76	48.40	69.450	
7,700.00	7,266.48	6,434.81	6,266.48	43.01	37.43	-167.37	-1,143.15	-1,112.75	3,361.15	3,312.49	48.66	69.073	
7,800.00	7,366.48	6,524.81	6,366.48	43.09	38.02	-167.37	-1,143.15	-1,112.75	3,361.15	3,312.23	48.93	68.696	
7,900.00	7,466.48	6,614.81	6,466.48	43.17	38.61	-167.37	-1,143.15	-1,112.75	3,361.15	3,311.96	49.20	68.319	
8,000.00	7,566.48	6,704.81	6,566.48	43.25	39.20	-167.37	-1,143.15	-1,112.75	3,361.15	3,311.68	49.47	67.943	
8,100.00	7,666.48	6,794.81	6,666.48	43.32	39.79	-167.37	-1,143.15	-1,112.75	3,361.15	3,311.41	49.75	67.568	
8,200.00	7,766.48	6,884.81	6,766.48	43.40	40.38	-167.37	-1,143.15	-1,112.75	3,361.15	3,311.13	50.02	67.193	
8,225.11	7,791.59	6,909.92	6,791.59	43.43	40.97	-167.37	-1,143.15	-1,112.75	3,361.15	3,311.06	50.09	67.099	
8,248.52	7,815.00	6,934.33	6,815.00	43.44	41.56	-167.37	-1,143.15	-1,112.75	3,361.19	3,311.05	50.14	67.041	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-88.97	1.08	-59.87	59.88				
100.00	100.00	100.00	100.00	0.10	0.10	-88.97	1.08	-59.87	59.88	59.69	0.19	313.410	
200.00	200.00	200.00	200.00	0.32	0.32	-88.97	1.08	-59.87	59.88	59.24	0.64	93.473	
300.00	300.00	300.00	300.00	0.55	0.55	-88.97	1.08	-59.87	59.88	58.79	1.09	54.928	
400.00	399.98	399.98	399.98	0.77	0.77	-80.60	1.08	-59.87	59.57	58.03	1.54	38.705	
500.00	499.84	499.84	499.84	1.00	0.99	-85.63	1.08	-59.87	58.94	56.95	1.99	29.574	
556.58	556.23	556.23	556.23	1.14	1.12	-90.00	1.08	-59.87	58.77	56.51	2.26	26.001 CC	
600.00	599.45	599.45	599.45	1.24	1.22	-94.08	1.08	-59.87	58.92	56.45	2.46	23.911 ES	
700.00	698.70	698.70	698.70	1.52	1.44	-105.45	1.08	-59.87	61.01	58.05	2.96	20.620	
800.00	797.47	796.79	796.79	1.83	1.66	-117.89	1.17	-60.24	67.17	63.71	3.46	19.412 SF	
900.00	895.62	893.81	893.75	2.19	1.86	-127.83	1.92	-63.38	79.54	75.59	3.95	20.135	
1,000.00	993.06	990.41	990.13	2.61	2.07	-134.50	3.41	-69.68	97.37	92.92	4.45	21.863	
1,100.00	1,089.64	1,086.39	1,085.61	3.08	2.30	-138.54	5.64	-79.06	119.70	114.71	4.99	23.991	
1,200.00	1,185.27	1,181.55	1,179.92	3.61	2.56	-140.79	8.59	-91.43	145.91	140.33	5.58	26.166	
1,300.00	1,279.82	1,275.71	1,272.77	4.21	2.84	-141.89	12.21	-106.66	175.66	169.44	6.22	28.222	
1,400.00	1,373.17	1,368.71	1,363.91	4.87	3.16	-142.25	16.48	-124.61	208.77	201.83	6.94	30.066	
1,500.00	1,465.21	1,460.65	1,453.39	5.59	3.52	-142.15	21.36	-145.14	245.10	237.37	7.74	31.686	
1,526.50	1,489.37	1,485.14	1,477.16	5.79	3.62	-142.12	22.72	-150.86	255.21	247.26	7.96	32.073	
1,600.00	1,556.24	1,552.96	1,543.00	6.36	3.91	-142.42	26.49	-166.71	283.52	274.91	8.60	32.948	
1,700.00	1,647.21	1,645.23	1,632.57	7.14	4.32	-142.75	31.62	-188.27	322.04	312.53	9.50	33.885	
1,800.00	1,738.19	1,737.50	1,722.14	7.92	4.74	-143.00	36.74	-209.83	360.56	350.14	10.42	34.602	
1,900.00	1,829.16	1,829.77	1,811.71	8.72	5.18	-143.21	41.87	-231.39	399.09	387.74	11.35	35.161	
2,000.00	1,920.14	1,922.04	1,901.28	9.51	5.62	-143.37	47.00	-252.95	437.62	425.33	12.29	35.607	
2,100.00	2,011.11	2,014.31	1,990.85	10.31	6.06	-143.52	52.13	-274.51	476.15	462.92	13.24	35.967	
2,200.00	2,102.09	2,106.58	2,080.42	11.11	6.51	-143.64	57.25	-296.08	514.69	500.50	14.19	36.263	
2,300.00	2,193.06	2,198.85	2,169.99	11.91	6.96	-143.74	62.38	-317.64	553.23	538.08	15.15	36.509	
2,400.00	2,284.03	2,291.13	2,259.56	12.72	7.42	-143.83	67.51	-339.20	591.77	575.65	16.12	36.715	
2,500.00	2,375.01	2,383.40	2,349.13	13.52	7.88	-143.91	72.64	-360.76	630.31	613.22	17.09	36.891	
2,600.00	2,465.98	2,475.67	2,438.70	14.33	8.34	-143.98	77.76	-382.32	668.85	650.80	18.06	37.042	
2,700.00	2,556.96	2,567.94	2,528.27	15.13	8.80	-144.04	82.89	-403.88	707.40	688.37	19.03	37.173	
2,800.00	2,647.93	2,660.21	2,617.84	15.94	9.27	-144.10	88.02	-425.44	745.94	725.93	20.01	37.287	
2,900.00	2,738.91	2,752.48	2,707.41	16.75	9.73	-144.15	93.15	-447.00	784.48	763.50	20.98	37.388	
3,000.00	2,829.88	2,844.75	2,796.98	17.56	10.20	-144.19	98.27	-468.57	823.03	801.07	21.96	37.476	
3,100.00	2,920.86	2,937.03	2,886.55	18.37	10.67	-144.23	103.40	-490.13	861.57	838.63	22.94	37.555	
3,200.00	3,011.83	3,029.30	2,976.12	19.18	11.14	-144.27	108.53	-511.69	900.12	876.19	23.92	37.626	
3,300.00	3,102.80	3,121.57	3,065.69	19.99	11.61	-144.31	113.66	-533.25	938.66	913.76	24.91	37.689	
3,400.00	3,193.78	3,213.84	3,155.26	20.80	12.08	-144.34	118.78	-554.81	977.21	951.32	25.89	37.747	
3,500.00	3,284.75	3,306.11	3,244.83	21.61	12.55	-144.37	123.91	-576.37	1,015.75	988.88	26.87	37.799	
3,600.00	3,375.73	3,398.38	3,334.40	22.42	13.02	-144.40	129.04	-597.93	1,054.30	1,026.44	27.86	37.846	
3,700.00	3,466.70	3,490.65	3,423.97	23.23	13.49	-144.42	134.17	-619.49	1,092.85	1,064.00	28.84	37.889	
3,800.00	3,557.68	3,582.92	3,513.54	24.04	13.96	-144.45	139.29	-641.06	1,131.39	1,101.56	29.83	37.929	
3,900.00	3,648.65	3,675.20	3,603.11	24.85	14.43	-144.47	144.42	-662.62	1,169.94	1,139.12	30.82	37.965	
4,000.00	3,739.63	3,767.47	3,692.68	25.67	14.90	-144.49	149.55	-684.18	1,208.49	1,176.68	31.80	37.998	
4,100.00	3,830.60	3,859.74	3,782.25	26.48	15.38	-144.51	154.68	-705.74	1,247.03	1,214.24	32.79	38.029	
4,200.00	3,921.57	3,952.01	3,871.82	27.29	15.85	-144.53	159.80	-727.30	1,285.58	1,251.80	33.78	38.058	
4,300.00	4,012.55	4,044.28	3,961.39	28.10	16.32	-144.54	164.93	-748.86	1,324.13	1,289.36	34.77	38.085	
4,400.00	4,103.52	4,136.55	4,050.96	28.91	16.80	-144.56	170.06	-770.42	1,362.67	1,326.92	35.76	38.110	
4,500.00	4,194.50	4,228.82	4,140.53	29.72	17.27	-144.58	175.19	-791.98	1,401.22	1,364.47	36.75	38.133	
4,600.00	4,285.47	4,321.09	4,230.10	30.54	17.74	-144.59	180.31	-813.55	1,439.77	1,402.03	37.74	38.154	
4,700.00	4,376.45	4,413.37	4,319.67	31.35	18.22	-144.60	185.44	-835.11	1,478.32	1,439.59	38.72	38.175	
4,800.00	4,467.42	4,505.64	4,409.24	32.16	18.69	-144.62	190.57	-856.67	1,516.86	1,477.15	39.71	38.194	
4,900.00	4,558.40	4,597.91	4,498.81	32.97	19.17	-144.63	195.70	-878.23	1,555.41	1,514.71	40.71	38.212	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design LARIMER_MIRACLE 40-12 PAD - P_MIRACLE 24-12 - P_MIRACLE 24-12 - 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	4,649.37	4,690.18	4,588.38	33.79	19.64	-144.64	200.82	-899.79	1,593.96	1,552.26	41.70	38.229	
5,100.00	4,740.34	4,782.45	4,677.95	34.60	20.12	-144.65	205.95	-921.35	1,632.51	1,589.82	42.69	38.244	
5,200.00	4,831.32	4,874.72	4,767.52	35.41	20.59	-144.66	211.08	-942.91	1,671.05	1,627.38	43.68	38.260	
5,300.00	4,922.29	4,966.99	4,857.09	36.22	21.07	-144.67	216.21	-964.47	1,709.60	1,664.93	44.67	38.274	
5,400.00	5,013.27	5,059.26	4,946.66	37.04	21.54	-144.68	221.34	-986.03	1,748.15	1,702.49	45.66	38.287	
5,507.02	5,110.63	5,158.01	5,042.52	37.91	22.05	-144.69	226.82	-1,009.11	1,789.40	1,742.68	46.72	38.301	
5,600.00	5,195.83	5,244.27	5,126.25	38.56	22.49	-145.10	231.62	-1,029.27	1,824.10	1,776.42	47.68	38.259	
5,700.00	5,288.76	5,343.53	5,222.72	39.12	22.93	-145.45	237.02	-1,051.99	1,858.78	1,810.17	48.60	38.244	
5,800.00	5,382.92	5,449.56	5,326.51	39.65	23.30	-145.78	242.02	-1,073.04	1,890.25	1,840.83	49.41	38.253	
5,900.00	5,478.19	5,556.97	5,432.40	40.13	23.62	-146.13	246.19	-1,090.53	1,918.40	1,868.27	50.13	38.270	
6,000.00	5,574.47	5,665.51	5,540.02	40.57	23.89	-146.48	249.45	-1,104.27	1,943.17	1,892.44	50.73	38.301	
6,100.00	5,671.63	5,774.95	5,648.98	40.96	24.12	-146.85	251.79	-1,114.10	1,964.53	1,913.30	51.23	38.347	
6,200.00	5,769.56	5,884.99	5,758.85	41.30	24.29	-147.23	253.17	-1,119.90	1,982.44	1,930.83	51.61	38.411	
6,300.00	5,868.13	5,994.29	5,868.13	41.60	24.42	-147.63	253.57	-1,121.60	1,996.90	1,945.02	51.88	38.494	
6,400.00	5,967.23	6,093.39	5,967.23	41.85	24.53	-147.95	253.57	-1,121.60	2,008.22	1,956.13	52.08	38.557	
6,500.00	6,066.74	6,192.90	6,066.74	42.05	24.65	-148.19	253.57	-1,121.60	2,016.61	1,964.36	52.26	38.589	
6,600.00	6,166.53	6,292.69	6,166.53	42.21	24.77	-148.34	253.57	-1,121.60	2,022.06	1,969.66	52.40	38.589	
6,700.00	6,266.48	6,392.64	6,266.48	42.31	24.89	-148.41	253.57	-1,121.60	2,024.54	1,972.04	52.51	38.558	
6,733.52	6,300.00	6,426.16	6,300.00	42.33	24.93	-158.44	253.57	-1,121.60	2,024.71	1,972.18	52.54	38.540	
6,800.00	6,366.48	6,492.64	6,366.48	42.38	25.01	-158.44	253.57	-1,121.60	2,024.71	1,972.03	52.68	38.435	
6,900.00	6,466.48	6,592.64	6,466.48	42.44	25.13	-158.44	253.57	-1,121.60	2,024.71	1,971.81	52.91	38.270	
7,000.00	6,566.48	6,692.64	6,566.48	42.51	25.25	-158.44	253.57	-1,121.60	2,024.71	1,971.58	53.13	38.105	
7,100.00	6,666.48	6,792.64	6,666.48	42.58	25.38	-158.44	253.57	-1,121.60	2,024.71	1,971.34	53.37	37.939	
7,200.00	6,766.48	6,892.64	6,766.48	42.65	25.50	-158.44	253.57	-1,121.60	2,024.71	1,971.11	53.60	37.773	
7,300.00	6,866.48	6,992.64	6,866.48	42.72	25.63	-158.44	253.57	-1,121.60	2,024.71	1,970.87	53.84	37.606	
7,400.00	6,966.48	7,092.64	6,966.48	42.79	25.76	-158.44	253.57	-1,121.60	2,024.71	1,970.63	54.08	37.439	
7,500.00	7,066.48	7,192.64	7,066.48	42.87	25.89	-158.44	253.57	-1,121.60	2,024.71	1,970.39	54.32	37.272	
7,600.00	7,166.48	7,292.64	7,166.48	42.94	26.02	-158.44	253.57	-1,121.60	2,024.71	1,970.14	54.57	37.104	
7,700.00	7,266.48	7,392.64	7,266.48	43.01	26.16	-158.44	253.57	-1,121.60	2,024.71	1,969.89	54.82	36.936	
7,800.00	7,366.48	7,492.64	7,366.48	43.09	26.29	-158.44	253.57	-1,121.60	2,024.71	1,969.64	55.07	36.768	
7,900.00	7,466.48	7,592.64	7,466.48	43.17	26.42	-158.44	253.57	-1,121.60	2,024.71	1,969.39	55.32	36.599	
8,000.00	7,566.48	7,692.64	7,566.48	43.25	26.56	-158.44	253.57	-1,121.60	2,024.71	1,969.14	55.58	36.431	
8,100.00	7,666.48	7,792.64	7,666.48	43.32	26.70	-158.44	253.57	-1,121.60	2,024.71	1,968.88	55.83	36.263	
8,200.00	7,766.48	7,892.64	7,766.48	43.40	26.84	-158.44	253.57	-1,121.60	2,024.71	1,968.62	56.10	36.094	
8,230.49	7,796.97	7,923.13	7,796.97	43.43	26.88	-158.44	253.57	-1,121.60	2,024.71	1,968.54	56.18	36.043	
8,248.52	7,815.00	7,936.16	7,810.00	43.44	26.90	-158.44	253.57	-1,121.60	2,024.72	1,968.50	56.22	36.017	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	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	-88.01	0.35	-10.02	10.03				
100.00	100.00	100.00	100.00	0.10	0.10	-88.01	0.35	-10.02	10.03	9.84	0.19	52.501	
200.00	200.00	200.00	200.00	0.32	0.32	-88.01	0.35	-10.02	10.03	9.39	0.64	15.658	
300.00	300.00	300.00	300.00	0.55	0.55	-88.01	0.35	-10.02	10.03	8.94	1.09	9.201	
400.00	399.98	399.98	399.98	0.77	0.77	-88.01	0.35	-10.02	9.82	8.28	1.54	6.378	
409.36	409.33	409.33	409.33	0.79	0.79	-90.00	0.35	-10.02	9.81	8.23	1.58	6.201 CC, ES	
500.00	499.84	499.84	499.84	1.00	0.99	-116.44	0.35	-10.02	10.96	8.97	1.99	5.503 SF	
600.00	599.45	599.45	599.45	1.24	1.22	-144.06	0.35	-10.02	16.77	14.33	2.44	6.864	
700.00	698.70	698.70	698.70	1.52	1.44	-158.99	0.35	-10.02	27.60	24.71	2.89	9.552	
800.00	797.47	798.09	798.08	1.83	1.66	-166.25	0.71	-10.20	42.23	38.90	3.33	12.669	
900.00	895.62	898.37	898.31	2.19	1.89	-169.07	3.81	-11.69	57.90	54.12	3.78	15.300	
1,000.00	993.06	999.17	998.85	2.61	2.12	-169.95	10.11	-14.71	73.91	69.67	4.25	17.406	
1,100.00	1,089.64	1,100.45	1,099.58	3.08	2.36	-169.92	19.65	-19.28	90.18	85.46	4.72	19.089	
1,200.00	1,185.27	1,202.23	1,200.35	3.61	2.64	-169.38	32.46	-25.43	106.69	101.46	5.22	20.421	
1,300.00	1,279.82	1,304.49	1,301.03	4.21	2.95	-168.53	48.58	-33.16	123.43	117.67	5.76	21.445	
1,400.00	1,373.17	1,407.21	1,401.46	4.87	3.30	-167.47	68.02	-42.49	140.42	134.09	6.33	22.195	
1,500.00	1,465.21	1,505.40	1,497.08	5.59	3.69	-166.64	88.15	-52.14	159.23	152.32	6.92	23.015	
1,526.50	1,489.37	1,531.31	1,522.31	5.79	3.79	-166.49	93.46	-54.69	164.78	157.70	7.08	23.277	
1,600.00	1,556.24	1,603.11	1,592.23	6.36	4.08	-166.22	108.17	-61.75	180.49	172.92	7.57	23.840	
1,700.00	1,647.21	1,700.79	1,687.36	7.14	4.49	-165.93	128.19	-71.35	201.87	193.62	8.25	24.458	
1,800.00	1,738.19	1,798.48	1,782.48	7.92	4.92	-165.68	148.21	-80.96	223.26	214.31	8.95	24.948	
1,900.00	1,829.16	1,896.16	1,877.61	8.72	5.35	-165.48	168.24	-90.56	244.65	235.00	9.65	25.344	
2,000.00	1,920.14	1,993.84	1,972.73	9.51	5.78	-165.32	188.26	-100.17	266.04	255.68	10.36	25.668	
2,100.00	2,011.11	2,091.52	2,067.86	10.31	6.23	-165.17	208.28	-109.77	287.43	276.35	11.08	25.936	
2,200.00	2,102.09	2,189.21	2,162.98	11.11	6.67	-165.05	228.30	-119.38	308.83	297.02	11.81	26.160	
2,300.00	2,193.06	2,286.89	2,258.11	11.91	7.12	-164.94	248.32	-128.98	330.23	317.69	12.53	26.350	
2,400.00	2,284.03	2,384.57	2,353.23	12.72	7.57	-164.85	268.34	-138.59	351.62	338.36	13.26	26.512	
2,500.00	2,375.01	2,482.25	2,448.36	13.52	8.02	-164.76	288.36	-148.19	373.02	359.02	14.00	26.652	
2,600.00	2,465.98	2,579.94	2,543.48	14.33	8.48	-164.69	308.39	-157.80	394.42	379.69	14.73	26.773	
2,700.00	2,556.96	2,677.62	2,638.61	15.13	8.94	-164.62	328.41	-167.40	415.82	400.35	15.47	26.879	
2,800.00	2,647.93	2,775.30	2,733.73	15.94	9.40	-164.56	348.43	-177.00	437.22	421.01	16.21	26.972	
2,900.00	2,738.91	2,872.98	2,828.86	16.75	9.86	-164.51	368.45	-186.61	458.62	441.66	16.95	27.055	
3,000.00	2,829.88	2,970.67	2,923.98	17.56	10.32	-164.46	388.47	-196.21	480.02	462.32	17.69	27.128	
3,100.00	2,920.86	3,068.35	3,019.11	18.37	10.78	-164.41	408.49	-205.82	501.42	482.98	18.44	27.194	
3,200.00	3,011.83	3,166.03	3,114.23	19.18	11.24	-164.37	428.51	-215.42	522.82	503.63	19.18	27.253	
3,300.00	3,102.80	3,263.71	3,209.36	19.99	11.70	-164.33	448.53	-225.03	544.22	524.29	19.93	27.306	
3,400.00	3,193.78	3,361.40	3,304.48	20.80	12.17	-164.30	468.56	-234.63	565.62	544.94	20.68	27.354	
3,500.00	3,284.75	3,459.08	3,399.61	21.61	12.63	-164.27	488.58	-244.24	587.02	565.60	21.43	27.398	
3,600.00	3,375.73	3,556.76	3,494.73	22.42	13.09	-164.24	508.60	-253.84	608.42	586.25	22.17	27.438	
3,700.00	3,466.70	3,654.44	3,589.86	23.23	13.56	-164.21	528.62	-263.45	629.82	606.90	22.92	27.475	
3,800.00	3,557.68	3,752.13	3,684.98	24.04	14.02	-164.18	548.64	-273.05	651.23	627.55	23.67	27.508	
3,900.00	3,648.65	3,849.81	3,780.11	24.85	14.49	-164.16	568.66	-282.65	672.63	648.20	24.42	27.539	
4,000.00	3,739.63	3,947.49	3,875.23	25.67	14.95	-164.13	588.68	-292.26	694.03	668.86	25.18	27.568	
4,100.00	3,830.60	4,045.17	3,970.36	26.48	15.42	-164.11	608.71	-301.86	715.43	689.51	25.93	27.594	
4,200.00	3,921.57	4,142.86	4,065.48	27.29	15.89	-164.09	628.73	-311.47	736.84	710.16	26.68	27.619	
4,300.00	4,012.55	4,240.54	4,160.61	28.10	16.35	-164.07	648.75	-321.07	758.24	730.81	27.43	27.642	
4,400.00	4,103.52	4,338.22	4,255.73	28.91	16.82	-164.05	668.77	-330.68	779.64	751.46	28.18	27.663	
4,500.00	4,194.50	4,435.90	4,350.86	29.72	17.29	-164.03	688.79	-340.28	801.04	772.11	28.94	27.683	
4,600.00	4,285.47	4,533.59	4,445.98	30.54	17.76	-164.02	708.81	-349.89	822.45	792.76	29.69	27.701	
4,700.00	4,376.45	4,631.27	4,541.11	31.35	18.22	-164.00	728.83	-359.49	843.85	813.40	30.44	27.719	
4,800.00	4,467.42	4,728.95	4,636.23	32.16	18.69	-163.99	748.85	-369.10	865.25	834.05	31.20	27.735	
4,900.00	4,558.40	4,826.63	4,731.36	32.97	19.16	-163.97	768.88	-378.70	886.65	854.70	31.95	27.751	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,649.37	4,924.32	4,826.48	33.79	19.63	-163.96	788.90	-388.31	908.06	875.35	32.70	27.765	
5,100.00	4,740.34	5,022.00	4,921.61	34.60	20.09	-163.95	808.92	-397.91	929.46	896.00	33.46	27.779	
5,200.00	4,831.32	5,119.68	5,016.73	35.41	20.56	-163.93	828.94	-407.51	950.86	916.65	34.21	27.792	
5,300.00	4,922.29	5,217.36	5,111.86	36.22	21.03	-163.92	848.96	-417.12	972.27	937.30	34.97	27.804	
5,400.00	5,013.27	5,315.05	5,206.98	37.04	21.50	-163.91	868.98	-426.72	993.67	957.94	35.72	27.816	
5,507.02	5,110.63	5,400.00	5,289.77	37.91	21.88	-163.91	886.19	-434.98	1,016.97	980.52	36.45	27.903	
5,600.00	5,195.83	5,475.74	5,363.94	38.56	22.14	-164.06	899.97	-441.59	1,037.54	1,000.49	37.05	28.004	
5,700.00	5,288.76	5,550.12	5,437.16	39.12	22.37	-164.22	911.78	-447.25	1,058.64	1,021.05	37.59	28.162	
5,800.00	5,382.92	5,624.32	5,510.52	39.65	22.59	-164.39	921.85	-452.08	1,078.64	1,040.57	38.07	28.334	
5,900.00	5,478.19	5,700.00	5,585.60	40.13	22.78	-164.56	930.35	-456.16	1,097.52	1,059.04	38.48	28.522	
6,000.00	5,574.47	5,772.19	5,657.44	40.57	22.94	-164.74	936.79	-459.25	1,115.27	1,076.45	38.81	28.734	
6,100.00	5,671.63	5,845.88	5,730.92	40.96	23.08	-164.92	941.68	-461.60	1,131.89	1,092.81	39.08	28.963	
6,200.00	5,769.56	5,919.40	5,804.36	41.30	23.20	-165.10	944.86	-463.12	1,147.38	1,108.10	39.28	29.211	
6,300.00	5,868.13	6,000.00	5,884.94	41.60	23.30	-165.31	946.39	-463.86	1,161.76	1,122.35	39.41	29.478	
6,400.00	5,967.23	6,082.30	5,967.23	41.85	23.39	-165.50	946.45	-463.89	1,174.50	1,135.01	39.49	29.742	
6,500.00	6,066.74	6,181.80	6,066.74	42.05	23.51	-165.67	946.45	-463.89	1,184.07	1,144.50	39.57	29.927	
6,600.00	6,166.53	6,281.59	6,166.53	42.21	23.63	-165.78	946.45	-463.89	1,190.28	1,150.66	39.61	30.047	
6,700.00	6,266.48	6,381.55	6,266.48	42.31	23.75	-165.83	946.45	-463.89	1,193.10	1,153.47	39.63	30.107	
6,733.52	6,300.00	6,415.06	6,300.00	42.33	23.80	-175.85	946.45	-463.89	1,193.29	1,153.67	39.63	30.114	
6,800.00	6,366.48	6,481.55	6,366.48	42.38	23.88	-175.85	946.45	-463.89	1,193.29	1,153.47	39.82	29.969	
6,900.00	6,466.48	6,581.55	6,466.48	42.44	24.01	-175.85	946.45	-463.89	1,193.29	1,153.17	40.12	29.743	
7,000.00	6,566.48	6,681.55	6,566.48	42.51	24.13	-175.85	946.45	-463.89	1,193.29	1,152.87	40.42	29.519	
7,100.00	6,666.48	6,781.55	6,666.48	42.58	24.26	-175.85	946.45	-463.89	1,193.29	1,152.56	40.73	29.296	
7,200.00	6,766.48	6,881.55	6,766.48	42.65	24.39	-175.85	946.45	-463.89	1,193.29	1,152.25	41.04	29.075	
7,300.00	6,866.48	6,981.55	6,866.48	42.72	24.53	-175.85	946.45	-463.89	1,193.29	1,151.94	41.35	28.855	
7,400.00	6,966.48	7,081.55	6,966.48	42.79	24.66	-175.85	946.45	-463.89	1,193.29	1,151.62	41.67	28.637	
7,500.00	7,066.48	7,181.55	7,066.48	42.87	24.79	-175.85	946.45	-463.89	1,193.29	1,151.30	41.99	28.420	
7,600.00	7,166.48	7,281.55	7,166.48	42.94	24.93	-175.85	946.45	-463.89	1,193.29	1,150.98	42.31	28.206	
7,700.00	7,266.48	7,381.55	7,266.48	43.01	25.07	-175.85	946.45	-463.89	1,193.29	1,150.66	42.63	27.993	
7,800.00	7,366.48	7,481.55	7,366.48	43.09	25.21	-175.85	946.45	-463.89	1,193.29	1,150.34	42.95	27.781	
7,900.00	7,466.48	7,581.55	7,466.48	43.17	25.35	-175.85	946.45	-463.89	1,193.29	1,150.01	43.28	27.572	
8,000.00	7,566.48	7,681.55	7,566.48	43.25	25.49	-175.85	946.45	-463.89	1,193.29	1,149.68	43.61	27.364	
8,100.00	7,666.48	7,781.55	7,666.48	43.32	25.63	-175.85	946.45	-463.89	1,193.29	1,149.35	43.94	27.158	
8,200.00	7,766.48	7,881.55	7,766.48	43.40	25.77	-175.85	946.45	-463.89	1,193.29	1,149.02	44.27	26.954	
8,228.15	7,794.63	7,909.69	7,794.63	43.43	25.81	-175.85	946.45	-463.89	1,193.29	1,148.93	44.37	26.897	
8,248.52	7,815.00	7,920.06	7,805.00	43.44	25.83	-175.85	946.45	-463.89	1,193.33	1,148.92	44.42	26.868	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference													
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	-88.97	0.72	-39.82	39.83				
100.00	100.00	100.00	100.00	0.10	0.10	-88.97	0.72	-39.82	39.83	39.63	0.19	208.454	
200.00	200.00	200.00	200.00	0.32	0.32	-88.97	0.72	-39.82	39.83	39.18	0.64	62.171	
300.00	300.00	300.00	300.00	0.55	0.55	-88.97	0.72	-39.82	39.83	38.74	1.09	36.533	
400.00	399.98	399.98	399.98	0.77	0.77	-81.44	0.72	-39.82	39.53	37.99	1.54	25.684	
500.00	499.84	499.84	499.84	1.00	0.99	-89.04	0.72	-39.82	39.09	37.10	1.99	19.614	
509.19	509.00	509.00	509.00	1.02	1.01	-90.00	0.72	-39.82	39.09	37.05	2.04	19.182 CC, ES	
600.00	599.45	599.45	599.45	1.24	1.22	-101.59	0.72	-39.82	39.91	37.45	2.46	16.203	
700.00	698.70	698.70	698.70	1.52	1.44	-117.15	0.72	-39.82	44.02	41.07	2.95	14.934 SF	
800.00	797.47	796.61	796.60	1.83	1.65	-132.05	0.39	-40.01	53.45	50.04	3.41	15.668	
900.00	895.62	892.17	892.11	2.19	1.82	-143.39	-2.34	-41.59	71.05	67.23	3.82	18.584	
1,000.00	993.06	985.68	985.41	2.61	2.00	-150.62	-7.67	-44.67	96.52	92.28	4.24	22.773	
1,100.00	1,089.64	1,080.34	1,079.77	3.08	2.20	-155.32	-14.30	-48.51	127.37	122.70	4.67	27.290	
1,200.00	1,185.27	1,173.84	1,172.96	3.61	2.41	-158.56	-20.85	-52.30	161.83	156.72	5.10	31.702	
1,300.00	1,279.82	1,266.06	1,264.88	4.21	2.62	-160.93	-27.32	-56.04	199.71	194.16	5.55	35.989	
1,400.00	1,373.17	1,356.89	1,355.41	4.87	2.84	-162.72	-33.68	-59.72	240.90	234.90	6.00	40.150	
1,500.00	1,465.21	1,446.21	1,444.44	5.59	3.06	-164.12	-39.94	-63.35	285.31	278.86	6.46	44.194	
1,526.50	1,489.37	1,469.62	1,467.76	5.79	3.12	-164.44	-41.58	-64.30	297.61	291.03	6.58	45.247	
1,600.00	1,556.24	1,534.37	1,532.31	6.36	3.28	-165.40	-46.12	-66.92	332.07	325.11	6.96	47.711	
1,700.00	1,647.21	1,622.48	1,620.12	7.14	3.50	-166.43	-52.29	-70.50	379.03	371.55	7.49	50.623	
1,800.00	1,738.19	1,710.58	1,707.94	7.92	3.73	-167.23	-58.46	-74.07	426.08	418.06	8.02	53.120	
1,900.00	1,829.16	1,798.69	1,795.75	8.72	3.95	-167.87	-64.64	-77.64	473.17	464.61	8.56	55.277	
2,000.00	1,920.14	1,886.79	1,883.57	9.51	4.18	-168.40	-70.81	-81.21	520.31	511.20	9.10	57.156	
2,100.00	2,011.11	1,974.89	1,971.38	10.31	4.41	-168.83	-76.98	-84.79	567.47	557.82	9.65	58.806	
2,200.00	2,102.09	2,063.00	2,059.20	11.11	4.65	-169.21	-83.16	-88.36	614.65	604.45	10.20	60.265	
2,300.00	2,193.06	2,151.10	2,147.01	11.91	4.88	-169.53	-89.33	-91.93	661.85	651.10	10.75	61.562	
2,400.00	2,284.03	2,239.21	2,234.83	12.72	5.11	-169.80	-95.51	-95.51	709.07	697.76	11.30	62.723	
2,500.00	2,375.01	2,327.31	2,322.64	13.52	5.35	-170.04	-101.68	-99.08	756.29	744.43	11.86	63.767	
2,600.00	2,465.98	2,415.41	2,410.45	14.33	5.58	-170.26	-107.85	-102.65	803.53	791.11	12.42	64.710	
2,700.00	2,556.96	2,503.52	2,498.27	15.13	5.82	-170.45	-114.03	-106.22	850.77	837.79	12.98	65.567	
2,800.00	2,647.93	2,591.62	2,586.08	15.94	6.06	-170.62	-120.20	-109.80	898.02	884.48	13.54	66.347	
2,900.00	2,738.91	2,679.73	2,673.90	16.75	6.29	-170.77	-126.37	-113.37	945.27	931.18	14.10	67.061	
3,000.00	2,829.88	2,767.83	2,761.71	17.56	6.53	-170.91	-132.55	-116.94	992.53	977.87	14.66	67.716	
3,100.00	2,920.86	2,855.93	2,849.53	18.37	6.77	-171.03	-138.72	-120.52	1,039.80	1,024.58	15.22	68.320	
3,200.00	3,011.83	2,944.04	2,937.34	19.18	7.01	-171.15	-144.90	-124.09	1,087.06	1,071.28	15.78	68.878	
3,300.00	3,102.80	3,032.14	3,025.16	19.99	7.25	-171.25	-151.07	-127.66	1,134.33	1,117.99	16.35	69.396	
3,400.00	3,193.78	3,120.24	3,112.97	20.80	7.49	-171.35	-157.24	-131.23	1,181.61	1,164.70	16.91	69.876	
3,500.00	3,284.75	3,208.35	3,200.79	21.61	7.73	-171.44	-163.42	-134.81	1,228.88	1,211.41	17.47	70.323	
3,600.00	3,375.73	3,296.45	3,288.60	22.42	7.96	-171.52	-169.59	-138.38	1,276.16	1,258.12	18.04	70.741	
3,700.00	3,466.70	3,384.56	3,376.42	23.23	8.20	-171.60	-175.76	-141.95	1,323.44	1,304.83	18.61	71.132	
3,800.00	3,557.68	3,472.66	3,464.23	24.04	8.44	-171.67	-181.94	-145.53	1,370.72	1,351.55	19.17	71.498	
3,900.00	3,648.65	3,560.76	3,552.05	24.85	8.69	-171.74	-188.11	-149.10	1,418.00	1,398.26	19.74	71.843	
4,000.00	3,739.63	3,648.87	3,639.86	25.67	8.93	-171.80	-194.29	-152.67	1,465.29	1,444.98	20.30	72.166	
4,100.00	3,830.60	3,736.97	3,727.67	26.48	9.17	-171.86	-200.46	-156.24	1,512.57	1,491.70	20.87	72.472	
4,200.00	3,921.57	3,825.08	3,815.49	27.29	9.41	-171.91	-206.63	-159.82	1,559.86	1,538.42	21.44	72.760	
4,300.00	4,012.55	3,913.18	3,903.30	28.10	9.65	-171.97	-212.81	-163.39	1,607.15	1,585.14	22.01	73.033	
4,400.00	4,103.52	4,001.28	3,991.12	28.91	9.89	-172.01	-218.98	-166.96	1,654.43	1,631.86	22.57	73.291	
4,500.00	4,194.50	4,089.39	4,078.93	29.72	10.13	-172.06	-225.15	-170.54	1,701.72	1,678.58	23.14	73.536	
4,600.00	4,285.47	4,177.49	4,166.75	30.54	10.37	-172.10	-231.33	-174.11	1,749.01	1,725.30	23.71	73.768	
4,700.00	4,376.45	4,265.60	4,254.56	31.35	10.61	-172.15	-237.50	-177.68	1,796.30	1,772.03	24.28	73.990	
4,800.00	4,467.42	4,353.70	4,342.38	32.16	10.85	-172.18	-243.68	-181.25	1,843.60	1,818.75	24.85	74.200	
4,900.00	4,558.40	4,441.80	4,430.19	32.97	11.09	-172.22	-249.85	-184.83	1,890.89	1,865.47	25.41	74.401	

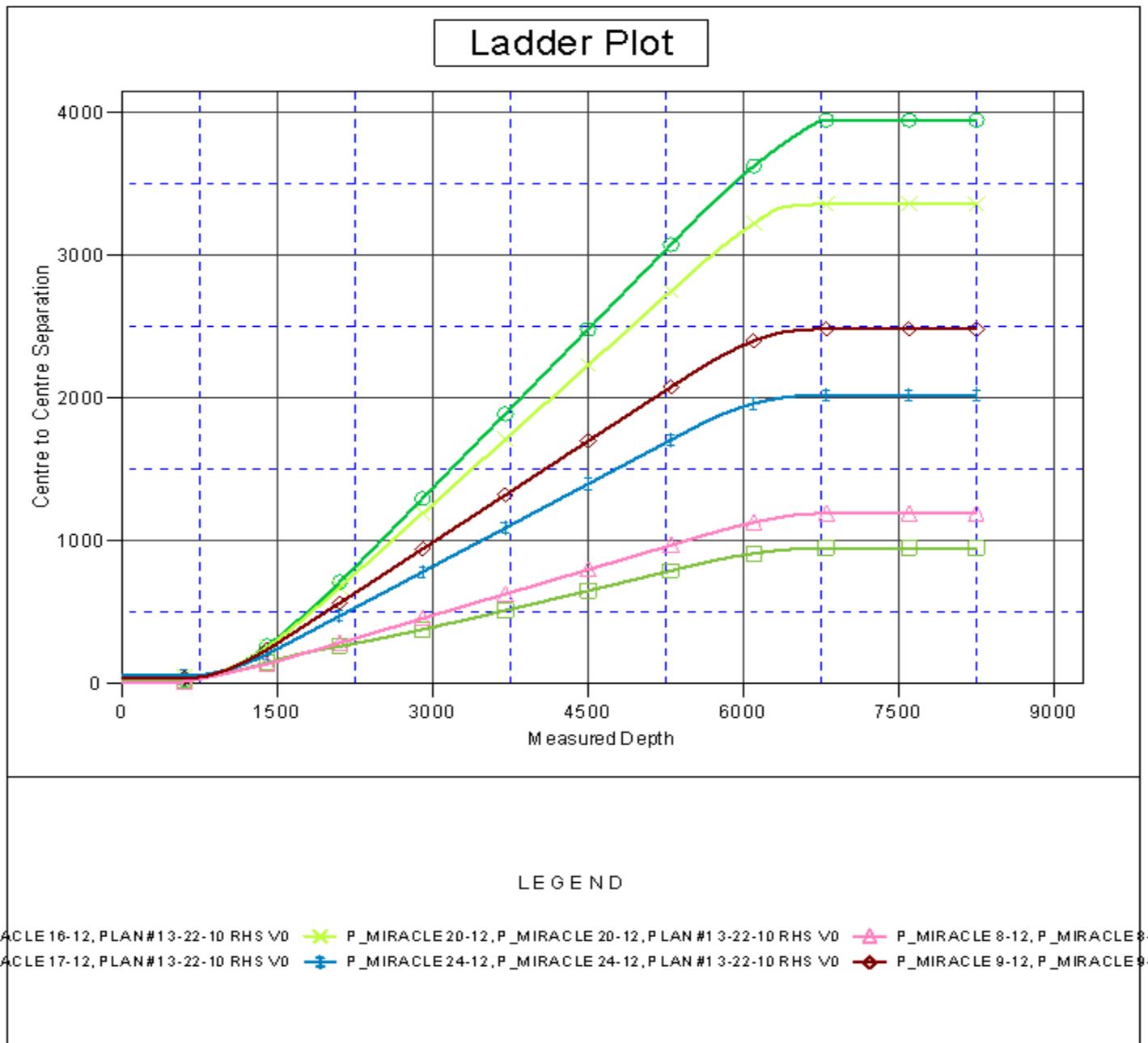
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design LARIMER_MIRACLE 40-12 PAD - P_MIRACLE 9-12 - P_MIRACLE 9-12 - 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	4,649.37	4,529.91	4,518.01	33.79	11.34	-172.26	-256.02	-188.40	1,938.18	1,912.20	25.98	74.592	
5,100.00	4,740.34	4,618.01	4,605.82	34.60	11.58	-172.29	-262.20	-191.97	1,985.47	1,958.92	26.55	74.775	
5,200.00	4,831.32	4,706.12	4,693.64	35.41	11.82	-172.32	-268.37	-195.55	2,032.77	2,005.65	27.12	74.950	
5,300.00	4,922.29	4,794.22	4,781.45	36.22	12.06	-172.35	-274.54	-199.12	2,080.06	2,052.37	27.69	75.117	
5,400.00	5,013.27	4,882.32	4,869.27	37.04	12.30	-172.38	-280.72	-202.69	2,127.36	2,099.10	28.26	75.278	
5,507.02	5,110.63	4,976.61	4,963.24	37.91	12.56	-172.41	-287.32	-206.51	2,177.97	2,149.10	28.87	75.442	
5,600.00	5,195.83	5,059.23	5,045.59	38.56	12.79	-172.56	-293.11	-209.87	2,220.62	2,191.09	29.53	75.191	
5,700.00	5,288.76	5,149.56	5,135.63	39.12	13.04	-172.69	-299.44	-213.53	2,263.50	2,233.31	30.19	74.973	
5,800.00	5,382.92	5,241.33	5,227.09	39.65	13.29	-172.79	-305.87	-217.25	2,303.22	2,272.42	30.81	74.756	
5,900.00	5,478.19	5,334.41	5,319.87	40.13	13.54	-172.87	-312.40	-221.02	2,339.75	2,308.36	31.39	74.544	
6,000.00	5,574.47	5,428.70	5,413.85	40.57	13.80	-172.93	-319.00	-224.85	2,373.03	2,341.10	31.92	74.337	
6,100.00	5,671.63	5,524.08	5,508.91	40.96	14.07	-172.97	-325.69	-228.72	2,403.02	2,370.61	32.41	74.139	
6,200.00	5,769.56	5,620.43	5,604.95	41.30	14.33	-172.99	-332.44	-232.62	2,429.69	2,396.84	32.86	73.951	
6,300.00	5,868.13	5,718.06	5,702.15	41.60	14.69	-172.98	-342.41	-238.40	2,452.72	2,419.37	33.35	73.540	
6,400.00	5,967.23	5,813.21	5,797.23	41.85	15.04	-173.04	-345.72	-240.31	2,466.87	2,433.05	33.82	72.933	
6,500.00	6,066.74	6,082.72	6,066.74	42.05	15.20	-173.09	-345.72	-240.31	2,476.68	2,442.64	34.05	72.743	
6,600.00	6,166.53	6,182.51	6,166.53	42.21	15.36	-173.13	-345.72	-240.31	2,483.04	2,448.82	34.21	72.572	
6,700.00	6,266.48	6,282.46	6,266.48	42.31	15.52	-173.14	-345.72	-240.31	2,485.93	2,451.60	34.33	72.413	
6,733.52	6,300.00	6,315.98	6,300.00	42.33	15.57	176.84	-345.72	-240.31	2,486.13	2,451.77	34.36	72.363	
6,800.00	6,366.48	6,382.46	6,366.48	42.38	15.68	176.84	-345.72	-240.31	2,486.13	2,451.57	34.56	71.936	
6,900.00	6,466.48	6,482.46	6,466.48	42.44	15.84	176.84	-345.72	-240.31	2,486.13	2,451.24	34.88	71.274	
7,000.00	6,566.48	6,582.46	6,566.48	42.51	16.00	176.84	-345.72	-240.31	2,486.13	2,450.92	35.21	70.618	
7,100.00	6,666.48	6,682.46	6,666.48	42.58	16.17	176.84	-345.72	-240.31	2,486.13	2,450.59	35.53	69.969	
7,200.00	6,766.48	6,782.46	6,766.48	42.65	16.34	176.84	-345.72	-240.31	2,486.13	2,450.26	35.86	69.326	
7,300.00	6,866.48	6,882.46	6,866.48	42.72	16.50	176.84	-345.72	-240.31	2,486.13	2,449.93	36.19	68.691	
7,400.00	6,966.48	6,982.46	6,966.48	42.79	16.67	176.84	-345.72	-240.31	2,486.13	2,449.60	36.53	68.063	
7,500.00	7,066.48	7,082.46	7,066.48	42.87	16.84	176.84	-345.72	-240.31	2,486.13	2,449.26	36.86	67.441	
7,600.00	7,166.48	7,182.46	7,166.48	42.94	17.02	176.84	-345.72	-240.31	2,486.13	2,448.92	37.20	66.827	
7,700.00	7,266.48	7,282.46	7,266.48	43.01	17.19	176.84	-345.72	-240.31	2,486.13	2,448.58	37.54	66.220	
7,800.00	7,366.48	7,382.46	7,366.48	43.09	17.36	176.84	-345.72	-240.31	2,486.13	2,448.24	37.89	65.620	
7,900.00	7,466.48	7,482.46	7,466.48	43.17	17.54	176.84	-345.72	-240.31	2,486.13	2,447.89	38.23	65.027	
8,000.00	7,566.48	7,582.46	7,566.48	43.25	17.72	176.84	-345.72	-240.31	2,486.13	2,447.55	38.58	64.442	
8,100.00	7,666.48	7,682.46	7,666.48	43.32	17.89	176.84	-345.72	-240.31	2,486.13	2,447.20	38.93	63.863	
8,200.00	7,766.48	7,782.46	7,766.48	43.40	18.07	176.84	-345.72	-240.31	2,486.13	2,446.85	39.28	63.292	
8,230.49	7,796.97	7,812.94	7,796.97	43.43	18.13	176.84	-345.72	-240.31	2,486.13	2,446.74	39.39	63.119	
8,248.52	7,815.00	7,825.98	7,810.00	43.44	18.15	176.84	-345.72	-240.31	2,486.13	2,446.69	39.44	63.033	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-22-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4963.00ft (Original Well Elev) Coordinates are relative to: P_MIRACLE 1-12
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°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_MIRACLE 1-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4963.00ft (Original Well Elev)
Reference Site:	LARIMER_MIRACLE 40-12 PAD	MD Reference:	WELL @ 4963.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_MIRACLE 1-12	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	P_MIRACLE 1-12	Database:	EDM 2003.21 Single User Db
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Reference Depths are relative to WELL @ 4963.00ft (Original Well Elev) Coordinates are relative to: P_MIRACLE 1-12
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