



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DRY CREEK 20-27 PAD

P_DRY CREEK 16-27

P_DRY CREEK 16-27

Plan: PLAN #1 10-29-09 RHS

Standard Planning Report

29 October, 2009





Azimuths to True North
Magnetic North: 9.07°

Magnetic Field
Strength: 53107.1snT
Dip Angle: 66.79°
Date: 10/29/2009
Model: IGRF200510

WELL DETAILS: P_DRY CREEK 16-27

+N/-S	+E/-W	Northing	Ground Level:	5044.00	Longitude	Slot
0.00	0.00	1249904.38	Easting	3176121.89	40° 1' 3.576 N	104° 52' 16.212 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3187.00	3215.57	PARKMAN TOP
4789.00	4840.08	SUSSEX TOP
7371.00	7422.08	NIO A TOP
7771.00	7822.08	CODELL TOP

SECTION DETAILS

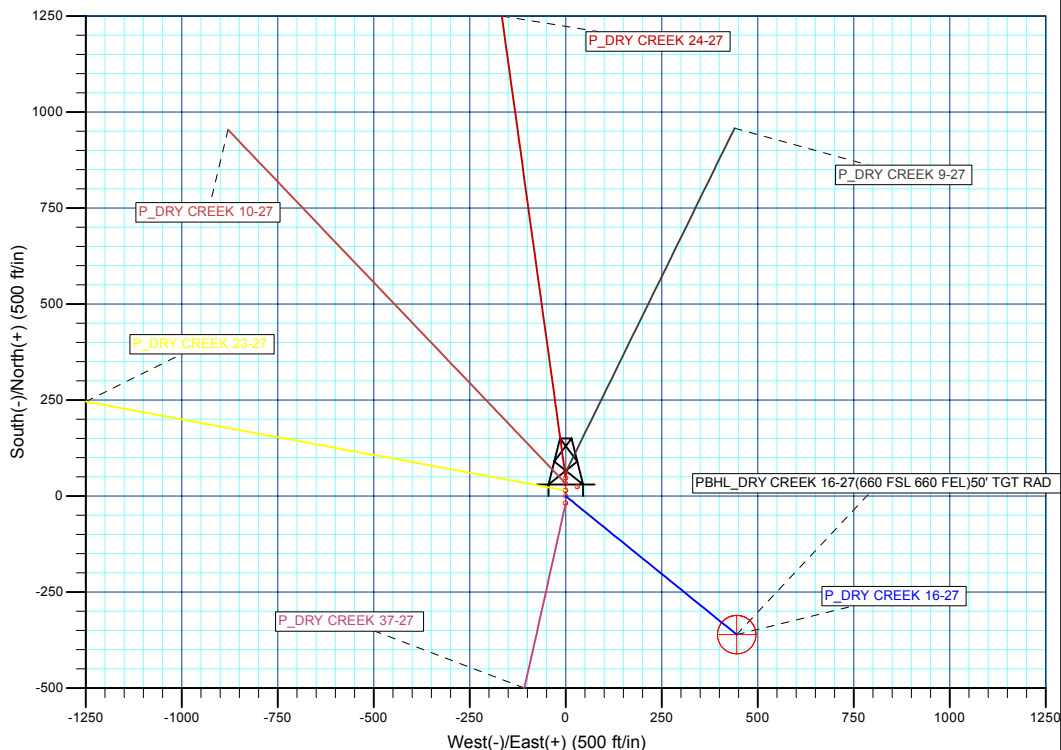
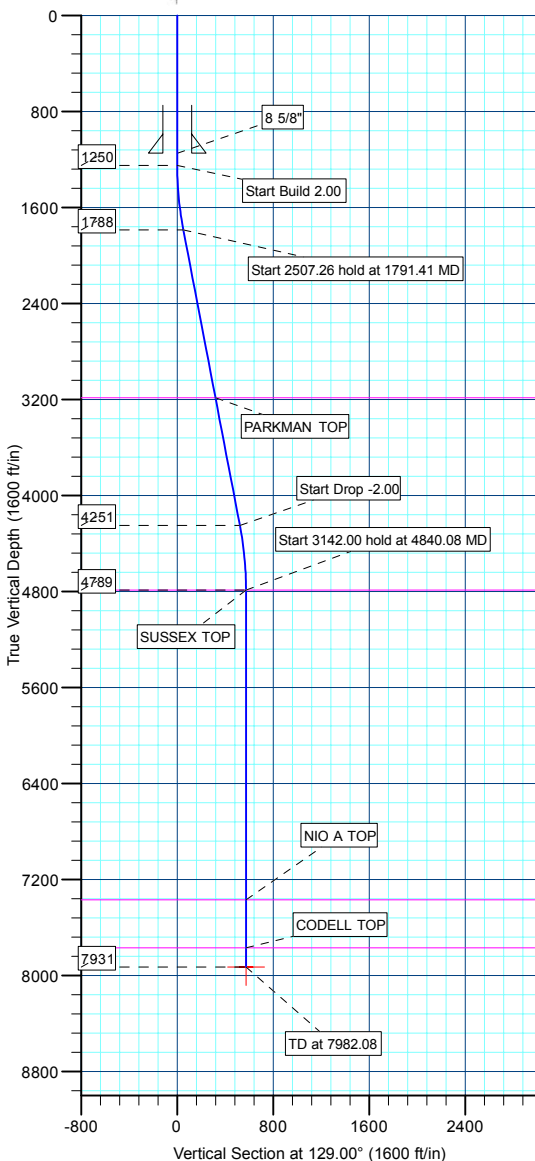
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1250.00	0.00	0.00	1250.00	0.00	0.00	0.00	0.00	0.00	
1791.41	10.83	129.00	1788.19	-32.10	39.64	2.00	129.00	51.01	
4298.67	10.83	129.00	4250.81	-328.52	405.70	0.00	0.00	522.03	
4840.08	0.00	0.00	4789.00	-360.62	445.34	2.00	180.00	573.04	
7982.08	0.00	0.00	7931.00	-360.62	445.34	0.00	0.00	573.04	PBHL_DRY CREEK 16-27(660 FSL 660 FEL)50' TGT RAD

CASING DETAILS

TVD	MD	Name	Size
1150.00	1150.00	8 5/8"	8.62



KB ELEV: WELL @ 5059.00ft (Original Well Elev)
GRD ELEV: 5044.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7931.00	-360.62	445.34	1249546.93	3176569.77	40° 1' 0.012 N	104° 52' 10.488 W	Circle (Radius: 50.00)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site:	WELD_DRY CREEK 20-27 PAD	North Reference:	True
Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_DRY CREEK 16-27		
Design:	PLAN #1 10-29-09 RHS		

Project	COLORADO NOTHERN 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	WELD_DRY CREEK 20-27 PAD, SECTION 27 T1N R67W			
Site Position:		Northing:	1,249,937.18 ft	Latitude: 40° 1' 3.900 N
From:	Lat/Long	Easting:	3,176,121.65 ft	Longitude: 104° 52' 16.212 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence: 0.41 °

Well	P_DRY CREEK 16-27			
Well Position	+N/-S	-32.79 ft	Northing:	1,249,904.38 ft
	+E/-W	0.00 ft	Easting:	3,176,121.89 ft
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft
			Ground Level:	5,044.00 ft

Wellbore	P_DRY CREEK 16-27				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/29/2009	9.07	66.79	53,107

Design	PLAN #1 10-29-09 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	129.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,791.41	10.83	129.00	1,788.19	-32.10	39.64	2.00	2.00	0.00	129.00	
4,298.67	10.83	129.00	4,250.81	-328.52	405.70	0.00	0.00	0.00	0.00	
4,840.08	0.00	0.00	4,789.00	-360.62	445.34	2.00	-2.00	0.00	180.00	
7,982.08	0.00	0.00	7,931.00	-360.62	445.34	0.00	0.00	0.00	0.00	PBHL_DRY CREEK

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site:	WELD_DRY CREEK 20-27 PAD	North Reference:	True
Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_DRY CREEK 16-27		
Design:	PLAN #1 10-29-09 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	1.00	129.00	1,300.00	-0.27	0.34	0.44	2.00	2.00	0.00
1,400.00	3.00	129.00	1,399.93	-2.47	3.05	3.93	2.00	2.00	0.00
1,500.00	5.00	129.00	1,499.68	-6.86	8.47	10.90	2.00	2.00	0.00
1,600.00	7.00	129.00	1,599.13	-13.44	16.60	21.35	2.00	2.00	0.00
1,700.00	9.00	129.00	1,698.15	-22.20	27.41	35.27	2.00	2.00	0.00
Start 2507.26 hold at 1791.41 MD									
1,791.41	10.83	129.00	1,788.19	-32.10	39.64	51.01	2.00	2.00	0.00
1,800.00	10.83	129.00	1,796.63	-33.12	40.89	52.62	0.00	0.00	0.00
1,900.00	10.83	129.00	1,894.85	-44.94	55.49	71.41	0.00	0.00	0.00
2,000.00	10.83	129.00	1,993.07	-56.76	70.09	90.19	0.00	0.00	0.00
2,100.00	10.83	129.00	2,091.29	-68.58	84.69	108.98	0.00	0.00	0.00
2,200.00	10.83	129.00	2,189.51	-80.41	99.29	127.77	0.00	0.00	0.00
2,300.00	10.83	129.00	2,287.73	-92.23	113.89	146.55	0.00	0.00	0.00
2,400.00	10.83	129.00	2,385.95	-104.05	128.49	165.34	0.00	0.00	0.00
2,500.00	10.83	129.00	2,484.17	-115.87	143.09	184.13	0.00	0.00	0.00
2,600.00	10.83	129.00	2,582.39	-127.70	157.69	202.91	0.00	0.00	0.00
2,700.00	10.83	129.00	2,680.61	-139.52	172.29	221.70	0.00	0.00	0.00
2,800.00	10.83	129.00	2,778.83	-151.34	186.89	240.48	0.00	0.00	0.00
2,900.00	10.83	129.00	2,877.04	-163.16	201.49	259.27	0.00	0.00	0.00
3,000.00	10.83	129.00	2,975.26	-174.99	216.09	278.06	0.00	0.00	0.00
3,100.00	10.83	129.00	3,073.48	-186.81	230.69	296.84	0.00	0.00	0.00
3,200.00	10.83	129.00	3,171.70	-198.63	245.29	315.63	0.00	0.00	0.00
PARKMAN TOP									
3,215.57	10.83	129.00	3,187.00	-200.47	247.57	318.56	0.00	0.00	0.00
3,300.00	10.83	129.00	3,269.92	-210.45	259.89	334.42	0.00	0.00	0.00
3,400.00	10.83	129.00	3,368.14	-222.28	274.49	353.20	0.00	0.00	0.00
3,500.00	10.83	129.00	3,466.36	-234.10	289.09	371.99	0.00	0.00	0.00
3,600.00	10.83	129.00	3,564.58	-245.92	303.69	390.78	0.00	0.00	0.00
3,700.00	10.83	129.00	3,662.80	-257.74	318.29	409.56	0.00	0.00	0.00
3,800.00	10.83	129.00	3,761.02	-269.57	332.89	428.35	0.00	0.00	0.00
3,900.00	10.83	129.00	3,859.24	-281.39	347.49	447.13	0.00	0.00	0.00
4,000.00	10.83	129.00	3,957.46	-293.21	362.09	465.92	0.00	0.00	0.00
4,100.00	10.83	129.00	4,055.68	-305.03	376.69	484.71	0.00	0.00	0.00
4,200.00	10.83	129.00	4,153.90	-316.86	391.29	503.49	0.00	0.00	0.00
Start Drop -2.00									
4,298.67	10.83	129.00	4,250.81	-328.52	405.70	522.03	0.00	0.00	0.00
4,300.00	10.80	129.00	4,252.12	-328.68	405.89	522.28	2.00	-2.00	0.00
4,400.00	8.80	129.00	4,350.65	-339.39	419.12	539.30	2.00	-2.00	0.00
4,500.00	6.80	129.00	4,449.72	-347.93	429.67	552.88	2.00	-2.00	0.00
4,600.00	4.80	129.00	4,549.21	-354.29	437.52	562.98	2.00	-2.00	0.00
4,700.00	2.80	129.00	4,648.98	-358.47	442.68	569.61	2.00	-2.00	0.00
4,800.00	0.80	129.00	4,748.93	-360.44	445.12	572.76	2.00	-2.00	0.00
Start 3142.00 hold at 4840.08 MD - SUSSEX TOP									
4,840.08	0.00	0.00	4,789.00	-360.62	445.34	573.04	2.00	-2.00	0.00
4,900.00	0.00	0.00	4,848.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,000.00	0.00	0.00	4,948.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,100.00	0.00	0.00	5,048.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,200.00	0.00	0.00	5,148.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,300.00	0.00	0.00	5,248.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,400.00	0.00	0.00	5,348.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,500.00	0.00	0.00	5,448.92	-360.62	445.34	573.04	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site:	WELD_DRY CREEK 20-27 PAD	North Reference:	True
Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_DRY CREEK 16-27		
Design:	PLAN #1 10-29-09 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,600.00	0.00	0.00	5,548.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,700.00	0.00	0.00	5,648.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,800.00	0.00	0.00	5,748.92	-360.62	445.34	573.04	0.00	0.00	0.00
5,900.00	0.00	0.00	5,848.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,000.00	0.00	0.00	5,948.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,100.00	0.00	0.00	6,048.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,200.00	0.00	0.00	6,148.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,300.00	0.00	0.00	6,248.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,400.00	0.00	0.00	6,348.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,500.00	0.00	0.00	6,448.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,600.00	0.00	0.00	6,548.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,700.00	0.00	0.00	6,648.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,800.00	0.00	0.00	6,748.92	-360.62	445.34	573.04	0.00	0.00	0.00
6,900.00	0.00	0.00	6,848.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,000.00	0.00	0.00	6,948.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,100.00	0.00	0.00	7,048.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,200.00	0.00	0.00	7,148.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,300.00	0.00	0.00	7,248.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,400.00	0.00	0.00	7,348.92	-360.62	445.34	573.04	0.00	0.00	0.00
NIO A TOP									
7,422.08	0.00	0.00	7,371.00	-360.62	445.34	573.04	0.00	0.00	0.00
7,500.00	0.00	0.00	7,448.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,600.00	0.00	0.00	7,548.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,700.00	0.00	0.00	7,648.92	-360.62	445.34	573.04	0.00	0.00	0.00
7,800.00	0.00	0.00	7,748.92	-360.62	445.34	573.04	0.00	0.00	0.00
CODELL TOP									
7,822.08	0.00	0.00	7,771.00	-360.62	445.34	573.04	0.00	0.00	0.00
7,900.00	0.00	0.00	7,848.92	-360.62	445.34	573.04	0.00	0.00	0.00
PBHL_DRY CREEK 16-27(660 FSL 660 FEL)50' TGT RAD									
7,982.08	0.00	0.00	7,931.00	-360.62	445.34	573.04	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_DRY CREEK 1	0.00	0.00	7,931.00	-360.62	445.34	1,249,546.93	3,176,569.77	40° 1' 0.012 N	104° 52' 10.488 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,150.00	1,150.00	8 5/8"	8.62	11.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site:	WELD_DRY CREEK 20-27 PAD	North Reference:	True
Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_DRY CREEK 16-27		
Design:	PLAN #1 10-29-09 RHS		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,215.57	3,187.00	PARKMAN TOP				
4,840.08	4,789.00	SUSSEX TOP				
7,422.08	7,371.00	NIO A TOP				
7,822.08	7,771.00	CODELL TOP				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,250.00	1,250.00	0.00	0.00	Start Build 2.00	
1,791.41	1,788.19	-32.10	39.64	Start 2507.26 hold at 1791.41 MD	
4,298.67	4,250.81	-328.52	405.70	Start Drop -2.00	
4,840.08	4,789.00	-360.62	445.34	Start 3142.00 hold at 4840.08 MD	
7,982.08	7,931.00	-360.62	445.34	TD at 7982.08	

US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_DRY CREEK 20-27 PAD
P_DRY CREEK 16-27**

**P_DRY CREEK 16-27
PLAN #1 10-29-09 RHS**

Anticollision Report

29 October, 2009

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 10-29-09 RHS		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 10/29/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,982.08	PLAN #1 10-29-09 RHS (P_DRY CREEK	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_DRY CREEK 20-27 PAD						
P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #	1,250.00	1,250.00	32.79	27.43	6.117	CC, ES
P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #	1,300.00	1,299.57	33.39	27.82	5.993	SF
P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #	200.00	200.00	14.57	13.93	22.746	CC
P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #	300.00	299.87	14.99	13.91	13.861	ES
P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #	400.00	399.49	17.26	15.73	11.281	SF
P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN #	1,250.00	1,250.00	47.36	42.00	8.834	CC, ES
P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN #	1,300.00	1,299.18	48.06	42.49	8.625	SF
P_DRY CREEK 37-27 - P_DRY CREEK 37-27 - PLAN #	1,250.00	1,250.00	18.22	12.86	3.398	CC
P_DRY CREEK 37-27 - P_DRY CREEK 37-27 - PLAN #	1,300.00	1,299.69	18.37	12.81	3.305	ES, SF
P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 1	1,250.00	1,250.00	61.92	56.56	11.551	CC, ES
P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 1	1,300.00	1,299.04	62.58	57.01	11.234	SF
UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM	1,463.13	1,445.94	38.28	-20.64	0.650	Level 1, CC
UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM	1,600.00	1,582.13	40.57	-24.04	0.628	Level 1, ES, SF

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.79	0.00	32.79				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	32.79	0.00	32.79	32.60	0.19	171.646	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	32.79	0.00	32.79	32.15	0.64	51.193	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	32.79	0.00	32.79	31.70	1.09	30.082	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	32.79	0.00	32.79	31.25	1.54	21.299	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	32.79	0.00	32.79	30.80	1.99	16.486	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	32.79	0.00	32.79	30.35	2.44	13.447	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	32.79	0.00	32.79	29.90	2.89	11.354	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	32.79	0.00	32.79	29.46	3.34	9.825	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	32.79	0.00	32.79	29.01	3.79	8.659	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	32.79	0.00	32.79	28.56	4.24	7.740	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	32.79	0.00	32.79	28.11	4.69	6.998	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	0.00	32.79	0.00	32.79	27.66	5.14	6.385	
1,250.00	1,250.00	1,250.00	1,250.00	2.68	2.68	0.00	32.79	0.00	32.79	27.43	5.36	6.117	CC, ES
1,300.00	1,300.00	1,299.57	1,299.57	2.78	2.79	-130.08	33.10	-0.30	33.39	27.82	5.57	5.993	SF

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_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,400.00	1,399.93	1,398.37	1,398.30	2.96	3.01	-137.40	35.57	-2.65	38.50	32.54	5.97	6.454	
1,500.00	1,499.68	1,496.10	1,495.80	3.16	3.23	-147.12	40.44	-7.29	50.01	43.65	6.36	7.864	
1,600.00	1,599.13	1,592.11	1,591.29	3.37	3.45	-155.20	47.55	-14.08	68.72	61.98	6.74	10.191	
1,700.00	1,698.15	1,685.76	1,684.08	3.61	3.69	-160.82	56.72	-22.84	94.61	87.49	7.12	13.295	
1,791.41	1,788.19	1,768.83	1,766.00	3.85	3.92	-164.28	66.69	-32.35	124.23	116.79	7.45	16.682	
1,800.00	1,796.63	1,776.51	1,773.55	3.88	3.94	-164.56	67.70	-33.31	127.29	119.81	7.48	17.014	
1,900.00	1,894.85	1,864.64	1,859.93	4.18	4.21	-167.09	80.31	-45.34	164.55	156.66	7.88	20.874	
2,000.00	1,993.07	1,950.52	1,943.56	4.50	4.51	-168.73	94.45	-58.83	204.79	196.50	8.29	24.712	
2,100.00	2,091.29	2,034.10	2,024.34	4.84	4.83	-169.86	109.94	-73.62	247.82	239.13	8.69	28.508	
2,200.00	2,189.51	2,115.32	2,102.22	5.19	5.18	-170.66	126.63	-89.53	293.49	284.39	9.10	32.254	
2,300.00	2,287.73	2,194.16	2,177.16	5.55	5.56	-171.25	144.34	-106.44	341.67	332.16	9.51	35.941	
2,400.00	2,385.95	2,270.60	2,249.15	5.93	5.97	-171.70	162.94	-124.18	392.22	382.31	9.92	39.553	
2,500.00	2,484.17	2,344.66	2,318.22	6.31	6.41	-172.04	182.27	-142.63	445.05	434.72	10.33	43.104	
2,600.00	2,582.39	2,416.35	2,384.39	6.69	6.86	-172.31	202.21	-161.66	500.02	489.29	10.73	46.597	
2,700.00	2,680.61	2,485.69	2,447.73	7.08	7.34	-172.53	222.63	-181.14	557.05	545.91	11.14	50.022	
2,800.00	2,778.83	2,565.22	2,519.88	7.47	7.92	-172.73	246.84	-204.24	615.29	603.72	11.57	53.167	
2,900.00	2,877.04	2,646.47	2,593.58	7.87	8.53	-172.90	271.58	-227.85	673.56	661.55	12.02	56.050	
3,000.00	2,975.26	2,727.73	2,667.29	8.27	9.15	-173.04	296.32	-251.46	731.84	719.37	12.47	58.707	
3,100.00	3,073.48	2,808.98	2,741.00	8.68	9.79	-173.17	321.06	-275.07	790.11	777.19	12.92	61.159	
3,200.00	3,171.70	2,890.24	2,814.70	9.08	10.43	-173.27	345.81	-298.68	848.39	835.01	13.38	63.421	
3,300.00	3,269.92	2,971.49	2,888.41	9.49	11.08	-173.36	370.55	-322.29	906.67	892.83	13.84	65.513	
3,400.00	3,368.14	3,052.74	2,962.11	9.90	11.73	-173.44	395.29	-345.90	964.95	950.65	14.30	67.456	
3,500.00	3,466.36	3,134.00	3,035.82	10.31	12.39	-173.52	420.03	-369.51	1,023.23	1,008.46	14.77	69.265	
3,600.00	3,564.58	3,215.25	3,109.53	10.72	13.06	-173.58	444.78	-393.11	1,081.51	1,066.27	15.24	70.951	
3,700.00	3,662.80	3,296.51	3,183.23	11.14	13.73	-173.64	469.52	-416.72	1,139.80	1,124.08	15.72	72.524	
3,800.00	3,761.02	3,377.76	3,256.94	11.55	14.40	-173.69	494.26	-440.33	1,198.08	1,181.89	16.19	73.991	
3,900.00	3,859.24	3,459.01	3,330.65	11.97	15.07	-173.74	519.00	-463.94	1,256.37	1,239.70	16.67	75.367	
4,000.00	3,957.46	3,540.27	3,404.35	12.38	15.75	-173.78	543.75	-487.55	1,314.65	1,297.50	17.15	76.658	
4,100.00	4,055.68	3,621.52	3,478.06	12.80	16.43	-173.82	568.49	-511.16	1,372.94	1,355.31	17.63	77.872	
4,200.00	4,153.90	3,702.78	3,551.77	13.22	17.11	-173.85	593.23	-534.77	1,431.22	1,413.11	18.11	79.014	
4,298.67	4,250.81	3,782.95	3,624.49	13.63	17.78	-173.89	617.64	-558.06	1,488.74	1,470.14	18.59	80.075	
4,300.00	4,252.12	3,784.03	3,625.47	13.64	17.79	-173.89	617.97	-558.38	1,489.51	1,470.91	18.60	80.081	
4,400.00	4,350.65	3,866.31	3,700.11	13.94	18.48	-174.06	643.03	-582.28	1,546.34	1,527.12	19.21	80.483	
4,500.00	4,449.72	3,950.51	3,776.49	14.20	19.19	-174.19	668.67	-606.75	1,600.28	1,580.46	19.82	80.761	
4,600.00	4,549.21	4,036.53	3,854.52	14.44	19.92	-174.30	694.86	-631.74	1,651.26	1,630.85	20.40	80.930	
4,700.00	4,648.98	4,124.27	3,934.11	14.63	20.66	-174.39	721.58	-657.24	1,699.22	1,678.24	20.98	81.003	
4,800.00	4,748.93	4,213.62	4,015.16	14.79	21.42	-174.45	748.78	-683.20	1,744.11	1,722.57	21.53	80.990	
4,840.08	4,789.00	4,249.85	4,048.03	14.85	21.73	-45.47	759.82	-693.73	1,761.22	1,739.46	21.76	80.955	
4,900.00	4,848.92	4,382.75	4,169.71	14.93	22.64	-45.41	798.45	-730.59	1,785.38	1,763.13	22.26	80.209	
5,000.00	4,948.92	4,636.32	4,408.15	15.08	24.07	-45.33	860.68	-789.97	1,819.33	1,796.19	23.14	78.623	
5,100.00	5,048.92	4,904.63	4,667.69	15.22	25.25	-45.26	909.64	-836.69	1,844.59	1,820.59	23.99	76.875	
5,200.00	5,148.92	5,183.97	4,943.37	15.37	26.10	-45.23	941.73	-867.31	1,860.48	1,835.70	24.78	75.080	
5,300.00	5,248.92	5,469.48	5,228.24	15.51	26.56	-45.21	954.30	-879.30	1,866.57	1,841.11	25.47	73.298	
5,400.00	5,348.92	5,590.17	5,348.92	15.66	26.67	-45.21	954.43	-879.42	1,866.64	1,840.79	25.85	72.210	
5,500.00	5,448.92	5,690.17	5,448.92	15.81	26.77	-45.21	954.43	-879.42	1,866.64	1,840.42	26.22	71.205	
5,600.00	5,548.92	5,790.17	5,548.92	15.97	26.86	-45.21	954.43	-879.42	1,866.64	1,840.05	26.58	70.217	
5,700.00	5,648.92	5,890.17	5,648.92	16.12	26.96	-45.21	954.43	-879.42	1,866.64	1,839.68	26.95	69.251	
5,800.00	5,748.92	5,990.17	5,748.92	16.28	27.06	-45.21	954.43	-879.42	1,866.64	1,839.31	27.33	68.305	
5,900.00	5,848.92	6,090.17	5,848.92	16.44	27.16	-45.21	954.43	-879.42	1,866.64	1,838.93	27.70	67.379	
6,000.00	5,948.92	6,190.17	5,948.92	16.60	27.26	-45.21	954.43	-879.42	1,866.64	1,838.55	28.08	66.473	
6,100.00	6,048.92	6,290.17	6,048.92	16.76	27.36	-45.21	954.43	-879.42	1,866.64	1,838.18	28.46	65.587	
6,200.00	6,148.92	6,390.17	6,148.92	16.92	27.47	-45.21	954.43	-879.42	1,866.64	1,837.79	28.84	64.719	

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_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	6,248.92	6,490.17	6,248.92	17.08	27.57	-45.21	954.43	-879.42	1,866.64	1,837.41	29.23	63.870	
6,400.00	6,348.92	6,590.17	6,348.92	17.25	27.68	-45.21	954.43	-879.42	1,866.64	1,837.02	29.61	63.039	
6,500.00	6,448.92	6,690.17	6,448.92	17.41	27.79	-45.21	954.43	-879.42	1,866.64	1,836.64	30.00	62.225	
6,600.00	6,548.92	6,790.17	6,548.92	17.58	27.90	-45.21	954.43	-879.42	1,866.64	1,836.25	30.39	61.429	
6,700.00	6,648.92	6,890.17	6,648.92	17.75	28.01	-45.21	954.43	-879.42	1,866.64	1,835.86	30.78	60.650	
6,800.00	6,748.92	6,990.17	6,748.92	17.92	28.12	-45.21	954.43	-879.42	1,866.64	1,835.47	31.17	59.887	
6,900.00	6,848.92	7,090.17	6,848.92	18.09	28.24	-45.21	954.43	-879.42	1,866.64	1,835.07	31.56	59.141	
7,000.00	6,948.92	7,190.17	6,948.92	18.27	28.35	-45.21	954.43	-879.42	1,866.64	1,834.68	31.96	58.410	
7,100.00	7,048.92	7,290.17	7,048.92	18.44	28.47	-45.21	954.43	-879.42	1,866.64	1,834.28	32.35	57.695	
7,200.00	7,148.92	7,390.17	7,148.92	18.61	28.59	-45.21	954.43	-879.42	1,866.64	1,833.88	32.75	56.994	
7,300.00	7,248.92	7,490.17	7,248.92	18.79	28.71	-45.21	954.43	-879.42	1,866.64	1,833.49	33.15	56.308	
7,400.00	7,348.92	7,590.17	7,348.92	18.97	28.83	-45.21	954.43	-879.42	1,866.64	1,833.09	33.55	55.637	
7,500.00	7,448.92	7,690.17	7,448.92	19.15	28.95	-45.21	954.43	-879.42	1,866.64	1,832.68	33.95	54.979	
7,600.00	7,548.92	7,790.17	7,548.92	19.32	29.07	-45.21	954.43	-879.42	1,866.64	1,832.28	34.35	54.335	
7,700.00	7,648.92	7,890.17	7,648.92	19.50	29.20	-45.21	954.43	-879.42	1,866.64	1,831.88	34.76	53.704	
7,800.00	7,748.92	7,990.17	7,748.92	19.69	29.32	-45.21	954.43	-879.42	1,866.64	1,831.47	35.16	53.086	
7,900.00	7,848.92	8,090.17	7,848.92	19.87	29.45	-45.21	954.43	-879.42	1,866.64	1,831.07	35.57	52.480	
7,982.08	7,931.00	8,172.24	7,931.00	20.02	29.56	-45.21	954.43	-879.42	1,866.64	1,830.73	35.90	51.992	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.57	0.00	14.57				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	14.57	0.00	14.57	14.38	0.19	76.268	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	14.57	0.00	14.57	13.93	0.64	22.746 CC	
300.00	300.00	299.87	299.85	0.55	0.54	-6.56	14.89	-1.71	14.99	13.91	1.08	13.861 ES	
400.00	400.00	399.49	399.33	0.77	0.76	-23.32	15.83	-6.83	17.26	15.73	1.53	11.281 SF	
500.00	500.00	498.64	498.10	0.99	1.01	-41.31	17.40	-15.29	23.24	21.24	2.01	11.582	
600.00	600.00	597.07	595.80	1.22	1.30	-54.08	19.57	-27.01	33.62	31.11	2.51	13.380	
700.00	700.00	694.57	692.11	1.44	1.62	-61.94	22.32	-41.87	48.10	45.06	3.05	15.789	
800.00	800.00	790.92	786.74	1.67	1.99	-66.77	25.63	-59.71	66.32	62.71	3.61	18.374	
900.00	900.00	885.94	879.40	1.89	2.41	-69.87	29.45	-80.36	88.03	83.83	4.20	20.939	
1,000.00	1,000.00	979.44	969.86	2.12	2.87	-71.96	33.75	-103.62	113.07	108.24	4.83	23.402	
1,100.00	1,100.00	1,071.27	1,057.90	2.34	3.38	-73.41	38.50	-129.28	141.30	135.81	5.49	25.729	
1,200.00	1,200.00	1,161.29	1,143.35	2.57	3.94	-74.47	43.66	-157.11	172.62	166.43	6.18	27.913	
1,250.00	1,250.00	1,205.59	1,185.06	2.68	4.23	-74.89	46.37	-171.76	189.39	182.86	6.54	28.977	
1,300.00	1,300.00	1,249.25	1,225.95	2.78	4.54	155.63	49.16	-186.84	207.27	201.59	5.68	36.510	
1,400.00	1,399.93	1,334.16	1,304.76	2.96	5.16	155.00	54.91	-217.89	247.31	241.23	6.08	40.671	
1,500.00	1,499.68	1,415.89	1,379.72	3.16	5.81	154.64	60.84	-249.93	292.83	286.35	6.47	45.224	
1,600.00	1,599.13	1,502.80	1,458.96	3.37	6.53	154.47	67.34	-285.02	342.26	335.38	6.88	49.713	
1,700.00	1,698.15	1,588.07	1,536.71	3.61	7.25	154.44	73.71	-319.44	394.42	387.14	7.29	54.122	
1,791.41	1,788.19	1,664.49	1,606.39	3.85	7.90	154.48	79.42	-350.30	444.45	436.80	7.65	58.098	
1,800.00	1,796.63	1,671.60	1,612.87	3.88	7.96	154.53	79.95	-353.17	449.26	441.57	7.69	58.418	
1,900.00	1,894.85	1,754.38	1,688.35	4.18	8.66	155.09	86.14	-386.59	505.23	497.07	8.17	61.853	
2,000.00	1,993.07	1,837.16	1,763.83	4.50	9.36	155.53	92.33	-420.01	561.23	552.57	8.66	64.831	
2,100.00	2,091.29	1,919.94	1,839.31	4.84	10.07	155.90	98.52	-453.43	617.25	608.09	9.15	67.428	
2,200.00	2,189.51	2,002.72	1,914.79	5.19	10.78	156.20	104.70	-486.85	673.28	663.62	9.66	69.704	
2,300.00	2,287.73	2,085.50	1,990.27	5.55	11.49	156.46	110.89	-520.28	729.32	719.15	10.17	71.710	
2,400.00	2,385.95	2,168.28	2,065.75	5.93	12.20	156.68	117.08	-553.70	785.37	774.68	10.69	73.489	
2,500.00	2,484.17	2,251.06	2,141.23	6.31	12.92	156.87	123.27	-587.12	841.43	830.22	11.21	75.075	
2,600.00	2,582.39	2,333.84	2,216.71	6.69	13.63	157.04	129.45	-620.54	897.49	885.76	11.73	76.496	
2,700.00	2,680.61	2,416.62	2,292.19	7.08	14.35	157.19	135.64	-653.96	953.56	941.30	12.26	77.775	
2,800.00	2,778.83	2,499.40	2,367.67	7.47	15.06	157.32	141.83	-687.38	1,009.63	996.84	12.79	78.931	
2,900.00	2,877.04	2,582.18	2,443.15	7.87	15.78	157.44	148.02	-720.81	1,065.71	1,052.38	13.32	79.978	
3,000.00	2,975.26	2,664.96	2,518.63	8.27	16.49	157.54	154.20	-754.23	1,121.78	1,107.92	13.86	80.933	
3,100.00	3,073.48	2,747.74	2,594.11	8.68	17.21	157.64	160.39	-787.65	1,177.86	1,163.47	14.40	81.806	
3,200.00	3,171.70	2,830.52	2,669.59	9.08	17.92	157.72	166.58	-821.07	1,233.95	1,219.01	14.94	82.607	
3,300.00	3,269.92	2,913.30	2,745.07	9.49	18.64	157.80	172.77	-854.49	1,290.03	1,274.55	15.48	83.343	
3,400.00	3,368.14	2,996.08	2,820.55	9.90	19.36	157.88	178.95	-887.91	1,346.11	1,330.09	16.02	84.023	
3,500.00	3,466.36	3,078.86	2,896.03	10.31	20.08	157.94	185.14	-921.34	1,402.20	1,385.64	16.56	84.651	
3,600.00	3,564.58	3,161.64	2,971.51	10.72	20.79	158.01	191.33	-954.76	1,458.29	1,441.18	17.11	85.235	
3,700.00	3,662.80	3,244.42	3,046.99	11.14	21.51	158.06	197.52	-988.18	1,514.38	1,496.72	17.65	85.777	
3,800.00	3,761.02	3,327.20	3,122.47	11.55	22.23	158.12	203.70	-1,021.60	1,570.47	1,552.27	18.20	86.283	
3,900.00	3,859.24	3,409.98	3,197.95	11.97	22.95	158.17	209.89	-1,055.02	1,626.56	1,607.81	18.75	86.755	
4,000.00	3,957.46	3,492.76	3,273.43	12.38	23.67	158.21	216.08	-1,088.44	1,682.65	1,663.35	19.30	87.197	
4,100.00	4,055.68	3,575.54	3,348.91	12.80	24.38	158.26	222.27	-1,121.86	1,738.74	1,718.90	19.85	87.612	
4,200.00	4,153.90	3,658.32	3,424.39	13.22	25.10	158.30	228.45	-1,155.29	1,794.84	1,774.44	20.40	88.001	
4,298.67	4,250.81	3,740.00	3,498.87	13.63	25.81	158.33	234.56	-1,188.26	1,850.18	1,829.25	20.94	88.363	
4,300.00	4,252.12	3,741.10	3,499.87	13.64	25.82	158.34	234.64	-1,188.71	1,850.93	1,829.98	20.95	88.356	
4,400.00	4,350.65	3,824.80	3,576.20	13.94	26.55	158.83	240.90	-1,222.50	1,905.63	1,883.95	21.69	87.872	
4,500.00	4,449.72	4,061.94	3,795.82	14.20	28.13	159.19	257.15	-1,310.27	1,954.76	1,931.95	22.81	85.707	
4,600.00	4,549.21	4,353.32	4,074.59	14.44	29.57	159.42	272.50	-1,393.23	1,992.43	1,968.47	23.96	83.159	
4,700.00	4,648.98	4,668.90	4,384.45	14.63	30.62	159.57	283.23	-1,451.18	2,017.04	1,992.04	25.00	80.671	
4,800.00	4,748.93	4,999.22	4,713.66	14.79	31.17	159.64	287.75	-1,475.58	2,027.43	2,001.57	25.86	78.400	

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_DRY CREEK 16-27
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #1 10-29-09 F												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
4,840.08	4,789.00	5,074.56	4,789.00	14.85	31.22	-71.35	287.83	-1,476.01	2,027.82	2,001.74	26.08	77.755	
4,900.00	4,848.92	5,134.49	4,848.92	14.93	31.26	-71.35	287.83	-1,476.01	2,027.82	2,001.55	26.27	77.193	
5,000.00	4,948.92	5,234.49	4,948.92	15.08	31.34	-71.35	287.83	-1,476.01	2,027.82	2,001.24	26.59	76.273	
5,100.00	5,048.92	5,334.49	5,048.92	15.22	31.41	-71.35	287.83	-1,476.01	2,027.82	2,000.92	26.91	75.364	
5,200.00	5,148.92	5,434.49	5,148.92	15.37	31.49	-71.35	287.83	-1,476.01	2,027.82	2,000.59	27.23	74.467	
5,300.00	5,248.92	5,534.49	5,248.92	15.51	31.57	-71.35	287.83	-1,476.01	2,027.82	2,000.27	27.56	73.582	
5,400.00	5,348.92	5,634.49	5,348.92	15.66	31.65	-71.35	287.83	-1,476.01	2,027.82	1,999.93	27.89	72.709	
5,500.00	5,448.92	5,734.49	5,448.92	15.81	31.73	-71.35	287.83	-1,476.01	2,027.82	1,999.60	28.22	71.848	
5,600.00	5,548.92	5,834.49	5,548.92	15.97	31.81	-71.35	287.83	-1,476.01	2,027.82	1,999.26	28.56	71.000	
5,700.00	5,648.92	5,934.49	5,648.92	16.12	31.89	-71.35	287.83	-1,476.01	2,027.82	1,998.92	28.90	70.165	
5,800.00	5,748.92	6,034.49	5,748.92	16.28	31.98	-71.35	287.83	-1,476.01	2,027.82	1,998.58	29.24	69.342	
5,900.00	5,848.92	6,134.49	5,848.92	16.44	32.06	-71.35	287.83	-1,476.01	2,027.82	1,998.23	29.59	68.532	
6,000.00	5,948.92	6,234.49	5,948.92	16.60	32.15	-71.35	287.83	-1,476.01	2,027.82	1,997.89	29.94	67.735	
6,100.00	6,048.92	6,334.49	6,048.92	16.76	32.24	-71.35	287.83	-1,476.01	2,027.82	1,997.54	30.29	66.950	
6,200.00	6,148.92	6,434.49	6,148.92	16.92	32.33	-71.35	287.83	-1,476.01	2,027.82	1,997.18	30.64	66.178	
6,300.00	6,248.92	6,534.49	6,248.92	17.08	32.42	-71.35	287.83	-1,476.01	2,027.82	1,996.83	31.00	65.418	
6,400.00	6,348.92	6,634.49	6,348.92	17.25	32.52	-71.35	287.83	-1,476.01	2,027.82	1,996.47	31.36	64.671	
6,500.00	6,448.92	6,734.49	6,448.92	17.41	32.61	-71.35	287.83	-1,476.01	2,027.82	1,996.11	31.72	63.936	
6,600.00	6,548.92	6,834.49	6,548.92	17.58	32.70	-71.35	287.83	-1,476.01	2,027.82	1,995.74	32.08	63.214	
6,700.00	6,648.92	6,934.49	6,648.92	17.75	32.80	-71.35	287.83	-1,476.01	2,027.82	1,995.38	32.44	62.503	
6,800.00	6,748.92	7,034.49	6,748.92	17.92	32.90	-71.35	287.83	-1,476.01	2,027.82	1,995.01	32.81	61.804	
6,900.00	6,848.92	7,134.49	6,848.92	18.09	33.00	-71.35	287.83	-1,476.01	2,027.82	1,994.64	33.18	61.118	
7,000.00	6,948.92	7,234.49	6,948.92	18.27	33.10	-71.35	287.83	-1,476.01	2,027.82	1,994.27	33.55	60.443	
7,100.00	7,048.92	7,334.49	7,048.92	18.44	33.20	-71.35	287.83	-1,476.01	2,027.82	1,993.90	33.92	59.779	
7,200.00	7,148.92	7,434.49	7,148.92	18.61	33.30	-71.35	287.83	-1,476.01	2,027.82	1,993.53	34.30	59.127	
7,300.00	7,248.92	7,534.49	7,248.92	18.79	33.41	-71.35	287.83	-1,476.01	2,027.82	1,993.15	34.67	58.486	
7,400.00	7,348.92	7,634.49	7,348.92	18.97	33.51	-71.35	287.83	-1,476.01	2,027.82	1,992.77	35.05	57.856	
7,500.00	7,448.92	7,734.49	7,448.92	19.15	33.62	-71.35	287.83	-1,476.01	2,027.82	1,992.39	35.43	57.236	
7,600.00	7,548.92	7,834.49	7,548.92	19.32	33.73	-71.35	287.83	-1,476.01	2,027.82	1,992.01	35.81	56.628	
7,700.00	7,648.92	7,934.49	7,648.92	19.50	33.84	-71.35	287.83	-1,476.01	2,027.82	1,991.63	36.19	56.029	
7,800.00	7,748.92	8,034.49	7,748.92	19.69	33.95	-71.35	287.83	-1,476.01	2,027.82	1,991.25	36.58	55.441	
7,900.00	7,848.92	8,134.49	7,848.92	19.87	34.06	-71.35	287.83	-1,476.01	2,027.82	1,990.86	36.96	54.864	
7,942.73	7,891.66	8,177.22	7,891.66	19.95	34.10	-71.35	287.83	-1,476.01	2,027.82	1,990.70	37.13	54.620	
7,982.08	7,931.00	8,191.56	7,906.00	20.02	34.12	-71.35	287.83	-1,476.01	2,027.98	1,990.74	37.23	54.467	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWMD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.36	0.00	47.36				
100.00	100.00	100.00	100.00	0.10	0.10	0.00	47.36	0.00	47.36	47.16	0.19	247.869	
200.00	200.00	200.00	200.00	0.32	0.32	0.00	47.36	0.00	47.36	46.72	0.64	73.926	
300.00	300.00	300.00	300.00	0.55	0.55	0.00	47.36	0.00	47.36	46.27	1.09	43.441	
400.00	400.00	400.00	400.00	0.77	0.77	0.00	47.36	0.00	47.36	45.82	1.54	30.758	
500.00	500.00	500.00	500.00	0.99	0.99	0.00	47.36	0.00	47.36	45.37	1.99	23.807	
600.00	600.00	600.00	600.00	1.22	1.22	0.00	47.36	0.00	47.36	44.92	2.44	19.418	
700.00	700.00	700.00	700.00	1.44	1.44	0.00	47.36	0.00	47.36	44.47	2.89	16.396	
800.00	800.00	800.00	800.00	1.67	1.67	0.00	47.36	0.00	47.36	44.02	3.34	14.188	
900.00	900.00	900.00	900.00	1.89	1.89	0.00	47.36	0.00	47.36	43.57	3.79	12.504	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	47.36	0.00	47.36	43.12	4.24	11.177	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	47.36	0.00	47.36	42.67	4.69	10.105	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	0.00	47.36	0.00	47.36	42.22	5.14	9.221	
1,250.00	1,250.00	1,250.00	1,250.00	2.68	2.68	0.00	47.36	0.00	47.36	42.00	5.36	8.834 CC, ES	
1,300.00	1,300.00	1,299.18	1,299.18	2.78	2.79	-129.46	47.77	-0.06	48.06	42.49	5.57	8.625 SF	
1,400.00	1,399.93	1,397.24	1,397.18	2.96	3.01	-132.66	51.10	-0.52	53.76	47.79	5.97	9.003	
1,500.00	1,499.68	1,494.40	1,494.10	3.16	3.23	-137.32	57.68	-1.43	65.53	59.16	6.37	10.285	
1,600.00	1,599.13	1,590.07	1,589.27	3.37	3.45	-141.75	67.33	-2.76	83.63	76.87	6.77	12.356	
1,700.00	1,698.15	1,683.72	1,682.07	3.61	3.68	-145.26	79.82	-4.49	108.09	100.93	7.16	15.092	
1,791.41	1,788.19	1,767.14	1,764.34	3.85	3.91	-147.63	93.47	-6.38	135.84	128.32	7.52	18.067	
1,800.00	1,796.63	1,774.87	1,771.94	3.88	3.93	-147.85	94.85	-6.57	138.70	131.15	7.56	18.359	
1,900.00	1,894.85	1,863.74	1,859.05	4.18	4.20	-149.71	112.23	-8.97	173.61	165.62	7.98	21.747	
2,000.00	1,993.07	1,950.62	1,943.66	4.50	4.49	-150.74	131.80	-11.68	211.38	202.96	8.42	25.106	
2,100.00	2,091.29	2,035.43	2,025.63	4.84	4.81	-151.28	153.35	-14.66	251.86	243.00	8.86	28.414	
2,200.00	2,189.51	2,118.10	2,104.88	5.19	5.15	-151.53	176.65	-17.88	294.91	285.59	9.31	31.660	
2,300.00	2,287.73	2,200.00	2,182.68	5.55	5.53	-151.60	201.96	-21.38	340.41	330.64	9.77	34.826	
2,400.00	2,385.95	2,276.82	2,254.97	5.93	5.93	-151.55	227.70	-24.94	388.27	378.03	10.23	37.939	
2,500.00	2,484.17	2,362.39	2,335.00	6.31	6.41	-151.44	257.71	-29.09	437.57	426.84	10.73	40.796	
2,600.00	2,582.39	2,449.38	2,416.34	6.69	6.91	-151.35	288.25	-33.31	486.89	475.66	11.23	43.359	
2,700.00	2,680.61	2,536.36	2,497.69	7.08	7.43	-151.28	318.78	-37.53	536.21	524.47	11.74	45.672	
2,800.00	2,778.83	2,623.35	2,579.03	7.47	7.96	-151.22	349.32	-41.75	585.54	573.28	12.26	47.766	
2,900.00	2,877.04	2,710.34	2,660.37	7.87	8.50	-151.17	379.85	-45.98	634.86	622.08	12.78	49.667	
3,000.00	2,975.26	2,797.33	2,741.72	8.27	9.05	-151.13	410.38	-50.20	684.19	670.87	13.31	51.397	
3,100.00	3,073.48	2,884.32	2,823.06	8.68	9.61	-151.10	440.92	-54.42	733.51	719.66	13.85	52.975	
3,200.00	3,171.70	2,971.30	2,904.40	9.08	10.17	-151.06	471.45	-58.64	782.84	768.45	14.39	54.420	
3,300.00	3,269.92	3,058.29	2,985.75	9.49	10.74	-151.04	501.98	-62.86	832.16	817.23	14.93	55.747	
3,400.00	3,368.14	3,145.28	3,067.09	9.90	11.31	-151.01	532.52	-67.09	881.49	866.01	15.47	56.970	
3,500.00	3,466.36	3,232.27	3,148.43	10.31	11.88	-150.99	563.05	-71.31	930.81	914.79	16.02	58.098	
3,600.00	3,564.58	3,319.26	3,229.78	10.72	12.46	-150.97	593.58	-75.53	980.14	963.57	16.57	59.141	
3,700.00	3,662.80	3,406.24	3,311.12	11.14	13.04	-150.95	624.12	-79.75	1,029.46	1,012.34	17.13	60.109	
3,800.00	3,761.02	3,493.23	3,392.46	11.55	13.63	-150.93	654.65	-83.97	1,078.79	1,061.11	17.68	61.009	
3,900.00	3,859.24	3,580.22	3,473.81	11.97	14.21	-150.92	685.18	-88.20	1,128.11	1,109.87	18.24	61.846	
4,000.00	3,957.46	3,667.21	3,555.15	12.38	14.80	-150.90	715.72	-92.42	1,177.44	1,158.64	18.80	62.628	
4,100.00	4,055.68	3,754.20	3,636.50	12.80	15.39	-150.89	746.25	-96.64	1,226.77	1,207.40	19.36	63.359	
4,200.00	4,153.90	3,841.18	3,717.84	13.22	15.98	-150.88	776.78	-100.86	1,276.09	1,256.17	19.93	64.043	
4,298.67	4,250.81	3,927.01	3,798.10	13.63	16.56	-150.87	806.91	-105.03	1,324.76	1,304.28	20.48	64.678	
4,300.00	4,252.12	3,928.17	3,799.18	13.64	16.57	-150.88	807.32	-105.09	1,325.42	1,304.93	20.49	64.681	
4,400.00	4,350.65	4,015.91	3,881.23	13.94	17.17	-151.35	838.12	-109.34	1,373.37	1,352.23	21.14	64.950	
4,500.00	4,449.72	4,105.04	3,964.58	14.20	17.77	-151.71	869.40	-113.67	1,418.62	1,396.84	21.78	65.132	
4,600.00	4,549.21	4,195.46	4,049.12	14.44	18.39	-151.97	901.14	-118.06	1,461.12	1,438.72	22.40	65.243	
4,700.00	4,648.98	4,287.04	4,134.77	14.63	19.02	-152.12	933.29	-122.50	1,500.82	1,477.84	22.98	65.298	
4,800.00	4,748.93	4,379.69	4,221.40	14.79	19.65	-152.20	965.81	-127.00	1,537.70	1,514.16	23.55	65.309	

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_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN #1 10-29-09 F												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,840.08	4,789.00	4,417.09	4,256.38	14.85	19.91	-23.20	978.93	-128.82	1,551.69	1,527.93	23.76	65.299	
4,900.00	4,848.92	4,473.13	4,308.78	14.93	20.30	-23.00	998.60	-131.54	1,572.27	1,548.22	24.05	65.369	
5,000.00	4,948.92	4,566.64	4,396.22	15.08	20.94	-22.67	1,031.43	-136.07	1,606.65	1,582.11	24.54	65.481	
5,100.00	5,048.92	4,660.15	4,483.67	15.22	21.58	-22.35	1,064.25	-140.61	1,641.07	1,616.05	25.02	65.590	
5,200.00	5,148.92	4,753.66	4,571.11	15.37	22.22	-22.05	1,097.07	-145.15	1,675.53	1,650.03	25.50	65.697	
5,300.00	5,248.92	4,847.17	4,658.55	15.51	22.87	-21.76	1,129.90	-149.69	1,710.04	1,684.05	25.99	65.800	
5,400.00	5,348.92	4,940.68	4,746.00	15.66	23.51	-21.48	1,162.72	-154.23	1,744.58	1,718.11	26.47	65.901	
5,500.00	5,448.92	5,034.19	4,833.44	15.81	24.16	-21.22	1,195.54	-158.77	1,779.16	1,752.20	26.96	65.998	
5,600.00	5,548.92	5,127.71	4,920.88	15.97	24.80	-20.96	1,228.37	-163.31	1,813.77	1,786.33	27.44	66.092	
5,700.00	5,648.92	5,221.22	5,008.33	16.12	25.45	-20.71	1,261.19	-167.85	1,848.41	1,820.48	27.93	66.184	
5,800.00	5,748.92	5,314.73	5,095.77	16.28	26.10	-20.47	1,294.01	-172.38	1,883.08	1,854.67	28.41	66.273	
5,900.00	5,848.92	5,408.24	5,183.21	16.44	26.74	-20.24	1,326.84	-176.92	1,917.78	1,888.88	28.90	66.358	
6,000.00	5,948.92	5,501.75	5,270.66	16.60	27.39	-20.02	1,359.66	-181.46	1,952.51	1,923.12	29.39	66.441	
6,100.00	6,048.92	5,657.27	5,416.59	16.76	28.33	-19.68	1,412.90	-188.82	1,986.80	1,956.77	30.03	66.155	
6,200.00	6,148.92	5,962.91	5,710.43	16.92	29.68	-19.18	1,495.67	-200.27	2,013.68	1,982.70	30.98	64.999	
6,300.00	6,248.92	6,284.08	6,026.93	17.08	30.67	-18.88	1,548.74	-207.61	2,030.09	1,998.25	31.84	63.762	
6,400.00	6,348.92	6,606.74	6,348.92	17.25	31.18	-18.78	1,566.39	-210.05	2,035.41	2,002.86	32.55	62.534	
6,500.00	6,448.92	6,706.74	6,448.92	17.41	31.27	-18.78	1,566.39	-210.05	2,035.41	2,002.52	32.89	61.879	
6,600.00	6,548.92	6,806.74	6,548.92	17.58	31.36	-18.78	1,566.39	-210.05	2,035.41	2,002.16	33.25	61.210	
6,700.00	6,648.92	6,906.74	6,648.92	17.75	31.46	-18.78	1,566.39	-210.05	2,035.41	2,001.80	33.62	60.551	
6,800.00	6,748.92	7,006.74	6,748.92	17.92	31.56	-18.78	1,566.39	-210.05	2,035.41	2,001.43	33.98	59.902	
6,900.00	6,848.92	7,106.74	6,848.92	18.09	31.65	-18.78	1,566.39	-210.05	2,035.41	2,001.07	34.35	59.264	
7,000.00	6,948.92	7,206.74	6,948.92	18.27	31.75	-18.78	1,566.39	-210.05	2,035.41	2,000.70	34.71	58.636	
7,100.00	7,048.92	7,306.74	7,048.92	18.44	31.85	-18.78	1,566.39	-210.05	2,035.41	2,000.33	35.08	58.018	
7,200.00	7,148.92	7,406.74	7,148.92	18.61	31.96	-18.78	1,566.39	-210.05	2,035.41	1,999.96	35.45	57.410	
7,300.00	7,248.92	7,506.74	7,248.92	18.79	32.06	-18.78	1,566.39	-210.05	2,035.41	1,999.59	35.83	56.812	
7,400.00	7,348.92	7,606.74	7,348.92	18.97	32.16	-18.78	1,566.39	-210.05	2,035.41	1,999.21	36.20	56.223	
7,500.00	7,448.92	7,706.74	7,448.92	19.15	32.27	-18.78	1,566.39	-210.05	2,035.41	1,998.83	36.58	55.644	
7,600.00	7,548.92	7,806.74	7,548.92	19.32	32.38	-18.78	1,566.39	-210.05	2,035.41	1,998.46	36.96	55.075	
7,700.00	7,648.92	7,906.74	7,648.92	19.50	32.48	-18.78	1,566.39	-210.05	2,035.41	1,998.08	37.34	54.515	
7,800.00	7,748.92	8,006.74	7,748.92	19.69	32.59	-18.78	1,566.39	-210.05	2,035.41	1,997.70	37.72	53.964	
7,900.00	7,848.92	8,106.74	7,848.92	19.87	32.70	-18.78	1,566.39	-210.05	2,035.41	1,997.31	38.10	53.422	
7,942.73	7,891.66	8,149.47	7,891.66	19.95	32.75	-18.78	1,566.39	-210.05	2,035.41	1,997.15	38.26	53.193	
7,982.08	7,931.00	8,163.81	7,906.00	20.02	32.77	-18.78	1,566.39	-210.05	2,035.57	1,997.20	38.37	53.050	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 37-27 - P_DRY CREEK 37-27 - PLAN #1 10-29-09 I												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	-180.00	-18.22	0.00	18.22				
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-18.22	0.00	18.22	18.03	0.19	95.356	
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-18.22	0.00	18.22	17.58	0.64	28.440	
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-18.22	0.00	18.22	17.13	1.09	16.712	
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-18.22	0.00	18.22	16.68	1.54	11.833	
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-18.22	0.00	18.22	16.23	1.99	9.159	
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-18.22	0.00	18.22	15.78	2.44	7.470	
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-18.22	0.00	18.22	15.33	2.89	6.308	
800.00	800.00	800.00	800.00	1.67	1.67	-180.00	-18.22	0.00	18.22	14.88	3.34	5.458	
900.00	900.00	900.00	900.00	1.89	1.89	-180.00	-18.22	0.00	18.22	14.43	3.79	4.810	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-180.00	-18.22	0.00	18.22	13.98	4.24	4.300	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-180.00	-18.22	0.00	18.22	13.53	4.69	3.887	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-180.00	-18.22	0.00	18.22	13.08	5.14	3.547	
1,250.00	1,250.00	1,250.00	1,250.00	2.68	2.68	-180.00	-18.22	0.00	18.22	12.86	5.36	3.398 CC	
1,300.00	1,300.00	1,299.69	1,299.68	2.78	2.78	52.34	-18.64	-0.09	18.37	12.81	5.56	3.305 ES, SF	
1,400.00	1,399.93	1,398.96	1,398.90	2.96	2.95	62.17	-22.00	-0.84	19.94	14.03	5.91	3.373	
1,500.00	1,499.68	1,497.94	1,497.63	3.16	3.13	76.98	-28.68	-2.33	24.44	18.15	6.28	3.889	
1,600.00	1,599.13	1,596.43	1,595.58	3.37	3.32	90.25	-38.64	-4.55	33.09	26.41	6.68	4.953	
1,700.00	1,698.15	1,694.23	1,692.45	3.61	3.54	99.49	-51.77	-7.48	46.09	38.98	7.11	6.481	
1,791.41	1,788.19	1,782.88	1,779.81	3.85	3.76	105.01	-66.45	-10.76	61.56	54.02	7.55	8.155	
1,800.00	1,796.63	1,791.18	1,787.96	3.88	3.78	105.44	-67.96	-11.09	63.18	55.59	7.59	8.323	
1,900.00	1,894.85	1,887.80	1,882.57	4.18	4.07	108.38	-87.12	-15.37	83.38	75.25	8.13	10.260	
2,000.00	1,993.07	1,985.56	1,978.11	4.50	4.39	109.83	-107.35	-19.88	104.30	95.60	8.71	11.980	
2,100.00	2,091.29	2,083.32	2,073.64	4.84	4.73	110.80	-127.58	-24.39	125.27	115.95	9.32	13.445	
2,200.00	2,189.51	2,181.08	2,169.18	5.19	5.08	111.48	-147.82	-28.91	146.26	136.31	9.95	14.693	
2,300.00	2,287.73	2,278.84	2,264.71	5.55	5.46	112.00	-168.05	-33.42	167.27	156.66	10.61	15.761	
2,400.00	2,385.95	2,376.59	2,360.25	5.93	5.84	112.40	-188.28	-37.93	188.29	177.00	11.29	16.679	
2,500.00	2,484.17	2,474.35	2,455.78	6.31	6.23	112.72	-208.51	-42.44	209.31	197.33	11.98	17.473	
2,600.00	2,582.39	2,572.11	2,551.32	6.69	6.63	112.98	-228.75	-46.96	230.34	217.66	12.68	18.164	
2,700.00	2,680.61	2,669.87	2,646.85	7.08	7.04	113.20	-248.98	-51.47	251.38	237.98	13.39	18.769	
2,800.00	2,778.83	2,767.63	2,742.39	7.47	7.45	113.38	-269.21	-55.98	272.41	258.30	14.11	19.301	
2,900.00	2,877.04	2,865.39	2,837.93	7.87	7.87	113.54	-289.44	-60.49	293.45	278.61	14.84	19.772	
3,000.00	2,975.26	2,963.15	2,933.46	8.27	8.29	113.68	-309.68	-65.01	314.49	298.92	15.58	20.192	
3,100.00	3,073.48	3,060.91	3,029.00	8.68	8.71	113.80	-329.91	-69.52	335.54	319.22	16.31	20.567	
3,200.00	3,171.70	3,158.66	3,124.53	9.08	9.14	113.90	-350.14	-74.03	356.58	339.52	17.06	20.905	
3,300.00	3,269.92	3,256.42	3,220.07	9.49	9.57	113.99	-370.37	-78.55	377.62	359.82	17.80	21.210	
3,400.00	3,368.14	3,354.18	3,315.60	9.90	10.00	114.08	-390.61	-83.06	398.67	380.11	18.55	21.486	
3,500.00	3,466.36	3,451.94	3,411.14	10.31	10.43	114.15	-410.84	-87.57	419.72	400.41	19.31	21.738	
3,600.00	3,564.58	3,549.70	3,506.68	10.72	10.87	114.22	-431.07	-92.08	440.76	420.70	20.06	21.969	
3,700.00	3,662.80	3,647.46	3,602.21	11.14	11.31	114.28	-451.30	-96.60	461.81	440.99	20.82	22.180	
3,800.00	3,761.02	3,745.22	3,697.75	11.55	11.74	114.34	-471.54	-101.11	482.86	461.28	21.58	22.375	
3,900.00	3,859.24	3,842.98	3,793.28	11.97	12.18	114.39	-491.77	-105.62	503.91	481.57	22.34	22.555	
4,000.00	3,957.46	3,940.73	3,888.82	12.38	12.62	114.44	-512.00	-110.13	524.95	501.85	23.10	22.722	
4,100.00	4,055.68	4,038.49	3,984.35	12.80	13.06	114.48	-532.23	-114.65	546.00	522.14	23.87	22.877	
4,200.00	4,153.90	4,136.25	4,079.89	13.22	13.50	114.52	-552.46	-119.16	567.05	542.42	24.63	23.021	
4,298.67	4,250.81	4,232.71	4,174.15	13.63	13.94	114.56	-572.43	-123.61	587.82	562.44	25.39	23.155	
4,300.00	4,252.12	4,234.01	4,175.43	13.64	13.95	114.57	-572.70	-123.67	588.10	562.71	25.40	23.157	
4,400.00	4,350.65	4,331.91	4,271.10	13.94	14.39	114.82	-592.96	-128.19	608.42	582.34	26.08	23.325	
4,500.00	4,449.72	4,430.01	4,366.97	14.20	14.83	114.76	-613.26	-132.72	627.32	600.59	26.73	23.468	
4,600.00	4,549.21	4,528.18	4,462.91	14.44	15.28	114.42	-633.58	-137.25	644.84	617.50	27.34	23.587	
4,700.00	4,648.98	4,626.32	4,558.81	14.63	15.73	113.81	-653.89	-141.78	661.06	633.15	27.91	23.689	
4,800.00	4,748.93	4,724.28	4,654.55	14.79	16.17	112.95	-674.17	-146.30	676.10	647.68	28.42	23.790	

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_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4,840.08	4,789.00	4,763.47	4,692.85	14.85	16.35	-118.46	-682.28	-148.11	681.83	653.22	28.61	23.829	
4,900.00	4,848.92	4,822.04	4,750.08	14.93	16.62	-119.24	-694.40	-150.82	690.35	661.46	28.89	23.899	
5,000.00	4,948.92	4,919.76	4,845.58	15.08	17.06	-120.51	-714.62	-155.33	704.84	675.51	29.33	24.030	
5,100.00	5,048.92	5,017.49	4,941.08	15.22	17.51	-121.73	-734.85	-159.84	719.66	689.89	29.77	24.174	
5,200.00	5,148.92	5,115.21	5,036.59	15.37	17.96	-122.90	-755.07	-164.35	734.80	704.60	30.20	24.329	
5,300.00	5,248.92	5,212.94	5,132.09	15.51	18.40	-124.03	-775.30	-168.86	750.23	719.60	30.63	24.494	
5,400.00	5,348.92	5,310.67	5,227.60	15.66	18.85	-125.10	-795.53	-173.37	765.94	734.89	31.05	24.668	
5,500.00	5,448.92	5,408.39	5,323.10	15.81	19.30	-126.14	-815.75	-177.88	781.91	750.44	31.47	24.849	
5,600.00	5,548.92	5,506.12	5,418.60	15.97	19.75	-127.14	-835.98	-182.40	798.12	766.24	31.88	25.035	
5,700.00	5,648.92	5,603.84	5,514.11	16.12	20.19	-128.09	-856.20	-186.91	814.56	782.27	32.29	25.227	
5,800.00	5,748.92	5,701.57	5,609.61	16.28	20.64	-129.01	-876.43	-191.42	831.22	798.52	32.70	25.422	
5,900.00	5,848.92	5,799.30	5,705.11	16.44	21.09	-129.89	-896.65	-195.93	848.08	814.98	33.10	25.621	
6,000.00	5,948.92	5,909.28	5,812.68	16.60	21.55	-130.83	-919.00	-200.91	864.86	831.35	33.51	25.809	
6,100.00	6,048.92	6,040.10	5,941.54	16.76	21.93	-131.71	-941.01	-205.82	878.86	844.97	33.89	25.933	
6,200.00	6,148.92	6,172.77	6,073.12	16.92	22.25	-132.35	-957.45	-209.49	889.24	854.98	34.27	25.950	
6,300.00	6,248.92	6,306.73	6,206.63	17.08	22.51	-132.74	-968.00	-211.84	895.87	861.23	34.64	25.862	
6,400.00	6,348.92	6,441.42	6,341.23	17.25	22.71	-132.91	-972.46	-212.84	898.66	863.66	35.01	25.670	
6,500.00	6,448.92	6,549.11	6,448.92	17.41	22.84	-132.92	-972.61	-212.87	898.76	863.42	35.34	25.435	
6,600.00	6,548.92	6,649.11	6,548.92	17.58	22.95	-132.92	-972.61	-212.87	898.76	863.11	35.65	25.213	
6,700.00	6,648.92	6,749.11	6,648.92	17.75	23.06	-132.92	-972.61	-212.87	898.76	862.80	35.96	24.994	
6,800.00	6,748.92	6,849.11	6,748.92	17.92	23.18	-132.92	-972.61	-212.87	898.76	862.48	36.28	24.776	
6,900.00	6,848.92	6,949.11	6,848.92	18.09	23.29	-132.92	-972.61	-212.87	898.76	862.16	36.59	24.560	
7,000.00	6,948.92	7,049.11	6,948.92	18.27	23.41	-132.92	-972.61	-212.87	898.76	861.84	36.92	24.346	
7,100.00	7,048.92	7,149.11	7,048.92	18.44	23.53	-132.92	-972.61	-212.87	898.76	861.52	37.24	24.135	
7,200.00	7,148.92	7,249.11	7,148.92	18.61	23.65	-132.92	-972.61	-212.87	898.76	861.19	37.57	23.925	
7,300.00	7,248.92	7,349.11	7,248.92	18.79	23.77	-132.92	-972.61	-212.87	898.76	860.86	37.90	23.717	
7,400.00	7,348.92	7,449.11	7,348.92	18.97	23.89	-132.92	-972.61	-212.87	898.76	860.53	38.23	23.511	
7,500.00	7,448.92	7,549.11	7,448.92	19.15	24.02	-132.92	-972.61	-212.87	898.76	860.20	38.56	23.308	
7,600.00	7,548.92	7,649.11	7,548.92	19.32	24.14	-132.92	-972.61	-212.87	898.76	859.86	38.90	23.106	
7,700.00	7,648.92	7,749.11	7,648.92	19.50	24.27	-132.92	-972.61	-212.87	898.76	859.52	39.24	22.907	
7,800.00	7,748.92	7,849.11	7,748.92	19.69	24.40	-132.92	-972.61	-212.87	898.76	859.18	39.58	22.710	
7,900.00	7,848.92	7,949.11	7,848.92	19.87	24.53	-132.92	-972.61	-212.87	898.76	858.84	39.92	22.515	
7,982.08	7,931.00	8,031.19	7,931.00	20.02	24.64	-132.92	-972.61	-212.87	898.76	858.56	40.20	22.356	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 10-29-09 RH:													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	0.00	61.92	0.00	61.92					
100.00	100.00	100.00	100.00	0.10	0.10	0.00	61.92	0.00	61.92	61.73	0.19	324.115		
200.00	200.00	200.00	200.00	0.32	0.32	0.00	61.92	0.00	61.92	61.28	0.64	96.666		
300.00	300.00	300.00	300.00	0.55	0.55	0.00	61.92	0.00	61.92	60.83	1.09	56.804		
400.00	400.00	400.00	400.00	0.77	0.77	0.00	61.92	0.00	61.92	60.38	1.54	40.219		
500.00	500.00	500.00	500.00	0.99	0.99	0.00	61.92	0.00	61.92	59.93	1.99	31.130		
600.00	600.00	600.00	600.00	1.22	1.22	0.00	61.92	0.00	61.92	59.48	2.44	25.392		
700.00	700.00	700.00	700.00	1.44	1.44	0.00	61.92	0.00	61.92	59.03	2.89	21.440		
800.00	800.00	800.00	800.00	1.67	1.67	0.00	61.92	0.00	61.92	58.58	3.34	18.552		
900.00	900.00	900.00	900.00	1.89	1.89	0.00	61.92	0.00	61.92	58.14	3.79	16.350		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	0.00	61.92	0.00	61.92	57.69	4.24	14.615		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	0.00	61.92	0.00	61.92	57.24	4.69	13.213		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	0.00	61.92	0.00	61.92	56.79	5.14	12.057		
1,250.00	1,250.00	1,250.00	1,250.00	2.68	2.68	0.00	61.92	0.00	61.92	56.56	5.36	11.551 CC, ES		
1,300.00	1,300.00	1,299.04	1,299.04	2.78	2.79	-129.12	62.30	0.18	62.58	57.01	5.57	11.234 SF		
1,400.00	1,399.93	1,396.90	1,396.84	2.96	3.01	-130.03	65.30	1.66	67.86	61.89	5.97	11.370		
1,500.00	1,499.68	1,494.13	1,493.84	3.16	3.23	-131.46	71.26	4.58	78.43	72.06	6.37	12.310		
1,600.00	1,599.13	1,590.32	1,589.52	3.37	3.45	-132.97	80.05	8.89	94.29	87.51	6.78	13.906		
1,700.00	1,698.15	1,685.07	1,683.40	3.61	3.68	-134.28	91.52	14.52	115.39	108.19	7.20	16.026		
1,791.41	1,788.19	1,770.11	1,767.26	3.85	3.91	-135.22	104.19	20.74	139.18	131.58	7.60	18.318		
1,800.00	1,796.63	1,778.02	1,775.04	3.88	3.93	-135.32	105.48	21.37	141.62	133.99	7.64	18.542		
1,900.00	1,894.85	1,869.32	1,864.51	4.18	4.21	-136.03	121.79	29.37	171.47	163.35	8.12	21.123		
2,000.00	1,993.07	1,963.85	1,956.78	4.50	4.52	-136.25	140.23	38.42	202.79	194.16	8.63	23.498		
2,100.00	2,091.29	2,058.81	2,049.46	4.84	4.85	-136.41	158.77	47.52	234.14	224.97	9.16	25.554		
2,200.00	2,189.51	2,153.77	2,142.15	5.19	5.20	-136.54	177.31	56.62	265.48	255.77	9.71	27.340		
2,300.00	2,287.73	2,248.73	2,234.84	5.55	5.56	-136.63	195.84	65.71	296.82	286.55	10.27	28.898		
2,400.00	2,385.95	2,343.69	2,327.53	5.93	5.93	-136.71	214.38	74.81	328.17	317.33	10.84	30.264		
2,500.00	2,484.17	2,438.65	2,420.21	6.31	6.31	-136.77	232.92	83.90	359.51	348.09	11.43	31.467		
2,600.00	2,582.39	2,533.61	2,512.90	6.69	6.70	-136.83	251.46	93.00	390.86	378.85	12.01	32.531		
2,700.00	2,680.61	2,628.57	2,605.59	7.08	7.09	-136.87	270.00	102.10	422.21	409.59	12.61	33.478		
2,800.00	2,778.83	2,723.53	2,698.28	7.47	7.49	-136.91	288.54	111.19	453.55	440.34	13.21	34.323		
2,900.00	2,877.04	2,818.49	2,790.96	7.87	7.89	-136.95	307.07	120.29	484.90	471.08	13.82	35.082		
3,000.00	2,975.26	2,913.45	2,883.65	8.27	8.30	-136.98	325.61	129.39	516.25	501.81	14.43	35.765		
3,100.00	3,073.48	3,008.41	2,976.34	8.68	8.70	-137.00	344.15	138.48	547.59	532.54	15.05	36.383		
3,200.00	3,171.70	3,103.37	3,069.02	9.08	9.11	-137.03	362.69	147.58	578.94	563.27	15.67	36.944		
3,300.00	3,269.92	3,198.32	3,161.71	9.49	9.53	-137.05	381.23	156.67	610.29	593.99	16.29	37.455		
3,400.00	3,368.14	3,293.28	3,254.40	9.90	9.94	-137.07	399.76	165.77	641.63	624.71	16.92	37.923		
3,500.00	3,466.36	3,388.24	3,347.09	10.31	10.36	-137.09	418.30	174.87	672.98	655.43	17.55	38.351		
3,600.00	3,564.58	3,483.20	3,439.77	10.72	10.78	-137.10	436.84	183.96	704.33	686.15	18.18	38.745		
3,700.00	3,662.80	3,578.16	3,532.46	11.14	11.20	-137.12	455.38	193.06	735.67	716.86	18.81	39.109		
3,800.00	3,761.02	3,673.12	3,625.15	11.55	11.62	-137.13	473.92	202.16	767.02	747.57	19.45	39.445		
3,900.00	3,859.24	3,768.08	3,717.84	11.97	12.04	-137.14	492.46	211.25	798.37	778.29	20.08	39.757		
4,000.00	3,957.46	3,863.04	3,810.52	12.38	12.46	-137.15	510.99	220.35	829.71	809.00	20.72	40.046		
4,100.00	4,055.68	3,958.00	3,903.21	12.80	12.89	-137.17	529.53	229.44	861.06	839.70	21.36	40.316		
4,200.00	4,153.90	4,052.96	3,995.90	13.22	13.31	-137.17	548.07	238.54	892.41	870.41	22.00	40.568		
4,298.67	4,250.81	4,146.66	4,087.35	13.63	13.73	-137.18	566.36	247.52	923.34	900.71	22.63	40.801		
4,300.00	4,252.12	4,147.92	4,088.58	13.64	13.74	-137.19	566.61	247.64	923.76	901.12	22.64	40.803		
4,400.00	4,350.65	4,243.27	4,181.66	13.94	14.17	-137.55	585.22	256.77	953.85	930.56	23.29	40.950		
4,500.00	4,449.72	4,339.32	4,275.40	14.20	14.60	-137.73	603.97	265.97	981.48	957.56	23.92	41.033		
4,600.00	4,549.21	4,435.93	4,369.70	14.44	15.03	-137.74	622.83	275.23	1,006.65	982.13	24.51	41.064		
4,700.00	4,648.98	4,533.00	4,464.44	14.63	15.47	-137.61	641.78	284.52	1,029.35	1,004.28	25.07	41.053		
4,800.00	4,748.93	4,630.40	4,559.51	14.79	15.91	-137.32	660.80	293.85	1,049.62	1,024.02	25.60	41.008		

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_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 10-29-09 RH:												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,840.08	4,789.00	4,669.50	4,597.68	14.85	16.09	-8.17	668.43	297.60	1,057.06	1,031.27	25.79	40.980	
4,900.00	4,848.92	4,727.99	4,654.77	14.93	16.35	-7.78	679.85	303.20	1,067.93	1,041.85	26.08	40.947	
5,000.00	4,948.92	4,825.60	4,750.04	15.08	16.79	-7.14	698.91	312.55	1,086.18	1,059.62	26.56	40.898	
5,100.00	5,048.92	4,923.20	4,845.31	15.22	17.24	-6.53	717.96	321.90	1,104.55	1,077.52	27.03	40.858	
5,200.00	5,148.92	5,020.81	4,940.58	15.37	17.68	-5.93	737.02	331.25	1,123.04	1,095.54	27.51	40.828	
5,300.00	5,248.92	5,118.42	5,035.86	15.51	18.12	-5.36	756.07	340.60	1,141.65	1,113.67	27.98	40.806	
5,400.00	5,348.92	5,216.02	5,131.13	15.66	18.56	-4.80	775.13	349.95	1,160.37	1,131.92	28.45	40.791	
5,500.00	5,448.92	5,313.63	5,226.40	15.81	19.01	-4.26	794.18	359.30	1,179.19	1,150.27	28.91	40.782	
5,600.00	5,548.92	5,411.24	5,321.67	15.97	19.45	-3.74	813.24	368.65	1,198.11	1,168.73	29.38	40.779	
5,700.00	5,648.92	5,508.84	5,416.94	16.12	19.89	-3.23	832.29	378.00	1,217.12	1,187.28	29.84	40.782	
5,800.00	5,748.92	5,606.45	5,512.21	16.28	20.34	-2.74	851.35	387.35	1,236.23	1,205.92	30.31	40.789	
5,900.00	5,848.92	5,704.06	5,607.48	16.44	20.78	-2.26	870.40	396.70	1,255.42	1,224.65	30.77	40.800	
6,000.00	5,948.92	5,801.67	5,702.75	16.60	21.22	-1.80	889.46	406.05	1,274.69	1,243.46	31.23	40.815	
6,100.00	6,048.92	5,900.68	5,838.82	16.76	21.76	-1.20	914.97	418.57	1,293.06	1,261.30	31.75	40.721	
6,200.00	6,148.92	6,106.78	6,002.93	16.92	22.25	-0.68	937.89	429.81	1,306.78	1,274.52	32.26	40.502	
6,300.00	6,248.92	6,275.35	6,170.70	17.08	22.62	-0.37	952.38	436.92	1,315.35	1,282.61	32.74	40.175	
6,400.00	6,348.92	6,445.24	6,340.45	17.25	22.88	-0.25	957.99	439.68	1,318.65	1,285.47	33.18	39.738	
6,500.00	6,448.92	6,553.72	6,448.92	17.41	23.02	-0.24	958.06	439.71	1,318.69	1,285.14	33.54	39.313	
6,600.00	6,548.92	6,653.72	6,548.92	17.58	23.15	-0.24	958.06	439.71	1,318.69	1,284.78	33.90	38.895	
6,700.00	6,648.92	6,753.72	6,648.92	17.75	23.29	-0.24	958.06	439.71	1,318.69	1,284.42	34.27	38.483	
6,800.00	6,748.92	6,853.72	6,748.92	17.92	23.42	-0.24	958.06	439.71	1,318.69	1,284.06	34.63	38.078	
6,900.00	6,848.92	6,953.72	6,848.92	18.09	23.56	-0.24	958.06	439.71	1,318.69	1,283.69	35.00	37.679	
7,000.00	6,948.92	7,053.72	6,948.92	18.27	23.69	-0.24	958.06	439.71	1,318.69	1,283.32	35.37	37.287	
7,100.00	7,048.92	7,153.72	7,048.92	18.44	23.83	-0.24	958.06	439.71	1,318.69	1,282.95	35.74	36.901	
7,200.00	7,148.92	7,253.72	7,148.92	18.61	23.97	-0.24	958.06	439.71	1,318.69	1,282.58	36.11	36.520	
7,300.00	7,248.92	7,353.72	7,248.92	18.79	24.11	-0.24	958.06	439.71	1,318.69	1,282.21	36.48	36.146	
7,400.00	7,348.92	7,453.72	7,348.92	18.97	24.26	-0.24	958.06	439.71	1,318.69	1,281.83	36.86	35.778	
7,500.00	7,448.92	7,553.72	7,448.92	19.15	24.40	-0.24	958.06	439.71	1,318.69	1,281.45	37.23	35.415	
7,600.00	7,548.92	7,653.72	7,548.92	19.32	24.55	-0.24	958.06	439.71	1,318.69	1,281.07	37.61	35.059	
7,700.00	7,648.92	7,753.72	7,648.92	19.50	24.69	-0.24	958.06	439.71	1,318.69	1,280.69	37.99	34.708	
7,800.00	7,748.92	7,853.72	7,748.92	19.69	24.84	-0.24	958.06	439.71	1,318.69	1,280.31	38.38	34.363	
7,900.00	7,848.92	7,953.72	7,848.92	19.87	24.99	-0.24	958.06	439.71	1,318.69	1,279.93	38.76	34.023	
7,982.08	7,931.00	8,035.79	7,931.00	20.02	25.11	-0.24	958.06	439.71	1,318.69	1,279.61	39.07	33.748	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
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	50.70	24.76	30.25	42.63				
100.00	100.00	83.00	83.00	0.10	1.66	50.70	24.76	30.25	39.09	37.34	1.76	22.267	
200.00	200.00	183.00	183.00	0.32	5.32	50.70	24.76	30.25	39.09	33.45	5.64	6.931	
300.00	300.00	283.00	283.00	0.55	9.32	50.70	24.76	30.25	39.09	29.23	9.87	3.963	
400.00	400.00	383.00	383.00	0.77	13.32	50.70	24.76	30.25	39.09	25.00	14.09	2.774	
500.00	500.00	483.00	483.00	0.99	17.32	50.70	24.76	30.25	39.09	20.78	18.31	2.134	
600.00	600.00	583.00	583.00	1.22	21.32	50.70	24.76	30.25	39.09	16.55	22.54	1.734	
700.00	700.00	683.00	683.00	1.44	25.32	50.70	24.76	30.25	39.09	12.33	26.76	1.461 Level 3	
800.00	800.00	783.00	783.00	1.67	29.32	50.70	24.76	30.25	39.09	8.10	30.99	1.261 Level 3	
900.00	900.00	883.00	883.00	1.89	33.32	50.70	24.76	30.25	39.09	3.88	35.21	1.110 Level 2	
1,000.00	1,000.00	983.00	983.00	2.12	37.32	50.70	24.76	30.25	39.09	-0.35	39.44	0.991 Level 1	
1,100.00	1,100.00	1,083.00	1,083.00	2.34	41.32	50.70	24.76	30.25	39.09	-4.57	43.66	0.895 Level 1	
1,200.00	1,200.00	1,183.00	1,183.00	2.57	45.32	50.70	24.76	30.25	39.09	-8.80	47.89	0.816 Level 1	
1,250.00	1,250.00	1,233.00	1,233.00	2.68	47.32	50.70	24.76	30.25	39.09	-10.91	50.00	0.782 Level 1	
1,300.00	1,300.00	1,283.00	1,283.00	2.78	49.32	-78.93	24.76	30.25	39.01	-13.09	52.10	0.749 Level 1	
1,400.00	1,399.93	1,382.93	1,382.93	2.96	53.32	-84.04	24.76	30.25	38.49	-17.79	56.28	0.684 Level 1	
1,463.13	1,462.94	1,445.94	1,445.94	3.09	55.84	-90.00	24.76	30.25	38.28	-20.64	58.92	0.650 Level 1, CC	
1,500.00	1,499.68	1,482.68	1,482.68	3.16	57.31	-94.43	24.76	30.25	38.40	-22.07	60.46	0.635 Level 1	
1,600.00	1,599.13	1,582.13	1,582.13	3.37	61.29	-109.20	24.76	30.25	40.57	-24.04	64.61	0.628 Level 1, ES, SF	
1,700.00	1,698.15	1,681.15	1,681.15	3.61	65.25	-125.21	24.76	30.25	47.04	-21.53	68.57	0.686 Level 1	
1,791.41	1,788.19	1,771.19	1,771.19	3.85	68.85	-137.87	24.76	30.25	57.63	-14.33	71.96	0.801 Level 1	
1,800.00	1,796.63	1,779.63	1,779.63	3.88	69.19	-138.91	24.76	30.25	58.85	-13.44	72.29	0.814 Level 1	
1,900.00	1,894.85	1,877.85	1,877.85	4.18	73.11	-148.45	24.76	30.25	74.13	-2.06	76.19	0.973 Level 1	
2,000.00	1,993.07	1,976.07	1,976.07	4.50	77.04	-154.65	24.76	30.25	90.74	10.58	80.15	1.132 Level 2	
2,100.00	2,091.29	2,074.29	2,074.29	4.84	80.97	-158.91	24.76	30.25	108.06	23.90	84.17	1.284 Level 3	
2,200.00	2,189.51	2,172.51	2,172.51	5.19	84.90	-161.98	24.76	30.25	125.81	37.60	88.21	1.426 Level 3	
2,300.00	2,287.73	2,270.73	2,270.73	5.55	88.83	-164.30	24.76	30.25	143.82	51.56	92.26	1.559	
2,400.00	2,385.95	2,368.95	2,368.95	5.93	92.76	-166.09	24.76	30.25	162.00	65.67	96.33	1.682	
2,500.00	2,484.17	2,467.17	2,467.17	6.31	96.69	-167.53	24.76	30.25	180.31	79.91	100.41	1.796	
2,600.00	2,582.39	2,565.39	2,565.39	6.69	100.62	-168.70	24.76	30.25	198.71	94.22	104.49	1.902	
2,700.00	2,680.61	2,663.61	2,663.61	7.08	104.54	-169.67	24.76	30.25	217.17	108.60	108.58	2.000	
2,800.00	2,778.83	2,761.83	2,761.83	7.47	108.47	-170.49	24.76	30.25	235.69	123.02	112.67	2.092	
2,900.00	2,877.04	2,860.04	2,860.04	7.87	112.40	-171.19	24.76	30.25	254.24	137.48	116.76	2.177	
3,000.00	2,975.26	2,958.26	2,958.26	8.27	116.33	-171.79	24.76	30.25	272.83	151.97	120.86	2.257	
3,100.00	3,073.48	3,056.48	3,056.48	8.68	120.26	-172.32	24.76	30.25	291.44	166.49	124.96	2.332	
3,200.00	3,171.70	3,154.70	3,154.70	9.08	124.19	-172.78	24.76	30.25	310.08	181.02	129.06	2.403	
3,300.00	3,269.92	3,252.92	3,252.92	9.49	128.12	-173.19	24.76	30.25	328.73	195.57	133.16	2.469	
3,400.00	3,368.14	3,351.14	3,351.14	9.90	132.05	-173.56	24.76	30.25	347.39	210.13	137.27	2.531	
3,500.00	3,466.36	3,449.36	3,449.36	10.31	135.97	-173.89	24.76	30.25	366.07	224.70	141.37	2.589	
3,600.00	3,564.58	3,547.58	3,547.58	10.72	139.90	-174.19	24.76	30.25	384.76	239.28	145.48	2.645	
3,700.00	3,662.80	3,645.80	3,645.80	11.14	143.83	-174.46	24.76	30.25	403.46	253.87	149.58	2.697	
3,800.00	3,761.02	3,744.02	3,744.02	11.55	147.76	-174.70	24.76	30.25	422.16	268.47	153.69	2.747	
3,900.00	3,859.24	3,842.24	3,842.24	11.97	151.69	-174.93	24.76	30.25	440.87	283.07	157.80	2.794	
4,000.00	3,957.46	3,940.46	3,940.46	12.38	155.62	-175.14	24.76	30.25	459.59	297.68	161.91	2.839	
4,100.00	4,055.68	4,038.68	4,038.68	12.80	159.55	-175.33	24.76	30.25	478.32	312.30	166.02	2.881	
4,200.00	4,153.90	4,136.90	4,136.90	13.22	163.48	-175.50	24.76	30.25	497.05	326.91	170.13	2.922	
4,298.67	4,250.81	4,233.81	4,233.81	13.63	167.35	-175.66	24.76	30.25	515.53	341.34	174.19	2.960	
4,300.00	4,252.12	4,235.12	4,235.12	13.64	167.40	-175.67	24.76	30.25	515.78	341.52	174.26	2.960	
4,400.00	4,350.65	4,333.65	4,333.65	13.94	171.35	-175.83	24.76	30.25	532.75	353.40	179.35	2.970	
4,500.00	4,449.72	4,432.72	4,432.72	14.20	175.31	-175.95	24.76	30.25	546.29	361.99	184.31	2.964	
4,600.00	4,549.21	4,532.21	4,532.21	14.44	179.29	-176.04	24.76	30.25	556.38	367.30	189.08	2.943	
4,700.00	4,648.98	4,631.98	4,631.98	14.63	183.28	-176.10	24.76	30.25	562.99	369.34	193.65	2.907	

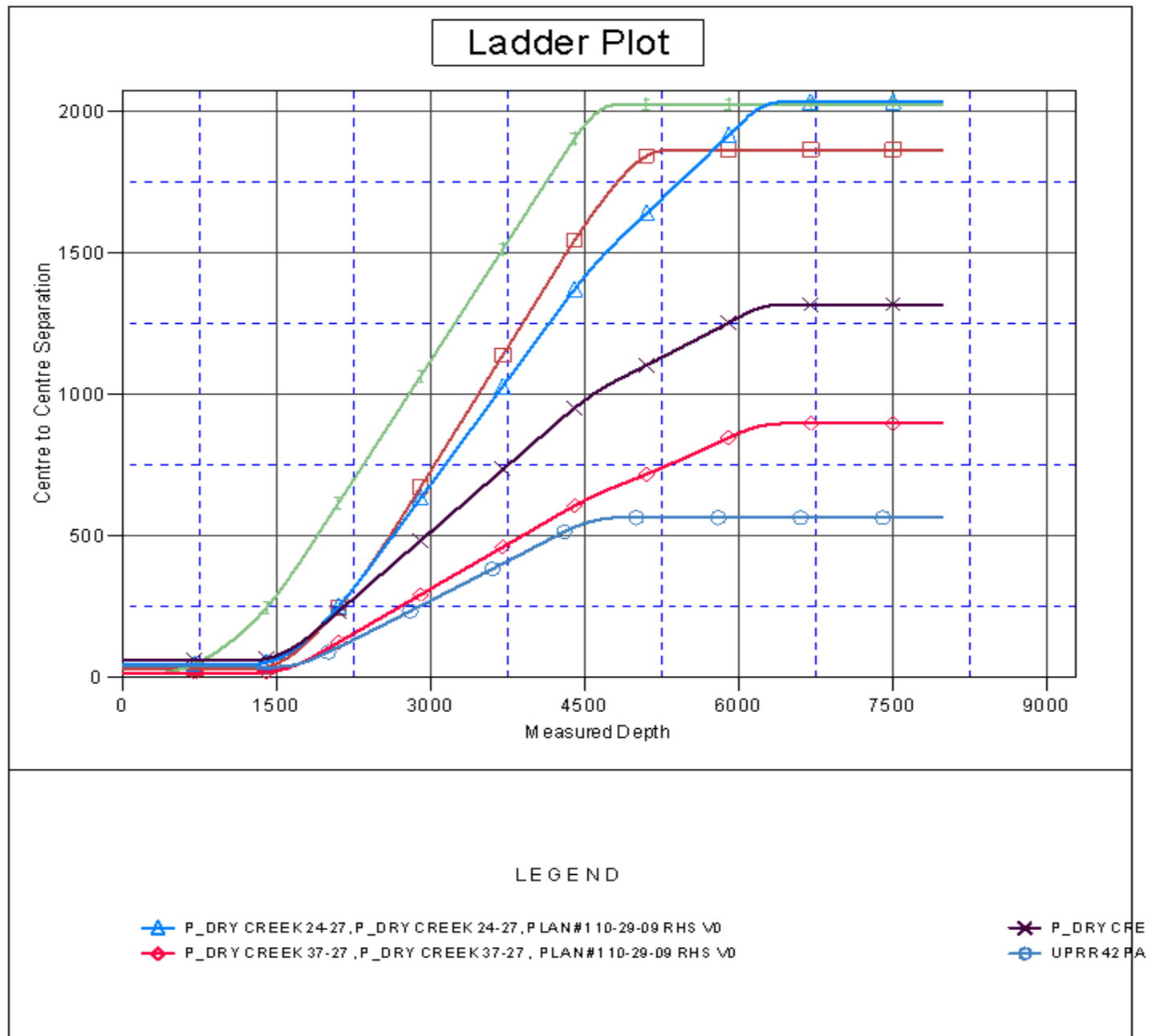
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,800.00	4,748.93	4,731.93	4,731.93	14.79	187.28	-176.12	24.76	30.25	566.13	368.13	198.00	2.859	
4,840.08	4,789.00	4,772.00	4,772.00	14.85	188.88	-47.13	24.76	30.25	566.41	366.73	199.68	2.837	
4,900.00	4,848.92	4,831.92	4,831.92	14.93	191.28	-47.13	24.76	30.25	566.41	364.22	202.19	2.801	
5,000.00	4,948.92	4,931.92	4,931.92	15.08	195.28	-47.13	24.76	30.25	566.41	360.03	206.38	2.744	
5,100.00	5,048.92	5,031.92	5,031.92	15.22	199.28	-47.13	24.76	30.25	566.41	355.83	210.57	2.690	
5,200.00	5,148.92	5,131.92	5,131.92	15.37	203.28	-47.13	24.76	30.25	566.41	351.64	214.76	2.637	
5,300.00	5,248.92	5,231.92	5,231.92	15.51	207.28	-47.13	24.76	30.25	566.41	347.45	218.96	2.587	
5,400.00	5,348.92	5,331.92	5,331.92	15.66	211.28	-47.13	24.76	30.25	566.41	343.25	223.15	2.538	
5,500.00	5,448.92	5,431.92	5,431.92	15.81	215.28	-47.13	24.76	30.25	566.41	339.06	227.35	2.491	
5,600.00	5,548.92	5,531.92	5,531.92	15.97	219.28	-47.13	24.76	30.25	566.41	334.86	231.54	2.446	
5,700.00	5,648.92	5,631.92	5,631.92	16.12	223.28	-47.13	24.76	30.25	566.41	330.67	235.74	2.403	
5,800.00	5,748.92	5,731.92	5,731.92	16.28	227.28	-47.13	24.76	30.25	566.41	326.47	239.94	2.361	
5,900.00	5,848.92	5,831.92	5,831.92	16.44	231.28	-47.13	24.76	30.25	566.41	322.27	244.14	2.320	
6,000.00	5,948.92	5,931.92	5,931.92	16.60	235.28	-47.13	24.76	30.25	566.41	318.07	248.34	2.281	
6,100.00	6,048.92	6,031.92	6,031.92	16.76	239.28	-47.13	24.76	30.25	566.41	313.87	252.54	2.243	
6,200.00	6,148.92	6,131.92	6,131.92	16.92	243.28	-47.13	24.76	30.25	566.41	309.66	256.74	2.206	
6,300.00	6,248.92	6,231.92	6,231.92	17.08	247.28	-47.13	24.76	30.25	566.41	305.46	260.94	2.171	
6,400.00	6,348.92	6,331.92	6,331.92	17.25	251.28	-47.13	24.76	30.25	566.41	301.26	265.15	2.136	
6,500.00	6,448.92	6,431.92	6,431.92	17.41	255.28	-47.13	24.76	30.25	566.41	297.06	269.35	2.103	
6,600.00	6,548.92	6,531.92	6,531.92	17.58	259.28	-47.13	24.76	30.25	566.41	292.85	273.56	2.071	
6,700.00	6,648.92	6,631.92	6,631.92	17.75	263.28	-47.13	24.76	30.25	566.41	288.65	277.76	2.039	
6,800.00	6,748.92	6,731.92	6,731.92	17.92	267.28	-47.13	24.76	30.25	566.41	284.44	281.97	2.009	
6,900.00	6,848.92	6,831.92	6,831.92	18.09	271.28	-47.13	24.76	30.25	566.41	280.23	286.17	1.979	
7,000.00	6,948.92	6,931.92	6,931.92	18.27	275.28	-47.13	24.76	30.25	566.41	276.03	290.38	1.951	
7,100.00	7,048.92	7,031.92	7,031.92	18.44	279.28	-47.13	24.76	30.25	566.41	271.82	294.59	1.923	
7,200.00	7,148.92	7,131.92	7,131.92	18.61	283.28	-47.13	24.76	30.25	566.41	267.61	298.79	1.896	
7,300.00	7,248.92	7,231.92	7,231.92	18.79	287.28	-47.13	24.76	30.25	566.41	263.41	303.00	1.869	
7,400.00	7,348.92	7,331.92	7,331.92	18.97	291.28	-47.13	24.76	30.25	566.41	259.20	307.21	1.844	
7,500.00	7,448.92	7,431.92	7,431.92	19.15	295.28	-47.13	24.76	30.25	566.41	254.99	311.42	1.819	
7,600.00	7,548.92	7,531.92	7,531.92	19.32	299.28	-47.13	24.76	30.25	566.41	250.78	315.63	1.795	
7,700.00	7,648.92	7,631.92	7,631.92	19.50	303.28	-47.13	24.76	30.25	566.41	246.57	319.84	1.771	
7,800.00	7,748.92	7,731.92	7,731.92	19.69	307.28	-47.13	24.76	30.25	566.41	242.36	324.05	1.748	
7,900.00	7,848.92	7,831.92	7,831.92	19.87	311.28	-47.13	24.76	30.25	566.41	238.15	328.26	1.725	
7,982.08	7,931.00	7,914.00	7,914.00	20.02	314.56	-47.13	24.76	30.25	566.41	234.69	331.72	1.708	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

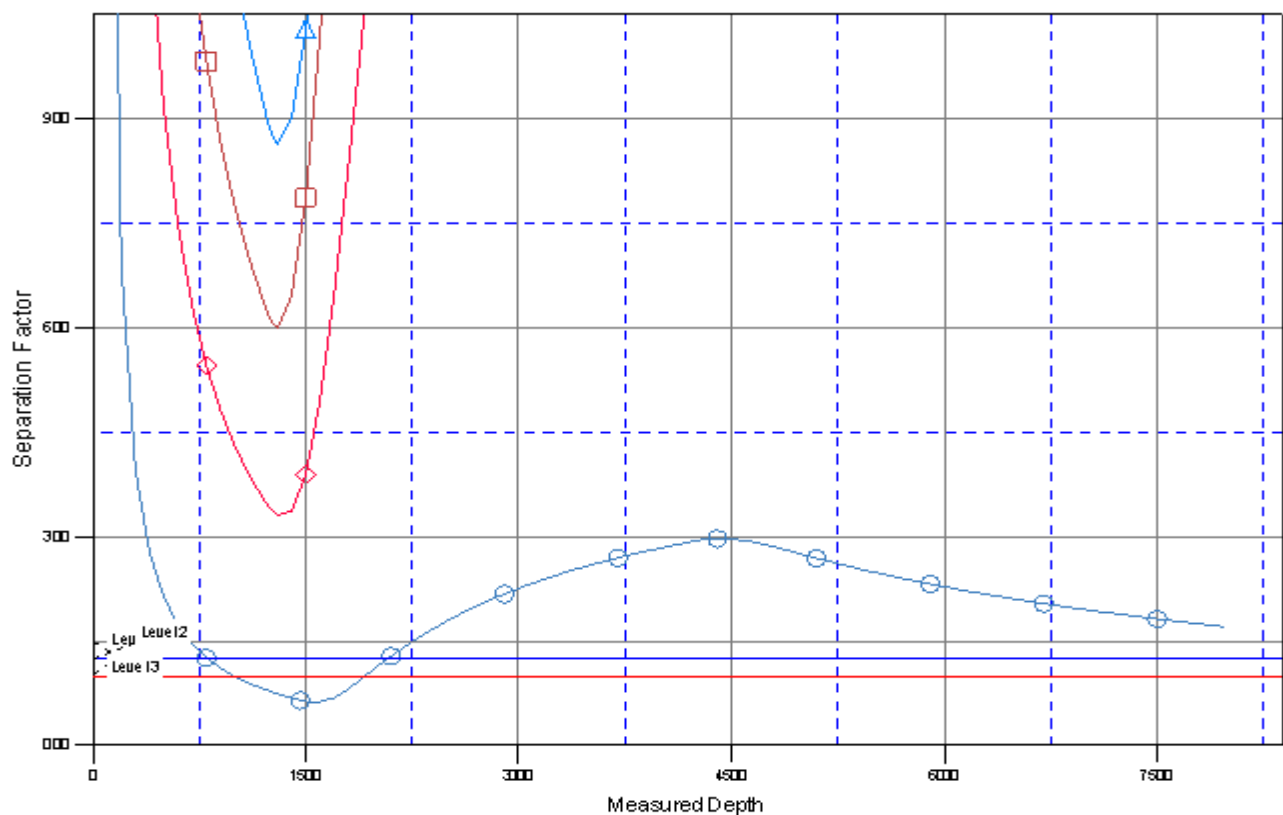
Reference Depths are relative to WELL @ 5059.00ft (Original Well Elev) Coordinates are relative to: P_DRY CREEK 16-27
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.41°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_DRY CREEK 16-27
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 5059.00ft (Original Well Elev)
Reference Site:	WELD_DRY CREEK 20-27 PAD	MD Reference:	WELL @ 5059.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_DRY CREEK 16-27	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_DRY CREEK 16-27	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-29-09 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5059.00ft (Original Well Elev) Coordinates are relative to: P_DRY CREEK 16-27
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: 0.41°

Separation Factor Plot



LEGEND

- ▲ P_DRY CREEK 24-27, P_DRY CREEK 24-27, PLAN#1 10-29-09 RHS V0
- ◆ P_DRY CREEK 37-27, P_DRY CREEK 37-27, PLAN#1 10-29-09 RHS V0
- UPRR 42 PA
- ✖ P_DRY CREEK