



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_WINTERS 12-3 PAD

P_WINTERS 33-3

P_WINTERS 33-3

Plan: PLAN #1 3-10-10 RHS

Standard Planning Report

10 March, 2010





Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_WINTERS 12-3 PAD
 Well: P_WINTERS 33-3
 Wellbore: P_WINTERS 33-3
 Section: SECTION 3 T5N R65W
 SHL: 1727 FSL 499 FWL
 Design: PLAN #1 3-10-10 RHS
 Latitude: 40° 25' 32.808 N
 Longitude: 104° 39' 25.542 W
 GL: 4632.00
 KB: WELL @ 4647.00ft (Original Well Elev)



Weatherford



Azimuths to True North
 Magnetic North: 8.98°
 Magnetic Field
 Strength: 53291.9snT
 Dip Angle: 67.13°
 Date: 3/10/2010
 Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3528.00	3553.31	PARKMAN
4255.00	4287.30	SUSSEX
6675.00	6718.41	NIO A
6985.00	7028.41	CODELL
7061.00	7104.41	GREENHORN

CASING DETAILS

TVD	MD	Name	Size
530.00	530.00	8 5/8"	8.62

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
630.00	0.00	0.00	630.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1025.56	7.91	225.04	1024.31	-19.26	-19.29	2.00	225.04	27.27	Start 4297.28 hold at 1025.56 MD
5322.85	7.91	225.04	5280.69	-437.18	-437.85	0.00	0.00	618.74	Start Drop -2.00
5718.41	0.00	0.00	5675.00	-456.44	-457.15	2.00	180.00	646.01	Start 1470.00 hold at 5718.41 MD
7188.41	0.00	0.00	7145.00	-456.44	-457.15	0.00	0.00	646.01	TD at 7188.41

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

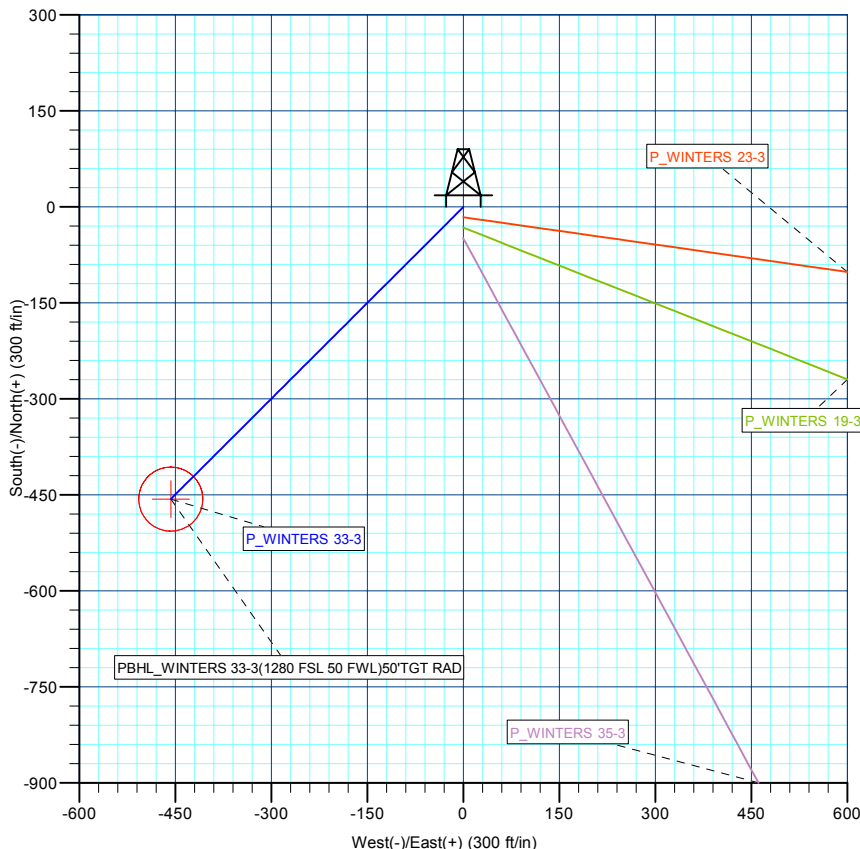
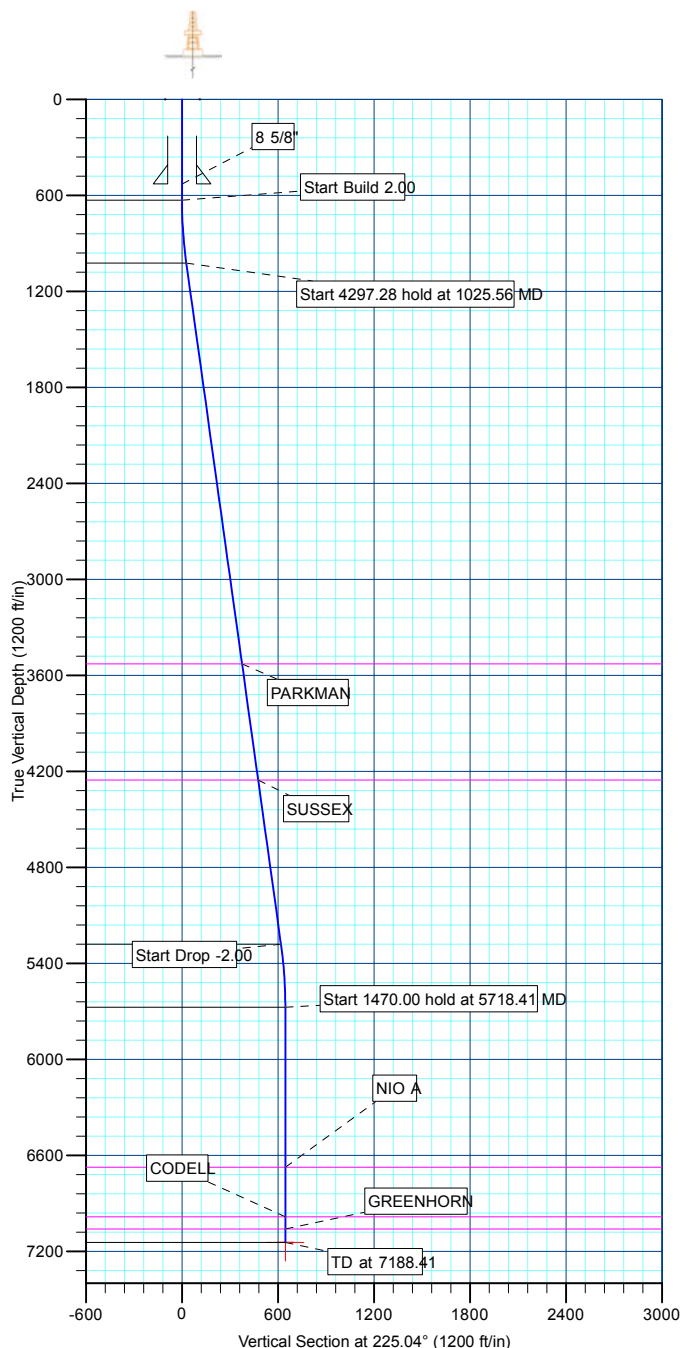
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7145.00	-456.44	-457.15	40° 25' 28.297 N	104° 39' 31.453 W	Circle (Radius: 50.00)

WELL DETAILS: P_WINTERS 33-3

+N/-S	+E/-W	Northing	Ground Level: Easting	4632.00 Latitude	Longitude	Slot
0.00	0.00	1399067.29	3234664.97	40° 25' 32.808 N	104° 39' 25.542 W	

LEGEND

- P_WINTERS 19-3, P_WINTERS 19-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 23-3, P_WINTERS 23-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 35-3, P_WINTERS 35-3, PLAN #1 3-10-10 RHS V0
- PLAN #1 3-10-10 RHS



Plan: PLAN #1 3-10-10 RHS (P_WINTERS 33-3/P_WINTERS 33-3)

Created By: Robert H. Scott Date: 9:26, March 10 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site:	WELD_WINTERS 12-3 PAD	North Reference:	True
Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 33-3		
Design:	PLAN #1 3-10-10 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						WELD_WINTERS 12-3 PAD, SECTION 3 T5N R65W											
Site Position:						Northing:			1,399,035.25 ft			Latitude:			40° 25' 32.491 N		
From:			Lat/Long			Easting:			3,234,664.71 ft			Longitude:			104° 39' 25.549 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.54 °		

Well	P_WINTERS 33-3,					
Well Position	+N/-S	32.03 ft	Northing:	1,399,067.29 ft	Latitude:	40° 25' 32.808 N
	+E/-W	0.56 ft	Easting:	3,234,664.97 ft	Longitude:	104° 39' 25.542 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,632.00 ft

Wellbore	P_WINTERS 33-3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/10/2010	8.98	67.13	53,292

Design	PLAN #1 3-10-10 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	225.04	

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	
630.00	0.00	0.00	630.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,025.56	7.91	225.04	1,024.31	-19.26	-19.29	2.00	2.00	0.00	225.04	
5,322.85	7.91	225.04	5,280.69	-437.18	-437.85	0.00	0.00	0.00	0.00	
5,718.41	0.00	0.00	5,675.00	-456.44	-457.15	2.00	-2.00	0.00	180.00	
7,188.41	0.00	0.00	7,145.00	-456.44	-457.15	0.00	0.00	0.00	0.00	PBHL_WINTERS 3

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site:	WELD_WINTERS 12-3 PAD	North Reference:	True
Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 33-3		
Design:	PLAN #1 3-10-10 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									
630.00	0.00	0.00	630.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	1.40	225.04	699.99	-0.60	-0.61	0.86	2.00	2.00	0.00
800.00	3.40	225.04	799.90	-3.56	-3.57	5.04	2.00	2.00	0.00
900.00	5.40	225.04	899.60	-8.98	-9.00	12.71	2.00	2.00	0.00
1,000.00	7.40	225.04	998.97	-16.86	-16.88	23.86	2.00	2.00	0.00
Start 4297.28 hold at 1025.56 MD									
1,025.56	7.91	225.04	1,024.31	-19.26	-19.29	27.27	2.00	2.00	0.00
1,100.00	7.91	225.04	1,098.04	-26.50	-26.54	37.51	0.00	0.00	0.00
1,200.00	7.91	225.04	1,197.08	-36.23	-36.29	51.28	0.00	0.00	0.00
1,300.00	7.91	225.04	1,296.13	-45.95	-46.03	65.04	0.00	0.00	0.00
1,400.00	7.91	225.04	1,395.18	-55.68	-55.77	78.80	0.00	0.00	0.00
1,500.00	7.91	225.04	1,494.23	-65.40	-65.51	92.57	0.00	0.00	0.00
1,600.00	7.91	225.04	1,593.28	-75.13	-75.25	106.33	0.00	0.00	0.00
1,700.00	7.91	225.04	1,692.33	-84.85	-84.99	120.09	0.00	0.00	0.00
1,800.00	7.91	225.04	1,791.37	-94.58	-94.73	133.86	0.00	0.00	0.00
1,900.00	7.91	225.04	1,890.42	-104.30	-104.47	147.62	0.00	0.00	0.00
2,000.00	7.91	225.04	1,989.47	-114.03	-114.21	161.39	0.00	0.00	0.00
2,100.00	7.91	225.04	2,088.52	-123.75	-123.95	175.15	0.00	0.00	0.00
2,200.00	7.91	225.04	2,187.57	-133.48	-133.69	188.91	0.00	0.00	0.00
2,300.00	7.91	225.04	2,286.61	-143.20	-143.43	202.68	0.00	0.00	0.00
2,400.00	7.91	225.04	2,385.66	-152.93	-153.17	216.44	0.00	0.00	0.00
2,500.00	7.91	225.04	2,484.71	-162.65	-162.91	230.21	0.00	0.00	0.00
2,600.00	7.91	225.04	2,583.76	-172.38	-172.65	243.97	0.00	0.00	0.00
2,700.00	7.91	225.04	2,682.81	-182.10	-182.39	257.73	0.00	0.00	0.00
2,800.00	7.91	225.04	2,781.86	-191.83	-192.13	271.50	0.00	0.00	0.00
2,900.00	7.91	225.04	2,880.90	-201.55	-201.87	285.26	0.00	0.00	0.00
3,000.00	7.91	225.04	2,979.95	-211.28	-211.61	299.03	0.00	0.00	0.00
3,100.00	7.91	225.04	3,079.00	-221.00	-221.35	312.79	0.00	0.00	0.00
3,200.00	7.91	225.04	3,178.05	-230.73	-231.09	326.55	0.00	0.00	0.00
3,300.00	7.91	225.04	3,277.10	-240.45	-240.83	340.32	0.00	0.00	0.00
3,400.00	7.91	225.04	3,376.15	-250.18	-250.57	354.08	0.00	0.00	0.00
3,500.00	7.91	225.04	3,475.19	-259.91	-260.31	367.85	0.00	0.00	0.00
PARKMAN									
3,553.31	7.91	225.04	3,528.00	-265.09	-265.50	375.18	0.00	0.00	0.00
3,600.00	7.91	225.04	3,574.24	-269.63	-270.05	381.61	0.00	0.00	0.00
3,700.00	7.91	225.04	3,673.29	-279.36	-279.79	395.37	0.00	0.00	0.00
3,800.00	7.91	225.04	3,772.34	-289.08	-289.53	409.14	0.00	0.00	0.00
3,900.00	7.91	225.04	3,871.39	-298.81	-299.27	422.90	0.00	0.00	0.00
4,000.00	7.91	225.04	3,970.43	-308.53	-309.01	436.67	0.00	0.00	0.00
4,100.00	7.91	225.04	4,069.48	-318.26	-318.75	450.43	0.00	0.00	0.00
4,200.00	7.91	225.04	4,168.53	-327.98	-328.49	464.19	0.00	0.00	0.00
SUSSEX									
4,287.30	7.91	225.04	4,255.00	-336.47	-336.99	476.21	0.00	0.00	0.00
4,300.00	7.91	225.04	4,267.58	-337.71	-338.23	477.96	0.00	0.00	0.00
4,400.00	7.91	225.04	4,366.63	-347.43	-347.97	491.72	0.00	0.00	0.00
4,500.00	7.91	225.04	4,465.68	-357.16	-357.71	505.49	0.00	0.00	0.00
4,600.00	7.91	225.04	4,564.72	-366.88	-367.45	519.25	0.00	0.00	0.00
4,700.00	7.91	225.04	4,663.77	-376.61	-377.19	533.01	0.00	0.00	0.00
4,800.00	7.91	225.04	4,762.82	-386.33	-386.93	546.78	0.00	0.00	0.00
4,900.00	7.91	225.04	4,861.87	-396.06	-396.67	560.54	0.00	0.00	0.00
5,000.00	7.91	225.04	4,960.92	-405.78	-406.41	574.31	0.00	0.00	0.00
5,100.00	7.91	225.04	5,059.97	-415.51	-416.15	588.07	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site:	WELD_WINTERS 12-3 PAD	North Reference:	True
Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 33-3		
Design:	PLAN #1 3-10-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,200.00	7.91	225.04	5,159.01	-425.23	-425.89	601.83	0.00	0.00	0.00	
5,300.00	7.91	225.04	5,258.06	-434.96	-435.63	615.60	0.00	0.00	0.00	
Start Drop -2.00										
5,322.85	7.91	225.04	5,280.69	-437.18	-437.85	618.74	0.00	0.00	0.00	
5,400.00	6.37	225.04	5,357.24	-443.95	-444.64	628.33	2.00	-2.00	0.00	
5,500.00	4.37	225.04	5,456.80	-450.56	-451.26	637.69	2.00	-2.00	0.00	
5,600.00	2.37	225.04	5,556.62	-454.71	-455.42	643.56	2.00	-2.00	0.00	
5,700.00	0.37	225.04	5,656.59	-456.40	-457.11	645.95	2.00	-2.00	0.00	
Start 1470.00 hold at 5718.41 MD										
5,718.41	0.00	0.00	5,675.00	-456.44	-457.15	646.01	2.00	-2.00	733.00	
5,800.00	0.00	0.00	5,756.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,856.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,956.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,056.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,156.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,256.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,356.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,456.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,556.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,656.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
NIO A										
6,718.41	0.00	0.00	6,675.00	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,756.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,856.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,956.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
CODELL										
7,028.41	0.00	0.00	6,985.00	-456.44	-457.15	646.01	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,056.59	-456.44	-457.15	646.01	0.00	0.00	0.00	
GREENHORN										
7,104.41	0.00	0.00	7,061.00	-456.44	-457.15	646.01	0.00	0.00	0.00	
PBHL_WINTERS 33-3(1280 FSL 50 FWL)50°TGT RAD										
7,188.41	0.00	0.00	7,145.00	-456.44	-457.15	646.01	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_WINTERS 33-3	0.00	0.00	7,145.00	-456.44	-457.15	1,398,606.53	3,234,212.18	40° 25' 28.297 N	104° 39' 31.453 W	
- plan hits target center										
- Circle (radius 50.00)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
530.00	530.00	8 5/8"	8.62	11.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site:	WELD_WINTERS 12-3 PAD	North Reference:	True
Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 33-3		
Design:	PLAN #1 3-10-10 RHS		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,553.31	3,528.00	PARKMAN				
4,287.30	4,255.00	SUSSEX				
6,718.41	6,675.00	NIO A				
7,028.41	6,985.00	CODELL				
7,104.41	7,061.00	GREENHORN				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
630.00	630.00	0.00	0.00	Start Build 2.00	
1,025.56	1,024.31	-19.26	-19.29	Start 4297.28 hold at 1025.56 MD	
5,322.85	5,280.69	-437.18	-437.85	Start Drop -2.00	
5,718.41	5,675.00	-456.44	-457.15	Start 1470.00 hold at 5718.41 MD	
7,188.41	7,145.00	-456.44	-457.15	TD at 7188.41	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_WINTERS 12-3 PAD
P_WINTERS 33-3**

**P_WINTERS 33-3
PLAN #1 3-10-10 RHS**

Anticollision Report

10 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 3-10-10 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 3/10/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,188.41	PLAN #1 3-10-10 RHS (P_WINTERS 33-3	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_WINTERS 12-3 PAD						
P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-1	786.50	785.57	31.24	28.05	9.799	CC
P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-1	800.00	798.92	31.27	28.03	9.652	ES
P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-1	900.00	897.30	34.23	30.58	9.382	SF
P_WINTERS 23-3 - P_WINTERS 23-3 - PLAN #1 3-10-1	300.00	300.00	16.02	14.93	14.695	CC
P_WINTERS 23-3 - P_WINTERS 23-3 - PLAN #1 3-10-1	400.00	399.89	16.33	14.80	10.702	ES
P_WINTERS 23-3 - P_WINTERS 23-3 - PLAN #1 3-10-1	500.00	499.54	18.24	16.29	9.323	SF
P_WINTERS 35-3 - P_WINTERS 35-3 - PLAN #1 3-10-1	300.00	300.00	48.08	46.99	44.108	CC, ES
P_WINTERS 35-3 - P_WINTERS 35-3 - PLAN #1 3-10-1	630.00	623.85	65.03	62.54	26.093	SF

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-10 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
0.00	0.00	0.00	0.00	0.00	0.00	-179.00	-32.03	-0.56	32.04				
100.00	100.00	100.00	100.00	0.10	0.10	-179.00	-32.03	-0.56	32.04	31.85	0.19	167.697	
200.00	200.00	200.00	200.00	0.32	0.32	-179.00	-32.03	-0.56	32.04	31.40	0.64	50.015	
300.00	300.00	300.00	300.00	0.55	0.55	-179.00	-32.03	-0.56	32.04	30.95	1.09	29.390	
400.00	400.00	400.00	400.00	0.77	0.77	-179.00	-32.03	-0.56	32.04	30.50	1.54	20.809	
500.00	500.00	500.00	500.00	0.99	0.99	-179.00	-32.03	-0.56	32.04	30.05	1.99	16.107	
600.00	600.00	600.00	600.00	1.22	1.22	-179.00	-32.03	-0.56	32.04	29.60	2.44	13.138	
630.00	630.00	630.00	630.00	1.29	1.29	-179.00	-32.03	-0.56	32.04	29.47	2.57	12.449	
700.00	699.99	699.70	699.69	1.43	1.43	-46.55	-32.35	0.23	31.75	28.90	2.86	11.111	
786.50	786.43	785.57	785.49	1.59	1.60	-56.82	-33.58	3.37	31.24	28.05	3.19	9.799 CC	
800.00	799.90	798.92	798.82	1.62	1.63	-59.14	-33.86	4.07	31.27	28.03	3.24	9.652 ES	
900.00	899.60	897.30	896.91	1.82	1.84	-80.61	-36.61	11.03	34.23	30.58	3.65	9.382 SF	
1,000.00	998.97	994.34	993.36	2.06	2.07	-102.01	-40.53	20.96	44.99	40.92	4.08	11.038	
1,025.56	1,024.31	1,018.88	1,017.69	2.13	2.14	-106.43	-41.71	23.96	49.18	44.99	4.19	11.741	
1,100.00	1,098.04	1,089.80	1,087.83	2.33	2.34	-116.12	-45.56	33.69	64.00	59.48	4.52	14.159	
1,200.00	1,197.08	1,183.87	1,180.43	2.62	2.64	-123.29	-51.64	49.09	88.34	83.35	4.99	17.717	
1,300.00	1,296.13	1,276.40	1,270.93	2.92	2.98	-126.94	-58.70	66.99	116.49	111.01	5.47	21.286	
1,400.00	1,395.18	1,370.94	1,362.97	3.23	3.37	-129.00	-66.64	87.09	146.85	140.86	5.99	24.535	
1,500.00	1,494.23	1,466.10	1,455.60	3.55	3.78	-130.37	-74.64	107.36	177.37	170.86	6.51	27.226	
1,600.00	1,593.28	1,561.26	1,548.23	3.87	4.21	-131.33	-82.65	127.63	207.95	200.90	7.06	29.472	

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_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-10 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	
1,700.00	1,692.33	1,656.42	1,640.86	4.20	4.64	-132.04	-90.65	147.90	238.58	230.97	7.61	31.367	
1,800.00	1,791.37	1,751.58	1,733.49	4.53	5.08	-132.60	-98.66	168.18	269.23	261.07	8.16	32.980	
1,900.00	1,890.42	1,846.74	1,826.11	4.87	5.53	-133.04	-106.66	188.45	299.90	291.17	8.73	34.368	
2,000.00	1,989.47	1,941.89	1,918.74	5.21	5.99	-133.40	-114.66	208.72	330.58	321.29	9.29	35.573	
2,100.00	2,088.52	2,037.05	2,011.37	5.54	6.44	-133.69	-122.67	228.99	361.27	351.41	9.86	36.627	
2,200.00	2,187.57	2,132.21	2,104.00	5.88	6.90	-133.95	-130.67	249.26	391.97	381.53	10.44	37.556	
2,300.00	2,286.61	2,227.37	2,196.63	6.22	7.36	-134.16	-138.68	269.53	422.68	411.66	11.01	38.382	
2,400.00	2,385.66	2,322.53	2,289.26	6.57	7.82	-134.35	-146.68	289.81	453.39	441.80	11.59	39.120	
2,500.00	2,484.71	2,417.69	2,381.89	6.91	8.29	-134.51	-154.68	310.08	484.10	471.93	12.17	39.784	
2,600.00	2,583.76	2,512.84	2,474.52	7.25	8.75	-134.65	-162.69	330.35	514.81	502.07	12.75	40.384	
2,700.00	2,682.81	2,608.00	2,567.14	7.60	9.22	-134.78	-170.69	350.62	545.53	532.20	13.33	40.930	
2,800.00	2,781.86	2,703.16	2,659.77	7.94	9.69	-134.89	-178.70	370.89	576.25	562.34	13.91	41.427	
2,900.00	2,880.90	2,798.32	2,752.40	8.29	10.16	-134.99	-186.70	391.17	606.98	592.48	14.50	41.867	
3,000.00	2,979.95	2,893.48	2,845.03	8.63	10.62	-135.08	-194.70	411.44	637.70	622.62	15.09	42.270	
3,100.00	3,079.00	2,988.64	2,937.66	8.98	11.09	-135.17	-202.71	431.71	668.43	652.75	15.68	42.640	
3,200.00	3,178.05	3,083.79	3,030.29	9.33	11.56	-135.24	-210.71	451.98	699.15	682.89	16.27	42.982	
3,300.00	3,277.10	3,178.95	3,122.92	9.67	12.04	-135.31	-218.72	472.25	729.88	713.02	16.86	43.297	
3,400.00	3,376.15	3,274.11	3,215.55	10.02	12.51	-135.38	-226.72	492.53	760.61	743.16	17.45	43.590	
3,500.00	3,475.19	3,369.27	3,308.18	10.37	12.98	-135.44	-234.72	512.80	791.34	773.30	18.04	43.861	
3,600.00	3,574.24	3,464.43	3,400.80	10.71	13.45	-135.49	-242.73	533.07	822.07	803.44	18.63	44.115	
3,700.00	3,673.29	3,559.59	3,493.43	11.06	13.92	-135.54	-250.73	553.34	852.80	833.57	19.23	44.351	
3,800.00	3,772.34	3,654.74	3,586.06	11.41	14.39	-135.59	-258.74	573.61	883.53	863.71	19.82	44.573	
3,900.00	3,871.39	3,749.90	3,678.69	11.76	14.87	-135.63	-266.74	593.88	914.27	893.85	20.42	44.780	
4,000.00	3,970.43	3,845.06	3,771.32	12.10	15.34	-135.67	-274.74	614.16	945.00	923.99	21.01	44.976	
4,100.00	4,069.48	3,940.22	3,863.95	12.45	15.81	-135.71	-282.75	634.43	975.73	954.12	21.61	45.159	
4,200.00	4,168.53	4,035.38	3,956.58	12.80	16.29	-135.75	-290.75	654.70	1,006.46	984.26	22.20	45.332	
4,300.00	4,267.58	4,130.54	4,049.21	13.15	16.76	-135.78	-298.76	674.97	1,037.20	1,014.40	22.80	45.496	
4,400.00	4,366.63	4,225.70	4,141.83	13.50	17.23	-135.81	-306.76	695.24	1,067.93	1,044.54	23.39	45.651	
4,500.00	4,465.68	4,320.85	4,234.46	13.85	17.71	-135.84	-314.76	715.52	1,098.67	1,074.68	23.99	45.797	
4,600.00	4,564.72	4,416.01	4,327.09	14.19	18.18	-135.87	-322.77	735.79	1,129.40	1,104.81	24.59	45.936	
4,700.00	4,663.77	4,511.17	4,419.72	14.54	18.65	-135.90	-330.77	756.06	1,160.13	1,134.95	25.18	46.069	
4,800.00	4,762.82	4,606.33	4,512.35	14.89	19.13	-135.93	-338.78	776.33	1,190.87	1,165.09	25.78	46.194	
4,900.00	4,861.87	4,701.49	4,604.98	15.24	19.60	-135.95	-346.78	796.60	1,221.60	1,195.23	26.38	46.314	
5,000.00	4,960.92	4,796.65	4,697.61	15.59	20.08	-135.97	-354.78	816.87	1,252.34	1,225.37	26.97	46.428	
5,100.00	5,059.97	4,891.80	4,790.24	15.94	20.55	-136.00	-362.79	837.15	1,283.08	1,255.50	27.57	46.537	
5,200.00	5,159.01	4,986.96	4,882.87	16.29	21.03	-136.02	-370.79	857.42	1,313.81	1,285.64	28.17	46.641	
5,300.00	5,258.06	5,082.12	4,975.49	16.64	21.50	-136.04	-378.80	877.69	1,344.55	1,315.78	28.77	46.740	
5,322.85	5,280.69	5,119.39	5,011.82	16.72	21.65	-136.05	-381.85	885.43	1,351.45	1,322.52	28.93	46.714	
5,400.00	5,357.24	5,251.25	5,141.15	16.94	22.08	-136.40	-391.26	909.25	1,372.04	1,342.52	29.52	46.475	
5,500.00	5,456.80	5,427.09	5,315.21	17.14	22.54	-136.73	-400.39	932.37	1,391.77	1,361.58	30.18	46.114	
5,600.00	5,556.62	5,606.83	5,494.35	17.32	22.88	-136.95	-405.65	945.70	1,403.36	1,372.61	30.75	45.639	
5,700.00	5,656.59	5,769.13	5,656.59	17.46	23.08	-137.06	-406.88	948.82	1,406.80	1,375.60	31.20	45.091	
5,718.41	5,675.00	5,787.54	5,675.00	17.49	23.10	87.98	-406.88	948.82	1,406.84	1,375.58	31.26	45.001	
5,800.00	5,756.59	5,869.13	5,756.59	17.60	23.19	87.98	-406.88	948.82	1,406.84	1,375.33	31.52	44.640	
5,900.00	5,856.59	5,969.13	5,856.59	17.74	23.30	87.98	-406.88	948.82	1,406.84	1,375.03	31.81	44.221	
6,000.00	5,956.59	6,069.13	5,956.59	17.87	23.42	87.98	-406.88	948.82	1,406.84	1,374.73	32.12	43.805	
6,100.00	6,056.59	6,169.13	6,056.59	18.01	23.53	87.98	-406.88	948.82	1,406.84	1,374.42	32.42	43.393	
6,200.00	6,156.59	6,269.13	6,156.59	18.15	23.65	87.98	-406.88	948.82	1,406.84	1,374.11	32.73	42.983	
6,300.00	6,256.59	6,369.13	6,256.59	18.29	23.76	87.98	-406.88	948.82	1,406.84	1,373.80	33.04	42.577	
6,400.00	6,356.59	6,469.13	6,356.59	18.43	23.88	87.98	-406.88	948.82	1,406.84	1,373.49	33.36	42.175	
6,500.00	6,456.59	6,569.13	6,456.59	18.57	24.00	87.98	-406.88	948.82	1,406.84	1,373.17	33.68	41.777	
6,600.00	6,556.59	6,669.13	6,556.59	18.72	24.13	87.98	-406.88	948.82	1,406.84	1,372.85	34.00	41.382	

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_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 19-3 - P_WINTERS 19-3 - PLAN #1 3-10-10 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
6,700.00	6,656.59	6,769.13	6,656.59	18.86	24.25	87.98	-406.88	948.82	1,406.84	1,372.52	34.32	40.991	
6,800.00	6,756.59	6,869.13	6,756.59	19.01	24.37	87.98	-406.88	948.82	1,406.84	1,372.20	34.65	40.605	
6,900.00	6,856.59	6,969.13	6,856.59	19.16	24.50	87.98	-406.88	948.82	1,406.84	1,371.87	34.98	40.222	
7,000.00	6,956.59	7,069.13	6,956.59	19.31	24.63	87.98	-406.88	948.82	1,406.84	1,371.53	35.31	39.844	
7,100.00	7,056.59	7,169.13	7,056.59	19.46	24.76	87.98	-406.88	948.82	1,406.84	1,371.20	35.64	39.469	
7,128.39	7,084.98	7,197.51	7,084.98	19.51	24.80	87.98	-406.88	948.82	1,406.84	1,371.10	35.74	39.364	
7,188.41	7,145.00	7,212.54	7,100.00	19.60	24.82	87.98	-406.88	948.82	1,407.56	1,371.70	35.87	39.246	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 23-3 - P_WINTERS 23-3 - PLAN #1 3-10-10 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)	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	-179.00	-16.02	-0.28	16.02				
100.00	100.00	100.00	100.00	0.10	0.10	-179.00	-16.02	-0.28	16.02	15.83	0.19	83.849	
200.00	200.00	200.00	200.00	0.32	0.32	-179.00	-16.02	-0.28	16.02	15.38	0.64	25.007	
300.00	300.00	300.00	300.00	0.55	0.55	-179.00	-16.02	-0.28	16.02	14.93	1.09	14.695 CC	
400.00	400.00	399.89	399.87	0.77	0.76	174.92	-16.26	1.45	16.33	14.80	1.53	10.702 ES	
500.00	500.00	499.54	499.38	0.99	0.97	158.78	-17.00	6.60	18.24	16.29	1.96	9.323 SF	
600.00	600.00	598.71	598.16	1.22	1.21	140.29	-18.21	15.13	23.74	21.35	2.39	9.914	
630.00	630.00	628.33	627.61	1.29	1.29	135.52	-18.66	18.33	26.27	23.74	2.53	10.385	
700.00	699.99	697.08	695.81	1.43	1.49	-99.86	-19.89	26.92	33.87	31.03	2.84	11.946	
800.00	799.90	794.07	791.62	1.62	1.80	-112.35	-22.00	41.80	49.66	46.43	3.23	15.356	
900.00	899.60	889.14	885.00	1.82	2.15	-121.19	-24.52	59.49	71.72	68.08	3.65	19.661	
1,000.00	998.97	981.84	975.42	2.06	2.55	-127.15	-27.39	79.68	99.95	95.87	4.08	24.483	
1,025.56	1,024.31	1,005.10	998.00	2.13	2.65	-128.34	-28.18	85.20	108.12	103.92	4.20	25.764	
1,100.00	1,098.04	1,072.01	1,062.70	2.33	2.98	-131.32	-30.58	102.09	133.46	128.91	4.55	29.348	
1,200.00	1,197.08	1,160.12	1,147.25	2.62	3.46	-133.78	-34.07	126.60	170.35	165.31	5.03	33.834	
1,300.00	1,296.13	1,246.09	1,228.98	2.92	3.98	-135.23	-37.83	152.98	210.19	204.65	5.54	37.969	
1,400.00	1,395.18	1,329.85	1,307.81	3.23	4.53	-136.10	-41.81	181.02	252.77	246.72	6.05	41.792	
1,500.00	1,494.23	1,411.36	1,383.69	3.55	5.11	-136.62	-46.01	210.48	297.93	291.36	6.57	45.348	
1,600.00	1,593.28	1,490.57	1,456.59	3.87	5.73	-136.91	-50.37	241.14	345.54	338.44	7.10	48.689	
1,700.00	1,692.33	1,571.76	1,530.49	4.20	6.40	-137.08	-55.11	274.43	395.29	387.65	7.64	51.736	
1,800.00	1,791.37	1,658.27	1,609.09	4.53	7.13	-137.21	-60.20	310.24	445.43	437.22	8.21	54.263	
1,900.00	1,890.42	1,744.79	1,687.68	4.87	7.88	-137.31	-65.30	346.05	495.57	486.79	8.78	56.429	
2,000.00	1,989.47	1,831.31	1,766.27	5.21	8.62	-137.39	-70.39	381.86	545.71	536.35	9.36	58.303	
2,100.00	2,088.52	1,917.83	1,844.87	5.54	9.37	-137.46	-75.49	417.67	595.85	585.91	9.94	59.939	
2,200.00	2,187.57	2,004.35	1,923.46	5.88	10.13	-137.52	-80.58	453.48	646.00	635.47	10.52	61.379	
2,300.00	2,286.61	2,090.86	2,002.05	6.22	10.88	-137.57	-85.68	489.29	696.14	685.03	11.11	62.655	
2,400.00	2,385.66	2,177.38	2,080.65	6.57	11.64	-137.62	-90.78	525.10	746.29	734.59	11.70	63.795	
2,500.00	2,484.71	2,263.90	2,159.24	6.91	12.40	-137.65	-95.87	560.91	796.43	784.14	12.29	64.819	
2,600.00	2,583.76	2,350.42	2,237.83	7.25	13.16	-137.69	-100.97	596.72	846.58	833.70	12.88	65.744	
2,700.00	2,682.81	2,436.93	2,316.43	7.60	13.92	-137.72	-106.06	632.53	896.72	883.25	13.47	66.584	
2,800.00	2,781.86	2,523.45	2,395.02	7.94	14.69	-137.74	-111.16	668.34	946.87	932.80	14.06	67.323	
2,900.00	2,880.90	2,609.97	2,473.62	8.29	15.45	-137.77	-116.25	704.15	997.01	982.35	14.66	67.996	
3,000.00	2,979.95	2,696.49	2,552.21	8.63	16.21	-137.79	-121.35	739.96	1,047.16	1,031.89	15.26	68.611	
3,100.00	3,079.00	2,783.01	2,630.80	8.98	16.98	-137.81	-126.45	775.77	1,097.30	1,081.44	15.86	69.175	
3,200.00	3,178.05	2,869.52	2,709.40	9.33	17.74	-137.83	-131.54	811.58	1,147.45	1,130.98	16.46	69.695	
3,300.00	3,277.10	2,956.04	2,787.99	9.67	18.51	-137.84	-136.64	847.39	1,197.59	1,180.53	17.07	70.175	
3,400.00	3,376.15	3,042.56	2,866.58	10.02	19.28	-137.86	-141.73	883.20	1,247.74	1,230.07	17.67	70.619	
3,500.00	3,475.19	3,129.08	2,945.18	10.37	20.04	-137.87	-146.83	919.01	1,297.88	1,279.61	18.27	71.032	
3,600.00	3,574.24	3,215.59	3,023.77	10.71	20.81	-137.88	-151.92	954.83	1,348.03	1,329.15	18.88	71.417	
3,700.00	3,673.29	3,302.11	3,102.37	11.06	21.58	-137.90	-157.02	990.64	1,398.18	1,378.70	19.48	71.775	
3,800.00	3,772.34	3,388.63	3,180.96	11.41	22.35	-137.91	-162.11	1,026.45	1,448.32	1,428.24	20.08	72.111	
3,900.00	3,871.39	3,475.15	3,259.55	11.76	23.11	-137.92	-167.21	1,062.26	1,498.47	1,477.78	20.69	72.425	
4,000.00	3,970.43	3,561.67	3,338.15	12.10	23.88	-137.93	-172.31	1,098.07	1,548.61	1,527.32	21.30	72.720	
4,100.00	4,069.48	3,648.18	3,416.74	12.45	24.65	-137.94	-177.40	1,133.88	1,598.76	1,576.86	21.90	72.998	
4,200.00	4,168.53	3,734.70	3,495.33	12.80	25.42	-137.95	-182.50	1,169.69	1,648.91	1,626.40	22.51	73.260	
4,300.00	4,267.58	3,821.22	3,573.93	13.15	26.19	-137.95	-187.59	1,205.50	1,699.05	1,675.94	23.11	73.507	
4,400.00	4,366.63	3,907.74	3,652.52	13.50	26.95	-137.96	-192.69	1,241.31	1,749.20	1,725.48	23.72	73.740	
4,500.00	4,465.68	3,994.25	3,731.12	13.85	27.72	-137.97	-197.78	1,277.12	1,799.34	1,775.02	24.33	73.961	
4,600.00	4,564.72	4,080.77	3,809.71	14.19	28.49	-137.97	-202.88	1,312.93	1,849.49	1,824.56	24.94	74.171	
4,700.00	4,663.77	4,167.29	3,888.30	14.54	29.26	-137.98	-207.98	1,348.74	1,899.64	1,874.09	25.54	74.370	
4,800.00	4,762.82	4,253.81	3,966.90	14.89	30.03	-137.99	-213.07	1,384.55	1,949.78	1,923.63	26.15	74.559	
4,900.00	4,861.87	4,340.33	4,045.49	15.24	30.80	-137.99	-218.17	1,420.36	1,999.93	1,973.17	26.76	74.739	

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_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 23-3 - P_WINTERS 23-3 - PLAN #1 3-10-10 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	4,960.92	4,426.84	4,124.08	15.59	31.57	-138.00	-223.26	1,456.17	2,050.08	2,022.71	27.37	74.911	
5,100.00	5,059.97	4,513.36	4,202.68	15.94	32.34	-138.00	-228.36	1,491.98	2,100.22	2,072.25	27.98	75.075	
5,200.00	5,159.01	4,599.88	4,281.27	16.29	33.11	-138.01	-233.45	1,527.79	2,150.37	2,121.78	28.58	75.231	
5,300.00	5,258.06	4,686.40	4,359.86	16.64	33.87	-138.01	-238.55	1,563.60	2,200.51	2,171.32	29.19	75.381	
5,322.85	5,280.69	4,706.16	4,377.82	16.72	34.05	-138.01	-239.71	1,571.79	2,211.97	2,182.64	29.33	75.414	
5,400.00	5,357.24	4,773.30	4,438.80	16.94	34.65	-138.58	-243.67	1,599.57	2,249.99	2,219.99	30.00	75.003	
5,500.00	5,456.80	4,861.38	4,518.82	17.14	35.43	-139.20	-248.86	1,636.03	2,297.23	2,266.44	30.80	74.597	
5,600.00	5,556.62	4,950.59	4,599.86	17.32	36.22	-139.72	-254.11	1,672.95	2,342.14	2,310.58	31.55	74.228	
5,700.00	5,656.59	5,040.80	4,681.81	17.46	37.03	-140.13	-259.42	1,710.29	2,384.66	2,352.40	32.27	73.906	
5,718.41	5,675.00	5,057.51	4,696.98	17.49	37.17	84.85	-260.41	1,717.21	2,392.23	2,359.84	32.40	73.845	
5,800.00	5,756.59	5,131.62	4,764.31	17.60	37.83	85.03	-264.77	1,747.89	2,425.60	2,392.82	32.78	73.992	
5,900.00	5,856.59	5,222.46	4,846.83	17.74	38.64	85.25	-270.12	1,785.49	2,466.52	2,433.28	33.24	74.200	
6,000.00	5,956.59	5,313.30	4,929.35	17.87	39.45	85.46	-275.47	1,823.09	2,507.48	2,473.77	33.70	74.400	
6,100.00	6,056.59	5,968.49	5,550.08	18.01	43.01	86.50	-304.38	2,026.22	2,539.06	2,503.55	35.51	71.512	
6,200.00	6,156.59	6,579.10	6,156.59	18.15	44.19	86.77	-312.82	2,085.56	2,546.76	2,510.14	36.62	69.551	
6,300.00	6,256.59	6,679.10	6,256.59	18.29	44.26	86.77	-312.82	2,085.56	2,546.76	2,509.87	36.90	69.027	
6,400.00	6,356.59	6,779.10	6,356.59	18.43	44.32	86.77	-312.82	2,085.56	2,546.76	2,509.58	37.18	68.505	
6,500.00	6,456.59	6,879.10	6,456.59	18.57	44.39	86.77	-312.82	2,085.56	2,546.76	2,509.30	37.46	67.985	
6,600.00	6,556.59	6,979.10	6,556.59	18.72	44.46	86.77	-312.82	2,085.56	2,546.76	2,509.01	37.75	67.467	
6,700.00	6,656.59	7,079.10	6,656.59	18.86	44.53	86.77	-312.82	2,085.56	2,546.76	2,508.72	38.04	66.952	
6,800.00	6,756.59	7,179.10	6,756.59	19.01	44.60	86.77	-312.82	2,085.56	2,546.76	2,508.43	38.33	66.439	
6,900.00	6,856.59	7,279.10	6,856.59	19.16	44.67	86.77	-312.82	2,085.56	2,546.76	2,508.13	38.63	65.929	
7,000.00	6,956.59	7,379.10	6,956.59	19.31	44.75	86.77	-312.82	2,085.56	2,546.76	2,507.83	38.93	65.422	
7,100.00	7,056.59	7,479.10	7,056.59	19.46	44.82	86.77	-312.82	2,085.56	2,546.76	2,507.53	39.23	64.918	
7,128.39	7,084.98	7,507.49	7,084.98	19.51	44.84	86.77	-312.82	2,085.56	2,546.76	2,507.44	39.32	64.776	
7,188.41	7,145.00	7,522.51	7,100.00	19.60	44.85	86.77	-312.82	2,085.56	2,547.16	2,507.72	39.44	64.586	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 35-3 - P_WINTERS 35-3 - PLAN #1 3-10-10 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	-179.34	-48.08	-0.56	48.08				
100.00	100.00	100.00	100.00	0.10	0.10	-179.34	-48.08	-0.56	48.08	47.89	0.19	251.674	
200.00	200.00	200.00	200.00	0.32	0.32	-179.34	-48.08	-0.56	48.08	47.44	0.64	75.061	
300.00	300.00	300.00	300.00	0.55	0.55	-179.34	-48.08	-0.56	48.08	46.99	1.09	44.108 CC, ES	
400.00	400.00	398.52	398.50	0.77	0.74	179.71	-49.57	0.25	49.59	48.08	1.51	32.790	
500.00	500.00	496.80	496.65	0.99	0.94	177.18	-54.02	2.66	54.19	52.26	1.93	28.113	
600.00	600.00	594.62	594.10	1.22	1.17	173.81	-61.39	6.66	62.03	59.67	2.36	26.299	
630.00	630.00	623.85	623.16	1.29	1.25	172.75	-64.15	8.16	65.03	62.54	2.49	26.093 SF	
700.00	699.99	691.79	690.57	1.43	1.43	-55.12	-71.59	12.19	72.75	69.97	2.78	26.143	
800.00	799.90	788.14	785.78	1.62	1.74	-60.30	-84.55	19.22	85.31	82.12	3.19	26.752	
900.00	899.60	883.47	879.44	1.82	2.09	-66.03	-100.13	27.66	100.29	96.68	3.62	27.736	
1,000.00	998.97	977.56	971.26	2.06	2.50	-71.69	-118.19	37.45	118.28	114.20	4.08	29.013	
1,025.56	1,024.31	1,000.00	993.06	2.13	2.59	-72.99	-122.89	40.00	123.41	119.22	4.20	29.406	
1,100.00	1,098.04	1,070.28	1,061.03	2.33	2.95	-76.85	-138.57	48.50	139.86	135.27	4.58	30.512	
1,200.00	1,197.08	1,161.62	1,148.68	2.62	3.44	-80.57	-161.13	60.73	165.39	160.26	5.13	32.231	
1,300.00	1,296.13	1,251.42	1,234.03	2.92	3.98	-83.12	-185.70	74.05	194.43	188.72	5.71	34.037	
1,400.00	1,395.18	1,339.56	1,316.89	3.23	4.56	-84.83	-212.08	88.36	226.63	220.32	6.32	35.887	
1,500.00	1,494.23	1,425.92	1,397.15	3.55	5.18	-85.97	-240.10	103.54	261.76	254.83	6.93	37.751	
1,600.00	1,593.28	1,511.46	1,475.69	3.87	5.83	-86.71	-269.91	119.71	299.62	292.06	7.57	39.597	
1,700.00	1,692.33	1,603.54	1,559.80	4.20	6.57	-87.28	-302.83	137.55	338.53	330.29	8.24	41.092	
1,800.00	1,791.37	1,695.61	1,643.92	4.53	7.31	-87.73	-335.75	155.40	377.45	368.53	8.92	42.313	
1,900.00	1,890.42	1,787.69	1,728.04	4.87	8.06	-88.10	-368.67	173.25	416.39	406.78	9.61	43.328	
2,000.00	1,989.47	1,879.77	1,812.16	5.21	8.81	-88.41	-401.59	191.10	455.35	445.04	10.31	44.181	
2,100.00	2,088.52	1,971.84	1,896.27	5.54	9.57	-88.66	-434.51	208.94	494.31	483.30	11.01	44.909	
2,200.00	2,187.57	2,063.92	1,980.39	5.88	10.32	-88.88	-467.43	226.79	533.28	521.57	11.71	45.535	
2,300.00	2,286.61	2,155.99	2,064.51	6.22	11.08	-89.07	-500.35	244.64	572.26	559.84	12.42	46.080	
2,400.00	2,385.66	2,248.07	2,148.63	6.57	11.84	-89.24	-533.27	262.48	611.24	598.11	13.13	46.558	
2,500.00	2,484.71	2,340.15	2,232.74	6.91	12.60	-89.39	-566.19	280.33	650.22	636.38	13.84	46.981	
2,600.00	2,583.76	2,432.22	2,316.86	7.25	13.37	-89.52	-599.11	298.18	689.21	674.66	14.55	47.358	
2,700.00	2,682.81	2,524.30	2,400.98	7.60	14.13	-89.63	-632.03	316.03	728.20	712.93	15.27	47.697	
2,800.00	2,781.86	2,616.38	2,485.10	7.94	14.89	-89.73	-664.95	333.87	767.19	751.21	15.98	48.002	
2,900.00	2,880.90	2,708.45	2,569.22	8.29	15.66	-89.83	-697.87	351.72	806.19	789.49	16.70	48.280	
3,000.00	2,979.95	2,800.53	2,653.33	8.63	16.42	-89.91	-730.79	369.57	845.18	827.77	17.41	48.533	
3,100.00	3,079.00	2,892.60	2,737.45	8.98	17.19	-89.99	-763.71	387.41	884.18	866.05	18.13	48.766	
3,200.00	3,178.05	2,984.68	2,821.57	9.33	17.95	-90.06	-796.63	405.26	923.18	904.33	18.85	48.980	
3,300.00	3,277.10	3,076.76	2,905.69	9.67	18.72	-90.13	-829.55	423.11	962.18	942.61	19.56	49.179	
3,400.00	3,376.15	3,168.83	2,989.80	10.02	19.49	-90.19	-862.47	440.96	1,001.18	980.90	20.28	49.364	
3,500.00	3,475.19	3,260.91	3,073.92	10.37	20.25	-90.24	-895.39	458.80	1,040.18	1,019.18	21.00	49.536	
3,600.00	3,574.24	3,352.99	3,158.04	10.71	21.02	-90.30	-928.31	476.65	1,079.18	1,057.47	21.71	49.698	
3,700.00	3,673.29	3,445.06	3,242.16	11.06	21.79	-90.34	-961.23	494.50	1,118.19	1,095.76	22.43	49.849	
3,800.00	3,772.34	3,537.14	3,326.28	11.41	22.56	-90.39	-994.15	512.34	1,157.19	1,134.04	23.15	49.992	
3,900.00	3,871.39	3,629.21	3,410.39	11.76	23.32	-90.43	-1,027.07	530.19	1,196.20	1,172.33	23.86	50.127	
4,000.00	3,970.43	3,721.29	3,494.51	12.10	24.09	-90.47	-1,059.99	548.04	1,235.20	1,210.62	24.58	50.255	
4,100.00	4,069.48	3,813.37	3,578.63	12.45	24.86	-90.51	-1,092.91	565.89	1,274.21	1,248.91	25.29	50.377	
4,200.00	4,168.53	3,905.44	3,662.75	12.80	25.63	-90.54	-1,125.83	583.73	1,313.21	1,287.19	26.02	50.472	
4,300.00	4,267.58	3,997.52	3,746.86	13.15	26.40	-90.57	-1,158.75	601.58	1,352.22	1,325.47	26.74	50.560	
4,400.00	4,366.63	4,089.59	3,830.98	13.50	27.16	-90.60	-1,191.67	619.43	1,391.22	1,363.75	27.47	50.642	
4,500.00	4,465.68	4,181.67	3,915.10	13.85	27.93	-90.63	-1,224.59	637.27	1,430.23	1,402.03	28.20	50.720	
4,600.00	4,564.72	4,273.75	3,999.22	14.19	28.70	-90.66	-1,257.51	655.12	1,469.24	1,440.31	28.93	50.794	
4,700.00	4,663.77	4,365.82	4,083.34	14.54	29.47	-90.69	-1,290.43	672.97	1,508.25	1,478.59	29.65	50.863	
4,800.00	4,762.82	4,457.90	4,167.45	14.89	30.24	-90.71	-1,323.35	690.82	1,547.25	1,516.87	30.38	50.929	
4,900.00	4,861.87	4,549.98	4,251.57	15.24	31.01	-90.74	-1,356.26	708.66	1,586.26	1,555.15	31.11	50.991	

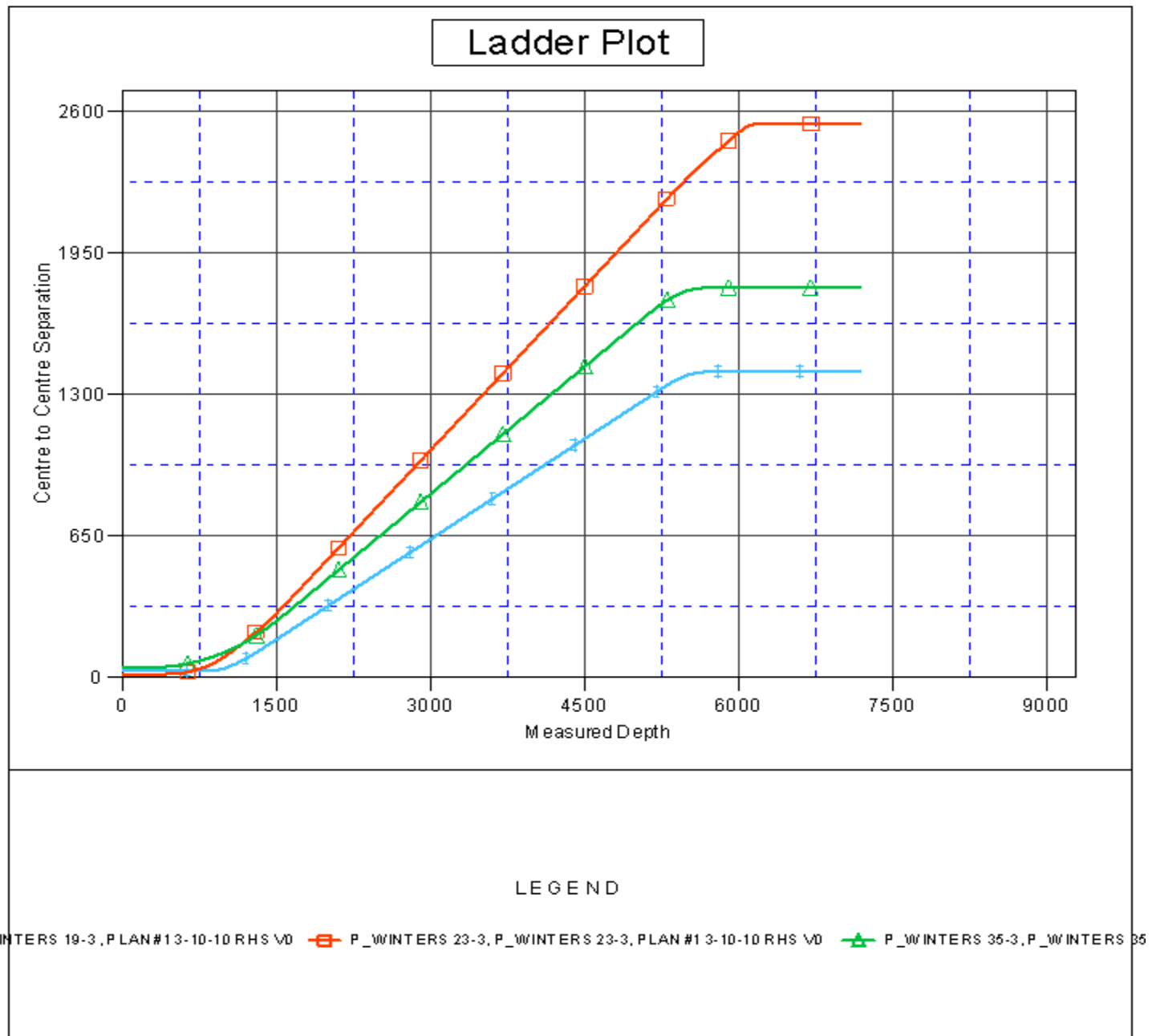
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 12-3 PAD - P_WINTERS 35-3 - P_WINTERS 35-3 - PLAN #1 3-10-10 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	4,960.92	4,642.05	4,335.69	15.59	31.77	-90.76	-1,389.18	726.51	1,625.27	1,593.43	31.84	51.051	
5,100.00	5,059.97	4,734.13	4,419.81	15.94	32.54	-90.78	-1,422.10	744.36	1,664.28	1,631.71	32.56	51.107	
5,200.00	5,159.01	4,876.80	4,550.70	16.29	33.53	-90.83	-1,471.97	771.39	1,702.70	1,669.26	33.44	50.915	
5,300.00	5,258.06	5,095.04	4,755.72	16.64	34.70	-91.04	-1,537.62	806.98	1,735.60	1,701.08	34.52	50.274	
5,322.85	5,280.69	5,146.34	4,804.69	16.72	34.93	-91.12	-1,551.05	814.26	1,742.15	1,707.38	34.77	50.109	
5,400.00	5,357.24	5,323.09	4,975.36	16.94	35.67	-91.76	-1,591.36	836.12	1,761.45	1,725.82	35.64	49.428	
5,500.00	5,456.80	5,559.09	5,207.03	17.14	36.43	-92.38	-1,630.62	857.40	1,779.75	1,743.20	36.56	48.687	
5,600.00	5,556.62	5,800.45	5,446.94	17.32	36.93	-92.77	-1,653.30	869.70	1,790.13	1,752.86	37.27	48.028	
5,700.00	5,656.59	6,010.24	5,656.59	17.46	37.13	-92.93	-1,658.62	872.58	1,792.59	1,754.85	37.74	47.500	
5,718.41	5,675.00	6,028.65	5,675.00	17.49	37.15	132.12	-1,658.62	872.58	1,792.60	1,754.81	37.79	47.441	
5,800.00	5,756.59	6,110.24	5,756.59	17.60	37.19	132.12	-1,658.62	872.58	1,792.60	1,754.61	37.99	47.189	
5,900.00	5,856.59	6,210.24	5,856.59	17.74	37.26	132.12	-1,658.62	872.58	1,792.60	1,754.37	38.23	46.893	
6,000.00	5,956.59	6,310.24	5,956.59	17.87	37.32	132.12	-1,658.62	872.58	1,792.60	1,754.13	38.47	46.597	
6,100.00	6,056.59	6,410.24	6,056.59	18.01	37.38	132.12	-1,658.62	872.58	1,792.60	1,753.88	38.72	46.299	
6,200.00	6,156.59	6,510.24	6,156.59	18.15	37.45	132.12	-1,658.62	872.58	1,792.60	1,753.63	38.97	46.001	
6,300.00	6,256.59	6,610.24	6,256.59	18.29	37.51	132.12	-1,658.62	872.58	1,792.60	1,753.37	39.22	45.703	
6,400.00	6,356.59	6,710.24	6,356.59	18.43	37.58	132.12	-1,658.62	872.58	1,792.60	1,753.12	39.48	45.405	
6,500.00	6,456.59	6,810.24	6,456.59	18.57	37.65	132.12	-1,658.62	872.58	1,792.60	1,752.85	39.74	45.107	
6,600.00	6,556.59	6,910.24	6,556.59	18.72	37.72	132.12	-1,658.62	872.58	1,792.60	1,752.59	40.01	44.809	
6,700.00	6,656.59	7,010.24	6,656.59	18.86	37.79	132.12	-1,658.62	872.58	1,792.60	1,752.32	40.27	44.511	
6,800.00	6,756.59	7,110.24	6,756.59	19.01	37.86	132.12	-1,658.62	872.58	1,792.60	1,752.05	40.54	44.213	
6,900.00	6,856.59	7,210.24	6,856.59	19.16	37.94	132.12	-1,658.62	872.58	1,792.60	1,751.78	40.82	43.917	
7,000.00	6,956.59	7,310.24	6,956.59	19.31	38.01	132.12	-1,658.62	872.58	1,792.60	1,751.50	41.10	43.621	
7,100.00	7,056.59	7,410.24	7,056.59	19.46	38.09	132.12	-1,658.62	872.58	1,792.60	1,751.22	41.38	43.325	
7,128.39	7,084.98	7,438.62	7,084.98	19.51	38.11	132.12	-1,658.62	872.58	1,792.60	1,751.14	41.46	43.242	
7,188.41	7,145.00	7,453.65	7,100.00	19.60	38.12	132.12	-1,658.62	872.58	1,793.16	1,751.59	41.57	43.139	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

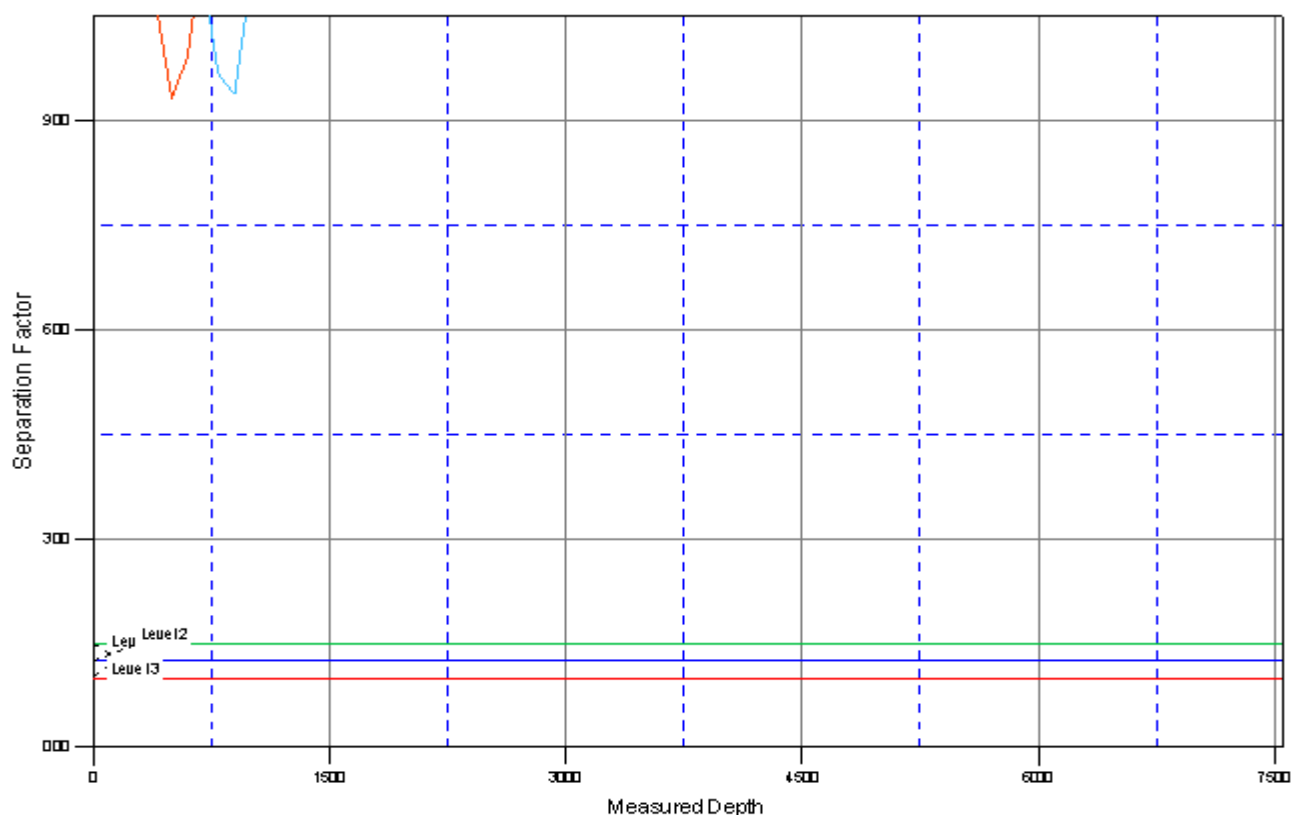
Reference Depths are relative to WELL @ 4647.00ft (Original Well Elev) Coordinates are relative to: P_WINTERS 33-3
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.54°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 33-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4647.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 12-3 PAD	MD Reference:	WELL @ 4647.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 33-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 33-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4647.00ft (Original Well Elev) Coordinates are relative to: P_WINTERS 33-3
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: 0.54°

Separation Factor Plot



LEGEND

/ WINTERS 19-3, PLAN#13-10-10 RHS \ W D  P_WINTERS 23-3, P_WINTERS 23-3, PLAN#1 3-10-10 RHS \ W D  P_WINTERS 35-3, P_WINTERS 35-3, PLAN#1 3-10-10 RHS \ W D