



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_WINTERS 5-3 PAD

P_WINTERS 30-3

P_WINTERS 30-3

Plan: PLAN #1 3-10-10 RHS

Standard Planning Report

10 March, 2010

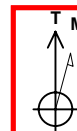




Project: COLORADO NORTHERN ZONE - 83
Site: WELD_WINTERS 5-3 PAD
Well: P_WINTERS 30-3
Wellbore: P_WINTERS 30-3
Section: SECTION 3 T5N R65W
SHL: 1879 FNL 517 FWL
Design: PLAN #1 3-10-10 RHS
Latitude: 40° 25' 48.569 N
Longitude: 104° 39' 24.959 W
GL: 4657.00
KB: WELL @ 4672.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
Magnetic North: 8.98°
Magnetic Field
Strength: 53294.1snT
Dip Angle: 67.14°
Date: 3/10/2010
Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3553.00	3792.32	PARKMAN
4280.00	4590.55	SUSSEX
6700.00	7070.27	NIO A
7010.00	7380.27	CODELL
7086.00	7456.27	GREENHORN

CASING DETAILS

TVD	MD	Name	Size
530.00	530.25	8 5/8"	8.62

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1519.45	24.39	346.63	1482.95	248.71	-59.14	2.00	346.63	255.64	Start 3331.38 hold at 1519.45 MD
4850.82	24.39	346.63	4517.05	1587.02	-377.34	0.00	0.00	1631.26	Start Drop -2.00
6070.27	0.00	0.00	5700.00	1835.73	-436.48	2.00	180.00	1886.91	Start 1470.00 hold at 6070.27 MD
7540.27	0.00	0.00	7170.00	1835.73	-436.48	0.00	0.00	1886.91	TD at 7540.27

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

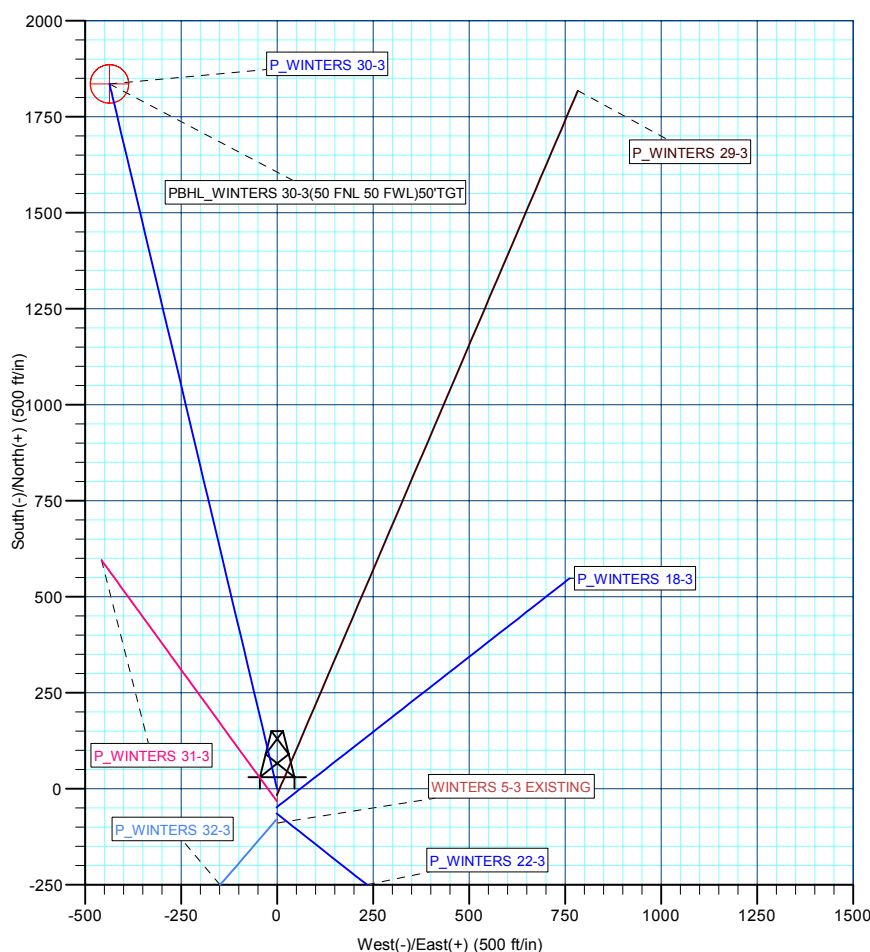
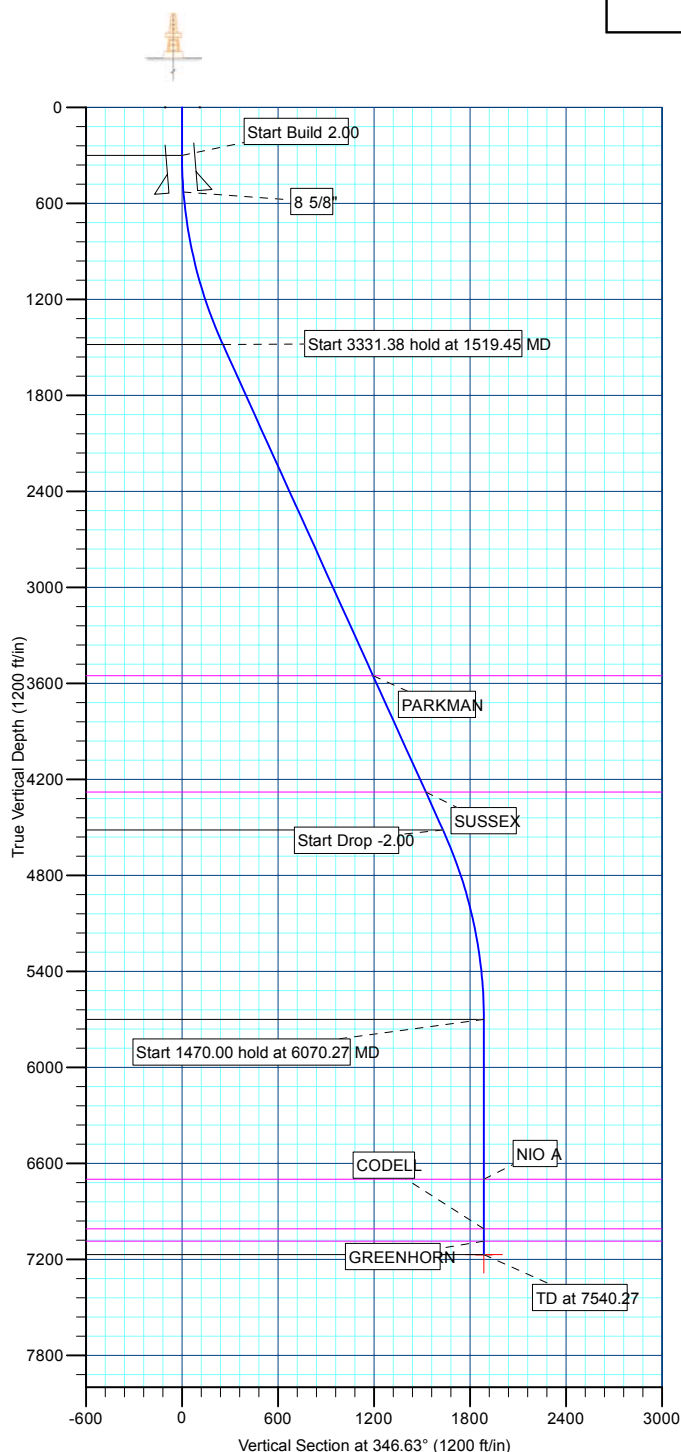
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7170.00	1835.73	-436.48	40° 26' 6.709 N	104° 39' 30.604 W	Circle (Radius: 50.00)

WELL DETAILS: P_WINTERS 30-3

+N/-S	+E/-W	Northing	Ground Level: Easting	4657.00 Latitude	Longitude	Slot
0.00	0.00	1400662.55	3234694.90	40° 25' 48.569 N	104° 39' 24.959 W	

LEGEND

- P_WINTERS 18-3, P_WINTERS 18-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 22-3, P_WINTERS 22-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 29-3, P_WINTERS 29-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 31-3, P_WINTERS 31-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 32-3, P_WINTERS 32-3, PLAN #1 3-10-10 RHS V0
- WINTERS 5-3 EXISTING, WINTERS 5-3 EXISTING V0
- PLAN #1 3-10-10 RHS



Plan: PLAN #1 3-10-10 RHS (P_WINTERS 30-3/P_WINTERS 30-3)

Created By: Robert H. Scott Date: 11:46, March 10 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site:	WELD_WINTERS 5-3 PAD	North Reference:	True
Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 30-3		
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 5-3 PAD, SECTION 3 T5N R65W			
Site Position:		Northing:	1,400,614.48 ft	Latitude:	40° 25' 48.094 N
From:	Lat/Long	Easting:	3,234,694.25 ft	Longitude:	104° 39' 24.973 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.54 °

Well	P_WINTERS 30-3					
Well Position	+N/-S	48.07 ft	Northing:	1,400,662.55 ft	Latitude:	40° 25' 48.569 N
	+E/-W	1.11 ft	Easting:	3,234,694.90 ft	Longitude:	104° 39' 24.959 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,657.00 ft

Wellbore	P_WINTERS 30-3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/10/2010	8.98	67.14	53,294

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	346.63

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,519.45	24.39	346.63	1,482.95	248.71	-59.14	2.00	2.00	0.00	346.63	
4,850.82	24.39	346.63	4,517.05	1,587.02	-377.34	0.00	0.00	0.00	0.00	
6,070.27	0.00	0.00	5,700.00	1,835.73	-436.48	2.00	-2.00	0.00	180.00	
7,540.27	0.00	0.00	7,170.00	1,835.73	-436.48	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 30-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site:	WELD_WINTERS 5-3 PAD	North Reference:	True
Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 30-3		
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									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	346.63	399.98	1.70	-0.40	1.75	2.00	2.00	0.00
500.00	4.00	346.63	499.84	6.79	-1.61	6.98	2.00	2.00	0.00
8 5/8"									
530.25	4.60	346.63	530.00	9.00	-2.14	9.25	2.00	2.00	0.00
600.00	6.00	346.63	599.45	15.27	-3.63	15.69	2.00	2.00	0.00
700.00	8.00	346.63	698.70	27.12	-6.45	27.88	2.00	2.00	0.00
800.00	10.00	346.63	797.47	42.34	-10.07	43.52	2.00	2.00	0.00
900.00	12.00	346.63	895.62	60.90	-14.48	62.60	2.00	2.00	0.00
1,000.00	14.00	346.63	993.06	82.79	-19.68	85.10	2.00	2.00	0.00
1,100.00	16.00	346.63	1,089.64	107.97	-25.67	110.98	2.00	2.00	0.00
1,200.00	18.00	346.63	1,185.27	136.41	-32.43	140.21	2.00	2.00	0.00
1,300.00	20.00	346.63	1,279.82	168.08	-39.96	172.77	2.00	2.00	0.00
1,400.00	22.00	346.63	1,373.17	202.95	-48.25	208.60	2.00	2.00	0.00
1,500.00	24.00	346.63	1,465.21	240.96	-57.29	247.67	2.00	2.00	0.00
Start 3331.38 hold at 1519.45 MD									
1,519.45	24.39	346.63	1,482.95	248.71	-59.14	255.64	2.00	2.00	0.00
1,600.00	24.39	346.63	1,556.32	281.07	-66.83	288.91	0.00	0.00	0.00
1,700.00	24.39	346.63	1,647.39	321.24	-76.38	330.20	0.00	0.00	0.00
1,800.00	24.39	346.63	1,738.47	361.42	-85.93	371.49	0.00	0.00	0.00
1,900.00	24.39	346.63	1,829.55	401.59	-95.49	412.79	0.00	0.00	0.00
2,000.00	24.39	346.63	1,920.62	441.76	-105.04	454.08	0.00	0.00	0.00
2,100.00	24.39	346.63	2,011.70	481.94	-114.59	495.37	0.00	0.00	0.00
2,200.00	24.39	346.63	2,102.78	522.11	-124.14	536.66	0.00	0.00	0.00
2,300.00	24.39	346.63	2,193.85	562.28	-133.69	577.96	0.00	0.00	0.00
2,400.00	24.39	346.63	2,284.93	602.45	-143.24	619.25	0.00	0.00	0.00
2,500.00	24.39	346.63	2,376.01	642.63	-152.80	660.54	0.00	0.00	0.00
2,600.00	24.39	346.63	2,467.08	682.80	-162.35	701.83	0.00	0.00	0.00
2,700.00	24.39	346.63	2,558.16	722.97	-171.90	743.13	0.00	0.00	0.00
2,800.00	24.39	346.63	2,649.23	763.15	-181.45	784.42	0.00	0.00	0.00
2,900.00	24.39	346.63	2,740.31	803.32	-191.00	825.71	0.00	0.00	0.00
3,000.00	24.39	346.63	2,831.39	843.49	-200.56	867.01	0.00	0.00	0.00
3,100.00	24.39	346.63	2,922.46	883.66	-210.11	908.30	0.00	0.00	0.00
3,200.00	24.39	346.63	3,013.54	923.84	-219.66	949.59	0.00	0.00	0.00
3,300.00	24.39	346.63	3,104.62	964.01	-229.21	990.88	0.00	0.00	0.00
3,400.00	24.39	346.63	3,195.69	1,004.18	-238.76	1,032.18	0.00	0.00	0.00
3,500.00	24.39	346.63	3,286.77	1,044.36	-248.31	1,073.47	0.00	0.00	0.00
3,600.00	24.39	346.63	3,377.85	1,084.53	-257.87	1,114.76	0.00	0.00	0.00
3,700.00	24.39	346.63	3,468.92	1,124.70	-267.42	1,156.06	0.00	0.00	0.00
PARKMAN									
3,792.32	24.39	346.63	3,553.00	1,161.79	-276.24	1,194.18	0.00	0.00	0.00
3,800.00	24.39	346.63	3,560.00	1,164.87	-276.97	1,197.35	0.00	0.00	0.00
3,900.00	24.39	346.63	3,651.07	1,205.05	-286.52	1,238.64	0.00	0.00	0.00
4,000.00	24.39	346.63	3,742.15	1,245.22	-296.07	1,279.93	0.00	0.00	0.00
4,100.00	24.39	346.63	3,833.23	1,285.39	-305.63	1,321.23	0.00	0.00	0.00
4,200.00	24.39	346.63	3,924.30	1,325.57	-315.18	1,362.52	0.00	0.00	0.00
4,300.00	24.39	346.63	4,015.38	1,365.74	-324.73	1,403.81	0.00	0.00	0.00
4,400.00	24.39	346.63	4,106.46	1,405.91	-334.28	1,445.11	0.00	0.00	0.00
4,500.00	24.39	346.63	4,197.53	1,446.08	-343.83	1,486.40	0.00	0.00	0.00
SUSSEX									
4,590.55	24.39	346.63	4,280.00	1,482.46	-352.48	1,523.79	0.00	0.00	0.00
4,600.00	24.39	346.63	4,288.61	1,486.26	-353.38	1,527.69	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site:	WELD_WINTERS 5-3 PAD	North Reference:	True
Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 30-3		
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)
4,700.00	24.39	346.63	4,379.69	1,526.43	-362.94	1,568.98	0.00	0.00	0.00
4,800.00	24.39	346.63	4,470.76	1,566.60	-372.49	1,610.28	0.00	0.00	0.00
Start Drop -2.00									
4,850.82	24.39	346.63	4,517.05	1,587.02	-377.34	1,631.26	0.00	0.00	0.00
4,900.00	23.41	346.63	4,562.01	1,606.40	-381.95	1,651.18	2.00	-2.00	0.00
5,000.00	21.41	346.63	4,654.46	1,643.48	-390.77	1,689.30	2.00	-2.00	0.00
5,100.00	19.41	346.63	4,748.18	1,677.40	-398.83	1,724.16	2.00	-2.00	0.00
5,200.00	17.41	346.63	4,843.06	1,708.12	-406.14	1,755.73	2.00	-2.00	0.00
5,300.00	15.41	346.63	4,938.98	1,735.59	-412.67	1,783.98	2.00	-2.00	0.00
5,400.00	13.41	346.63	5,035.83	1,759.79	-418.42	1,808.85	2.00	-2.00	0.00
5,500.00	11.41	346.63	5,133.49	1,780.69	-423.39	1,830.33	2.00	-2.00	0.00
5,600.00	9.41	346.63	5,231.84	1,798.26	-427.57	1,848.39	2.00	-2.00	0.00
5,700.00	7.41	346.63	5,330.76	1,812.48	-430.95	1,863.01	2.00	-2.00	0.00
5,800.00	5.41	346.63	5,430.13	1,823.34	-433.53	1,874.17	2.00	-2.00	0.00
5,900.00	3.41	346.63	5,529.83	1,830.81	-435.31	1,881.85	2.00	-2.00	0.00
6,000.00	1.41	346.63	5,629.74	1,834.89	-436.28	1,886.04	2.00	-2.00	0.00
Start 1470.00 hold at 6070.27 MD									
6,070.27	0.00	0.00	5,700.00	1,835.73	-436.48	1,886.91	2.00	-2.00	0.00
6,100.00	0.00	0.00	5,729.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,200.00	0.00	0.00	5,829.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,300.00	0.00	0.00	5,929.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,400.00	0.00	0.00	6,029.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,500.00	0.00	0.00	6,129.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,229.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,700.00	0.00	0.00	6,329.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,800.00	0.00	0.00	6,429.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
6,900.00	0.00	0.00	6,529.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,000.00	0.00	0.00	6,629.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
NIO A									
7,070.27	0.00	0.00	6,700.00	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,100.00	0.00	0.00	6,729.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,200.00	0.00	0.00	6,829.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,300.00	0.00	0.00	6,929.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
CODELL									
7,380.27	0.00	0.00	7,010.00	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,400.00	0.00	0.00	7,029.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
GREENHORN									
7,456.27	0.00	0.00	7,086.00	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
7,500.00	0.00	0.00	7,129.73	1,835.73	-436.48	1,886.91	0.00	0.00	0.00
PBHL_WINTERS 30-3(50 FNL 50 FWL)50'TGT									
7,540.27	0.00	0.00	7,170.00	1,835.73	-436.48	1,886.91	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 30-3	0.00	0.00	7,170.00	1,835.73	-436.48	1,402,494.05	3,234,240.99	40° 26' 6.709 N	104° 39' 30.604 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site:	WELD_WINTERS 5-3 PAD	North Reference:	True
Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 30-3		
Design:	PLAN #1 3-10-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
530.25	530.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,792.32	3,553.00	PARKMAN				
4,590.55	4,280.00	SUSSEX				
7,070.27	6,700.00	NIO A				
7,380.27	7,010.00	CODELL				
7,456.27	7,086.00	GREENHORN				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,519.45	1,482.95	248.71	-59.14	Start 3331.38 hold at 1519.45 MD	
4,850.82	4,517.05	1,587.02	-377.34	Start Drop -2.00	
6,070.27	5,700.00	1,835.73	-436.48	Start 1470.00 hold at 6070.27 MD	
7,540.27	7,170.00	1,835.73	-436.48	TD at 7540.27	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_WINTERS 5-3 PAD
P_WINTERS 30-3**

**P_WINTERS 30-3
PLAN #1 3-10-10 RHS**

Anticollision Report

10 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	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	7,540.27	PLAN #1 3-10-10 RHS (P_WINTERS 30-3	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 5-3 PAD						
P_WINTERS 18-3 - P_WINTERS 18-3 - PLAN #1 3-10-1	300.00	300.00	48.08	46.99	44.106	CC, ES
P_WINTERS 18-3 - P_WINTERS 18-3 - PLAN #1 3-10-1	700.00	699.71	74.92	72.04	26.037	SF
P_WINTERS 22-3 - P_WINTERS 22-3 - PLAN #1 3-10-1	300.00	300.00	64.12	63.03	58.823	CC, ES
P_WINTERS 22-3 - P_WINTERS 22-3 - PLAN #1 3-10-1	700.00	697.27	91.91	89.05	32.125	SF
P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-1	300.00	300.00	16.03	14.94	14.709	CC
P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-1	400.00	400.51	16.12	14.58	10.473	ES
P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-1	600.00	601.25	19.19	16.73	7.820	SF
P_WINTERS 31-3 - P_WINTERS 31-3 - PLAN #1 3-10-1	300.00	300.00	32.06	30.97	29.411	CC, ES
P_WINTERS 31-3 - P_WINTERS 31-3 - PLAN #1 3-10-1	600.00	599.45	47.40	44.97	19.488	SF
P_WINTERS 32-3 - P_WINTERS 32-3 - PLAN #1 3-10-1	300.00	300.00	80.17	79.08	73.539	CC, ES
P_WINTERS 32-3 - P_WINTERS 32-3 - PLAN #1 3-10-1	700.00	696.86	107.95	105.09	37.749	SF
WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - W	300.00	278.00	88.90	83.14	15.442	CC
WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - W	400.00	377.98	90.60	82.57	11.288	ES
WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - W	800.00	775.47	131.73	114.95	7.853	SF

Offset Design		WELD_WINTERS 5-3 PAD - P_WINTERS 18-3 - P_WINTERS 18-3 - 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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.00	0.00	0.00	0.00	-178.67	-48.07	-1.11	48.08						
100.00	100.00	100.00	100.00	0.10	0.10	-178.67	-48.07	-1.11	48.08	47.89	0.19	251.661			
200.00	200.00	200.00	200.00	0.32	0.32	-178.67	-48.07	-1.11	48.08	47.44	0.64	75.057			
300.00	300.00	300.00	300.00	0.55	0.55	-178.67	-48.07	-1.11	48.08	46.99	1.09	44.106	CC, ES		
400.00	399.98	399.98	399.98	0.77	0.77	-165.80	-48.07	-1.11	49.77	48.23	1.54	32.346			
500.00	499.84	499.84	499.84	1.00	0.99	-167.12	-48.07	-1.11	54.86	52.87	1.99	27.623			
600.00	599.45	599.45	599.45	1.24	1.22	-168.84	-48.07	-1.11	63.39	60.95	2.43	26.057			
700.00	698.70	699.71	699.71	1.52	1.44	-171.15	-47.54	-0.45	74.92	72.04	2.88	26.037	SF		
800.00	797.47	800.16	800.06	1.83	1.66	-175.00	-44.96	2.87	88.29	84.97	3.32	26.598			
900.00	895.62	900.17	899.77	2.19	1.89	-179.65	-40.23	8.92	103.89	100.12	3.77	27.546			
1,000.00	993.06	999.55	998.52	2.61	2.14	175.48	-33.41	17.64	122.17	117.92	4.25	28.767			
1,100.00	1,089.64	1,098.08	1,096.00	3.08	2.41	170.74	-24.57	28.95	143.49	138.73	4.77	30.112			
1,200.00	1,185.27	1,195.59	1,191.92	3.62	2.72	166.31	-13.80	42.73	168.10	162.75	5.35	31.436			
1,300.00	1,279.82	1,291.43	1,285.66	4.22	3.07	162.42	-1.50	58.47	196.17	190.17	6.00	32.690			

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 18-3 - P_WINTERS 18-3 - 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	
1,400.00	1,373.17	1,385.83	1,377.90	4.88	3.44	159.63	10.85	74.27	227.89	221.19	6.70	34.007	
1,500.00	1,465.21	1,479.23	1,469.17	5.60	3.81	157.71	23.07	89.91	262.98	255.54	7.43	35.376	
1,519.45	1,482.95	1,497.27	1,486.80	5.75	3.89	157.41	25.43	92.93	270.17	262.59	7.58	35.648	
1,600.00	1,556.32	1,571.91	1,559.73	6.37	4.20	156.58	35.20	105.42	300.23	291.99	8.24	36.454	
1,700.00	1,647.39	1,664.56	1,650.27	7.15	4.58	155.75	47.32	120.93	337.60	328.53	9.07	37.231	
1,800.00	1,738.47	1,757.21	1,740.81	7.93	4.98	155.09	59.44	136.44	375.03	365.11	9.91	37.828	
1,900.00	1,829.55	1,849.87	1,831.35	8.73	5.38	154.54	71.56	151.95	412.49	401.72	10.77	38.295	
2,000.00	1,920.62	1,942.52	1,921.89	9.52	5.78	154.09	83.68	167.46	449.97	438.34	11.64	38.666	
2,100.00	2,011.70	2,035.18	2,012.42	10.32	6.19	153.71	95.81	182.97	487.48	474.97	12.51	38.967	
2,200.00	2,102.78	2,127.83	2,102.96	11.12	6.60	153.38	107.93	198.48	525.00	511.62	13.39	39.214	
2,300.00	2,193.85	2,220.48	2,193.50	11.92	7.01	153.09	120.05	213.99	562.54	548.27	14.27	39.418	
2,400.00	2,284.93	2,313.14	2,284.04	12.72	7.42	152.84	132.17	229.50	600.09	584.93	15.16	39.590	
2,500.00	2,376.01	2,405.79	2,374.58	13.53	7.84	152.62	144.29	245.01	637.64	621.59	16.05	39.736	
2,600.00	2,467.08	2,498.45	2,465.12	14.33	8.25	152.43	156.41	260.52	675.20	658.26	16.94	39.860	
2,700.00	2,558.16	2,591.10	2,555.66	15.14	8.67	152.25	168.54	276.03	712.77	694.94	17.83	39.968	
2,800.00	2,649.23	2,683.75	2,646.20	15.95	9.08	152.10	180.66	291.53	750.34	731.61	18.73	40.061	
2,900.00	2,740.31	2,776.41	2,736.74	16.75	9.50	151.95	192.78	307.04	787.92	768.29	19.63	40.143	
3,000.00	2,831.39	2,869.06	2,827.27	17.56	9.92	151.82	204.90	322.55	825.50	804.98	20.53	40.215	
3,100.00	2,922.46	2,961.72	2,917.81	18.37	10.34	151.71	217.02	338.06	863.09	841.66	21.43	40.279	
3,200.00	3,013.54	3,054.37	3,008.35	19.18	10.76	151.60	229.15	353.57	900.68	878.35	22.33	40.335	
3,300.00	3,104.62	3,147.03	3,098.89	19.99	11.18	151.50	241.27	369.08	938.27	915.03	23.23	40.386	
3,400.00	3,195.69	3,239.68	3,189.43	20.80	11.60	151.41	253.39	384.59	975.86	951.72	24.14	40.432	
3,500.00	3,286.77	3,332.33	3,279.97	21.61	12.02	151.32	265.51	400.10	1,013.45	988.41	25.04	40.473	
3,600.00	3,377.85	3,424.99	3,370.51	22.42	12.44	151.24	277.63	415.61	1,051.05	1,025.10	25.95	40.510	
3,700.00	3,468.92	3,517.64	3,461.05	23.23	12.86	151.17	289.75	431.12	1,088.65	1,061.80	26.85	40.544	
3,800.00	3,560.00	3,610.30	3,551.59	24.04	13.28	151.10	301.88	446.63	1,126.25	1,098.49	27.76	40.575	
3,900.00	3,651.07	3,702.95	3,642.12	24.85	13.70	151.04	314.00	462.14	1,163.85	1,135.18	28.66	40.603	
4,000.00	3,742.15	3,795.60	3,732.66	25.66	14.12	150.98	326.12	477.65	1,201.45	1,171.88	29.57	40.629	
4,100.00	3,833.23	3,888.26	3,823.20	26.47	14.54	150.92	338.24	493.16	1,239.05	1,208.57	30.48	40.653	
4,200.00	3,924.30	3,980.91	3,913.74	27.28	14.97	150.87	350.36	508.67	1,276.66	1,245.27	31.39	40.675	
4,300.00	4,015.38	4,073.57	4,004.28	28.09	15.39	150.82	362.49	524.18	1,314.26	1,281.97	32.30	40.695	
4,400.00	4,106.46	4,166.22	4,094.82	28.90	15.81	150.77	374.61	539.69	1,351.87	1,318.66	33.20	40.714	
4,500.00	4,197.53	4,258.87	4,185.36	29.72	16.23	150.72	386.73	555.20	1,389.47	1,355.36	34.11	40.731	
4,600.00	4,288.61	4,351.53	4,275.90	30.53	16.65	150.68	398.85	570.71	1,427.08	1,392.06	35.02	40.748	
4,700.00	4,379.69	4,444.18	4,366.44	31.34	17.08	150.64	410.97	586.22	1,464.69	1,428.76	35.93	40.763	
4,800.00	4,470.76	4,536.84	4,456.97	32.15	17.50	150.60	423.09	601.73	1,502.30	1,465.46	36.84	40.777	
4,850.82	4,517.05	4,583.92	4,502.99	32.56	17.72	150.58	429.26	609.61	1,521.41	1,484.11	37.30	40.784	
4,900.00	4,562.01	4,629.62	4,547.64	32.91	17.92	150.75	435.23	617.26	1,539.56	1,501.78	37.78	40.751	
5,000.00	4,654.46	4,723.34	4,639.22	33.50	18.35	151.01	447.49	632.95	1,574.36	1,535.66	38.70	40.682	
5,100.00	4,748.18	4,818.00	4,731.72	34.04	18.78	151.18	459.88	648.79	1,606.28	1,566.68	39.61	40.556	
5,200.00	4,843.06	4,913.51	4,825.05	34.54	19.22	151.25	472.38	664.78	1,635.31	1,594.81	40.50	40.382	
5,300.00	4,938.98	5,009.75	4,919.09	35.00	19.66	151.24	484.97	680.89	1,661.42	1,620.06	41.37	40.164	
5,400.00	5,035.83	5,106.59	5,013.72	35.42	20.10	151.16	497.64	697.10	1,684.61	1,642.40	42.21	39.908	
5,500.00	5,133.49	5,204.68	5,109.58	35.78	20.54	150.99	510.43	713.47	1,704.87	1,661.85	43.02	39.627	
5,600.00	5,231.84	5,307.03	5,210.10	36.10	20.87	150.81	522.32	728.68	1,722.04	1,678.35	43.69	39.417	
5,700.00	5,330.76	5,410.48	5,312.32	36.37	21.17	150.66	532.08	741.16	1,735.98	1,691.73	44.25	39.233	
5,800.00	5,430.13	5,514.81	5,415.92	36.59	21.42	150.55	539.61	750.80	1,746.66	1,701.96	44.70	39.075	
5,900.00	5,529.83	5,619.79	5,520.55	36.77	21.63	150.47	544.84	757.50	1,754.02	1,708.98	45.04	38.944	
6,000.00	5,629.74	5,725.18	5,625.83	36.89	21.80	150.43	547.71	761.17	1,758.05	1,712.78	45.26	38.839	
6,070.27	5,700.00	5,799.36	5,700.00	36.95	21.89	137.05	548.30	761.93	1,758.88	1,713.52	45.36	38.777	
6,100.00	5,729.73	5,829.09	5,729.73	36.97	21.92	137.05	548.30	761.93	1,758.88	1,713.45	45.42	38.723	
6,200.00	5,829.73	5,929.09	5,829.73	37.04	22.04	137.05	548.30	761.93	1,758.88	1,713.23	45.65	38.533	

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 18-3 - P_WINTERS 18-3 - 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
6,300.00	5,929.73	6,029.09	5,929.73	37.11	22.16	137.05	548.30	761.93	1,758.88	1,713.00	45.88	38.338	
6,400.00	6,029.73	6,129.09	6,029.73	37.18	22.29	137.05	548.30	761.93	1,758.88	1,712.76	46.11	38.142	
6,500.00	6,129.73	6,229.09	6,129.73	37.25	22.42	137.05	548.30	761.93	1,758.88	1,712.52	46.35	37.945	
6,600.00	6,229.73	6,329.09	6,229.73	37.33	22.55	137.05	548.30	761.93	1,758.88	1,712.28	46.60	37.747	
6,700.00	6,329.73	6,429.09	6,329.73	37.40	22.68	137.05	548.30	761.93	1,758.88	1,712.03	46.84	37.550	
6,800.00	6,429.73	6,529.09	6,429.73	37.48	22.81	137.05	548.30	761.93	1,758.88	1,711.79	47.09	37.352	
6,900.00	6,529.73	6,629.09	6,529.73	37.56	22.95	137.05	548.30	761.93	1,758.88	1,711.53	47.34	37.153	
7,000.00	6,629.73	6,729.09	6,629.73	37.63	23.08	137.05	548.30	761.93	1,758.88	1,711.28	47.59	36.955	
7,100.00	6,729.73	6,829.09	6,729.73	37.71	23.22	137.05	548.30	761.93	1,758.88	1,711.02	47.85	36.757	
7,200.00	6,829.73	6,929.09	6,829.73	37.79	23.36	137.05	548.30	761.93	1,758.88	1,710.76	48.11	36.558	
7,300.00	6,929.73	7,029.09	6,929.73	37.88	23.50	137.05	548.30	761.93	1,758.88	1,710.50	48.37	36.359	
7,400.00	7,029.73	7,129.09	7,029.73	37.96	23.64	137.05	548.30	761.93	1,758.88	1,710.24	48.64	36.161	
7,500.00	7,129.73	7,229.09	7,129.73	38.04	23.78	137.05	548.30	761.93	1,758.88	1,709.97	48.91	35.963	
7,540.27	7,170.00	7,269.36	7,170.00	38.08	23.84	137.05	548.30	761.93	1,758.88	1,709.86	49.02	35.883	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-178.76	-64.11	-1.39	64.12				
100.00	100.00	100.00	100.00	0.10	0.10	-178.76	-64.11	-1.39	64.12	63.93	0.19	335.636	
200.00	200.00	200.00	200.00	0.32	0.32	-178.76	-64.11	-1.39	64.12	63.48	0.64	100.102	
300.00	300.00	300.00	300.00	0.55	0.55	-178.76	-64.11	-1.39	64.12	63.03	1.09	58.823 CC, ES	
400.00	399.98	399.98	399.98	0.77	0.77	-165.76	-64.11	-1.39	65.81	64.28	1.54	42.773	
500.00	499.84	499.84	499.84	1.00	0.99	-166.77	-64.11	-1.39	70.90	68.91	1.99	35.699	
600.00	599.45	599.45	599.45	1.24	1.22	-168.18	-64.11	-1.39	79.41	76.98	2.43	32.641	
700.00	698.70	697.27	697.26	1.52	1.42	-170.05	-64.60	-0.77	91.91	89.05	2.86	32.125 SF	
800.00	797.47	793.14	793.05	1.83	1.61	-172.90	-66.99	2.25	110.11	106.84	3.27	33.718	
900.00	895.62	887.03	886.69	2.19	1.80	-175.99	-71.25	7.65	134.30	130.62	3.68	36.523	
1,000.00	993.06	978.44	977.58	2.61	2.02	-178.87	-77.23	15.21	164.51	160.41	4.10	40.170	
1,100.00	1,089.64	1,066.90	1,065.21	3.08	2.25	178.63	-84.73	24.69	200.66	196.14	4.52	44.384	
1,200.00	1,185.27	1,152.02	1,149.13	3.62	2.51	176.51	-93.52	35.82	242.55	237.60	4.95	48.962	
1,300.00	1,279.82	1,233.92	1,229.46	4.22	2.79	174.72	-103.43	48.36	289.92	284.53	5.39	53.775	
1,400.00	1,373.17	1,319.42	1,313.10	4.88	3.12	173.23	-114.42	62.27	341.38	335.53	5.86	58.304	
1,500.00	1,465.21	1,403.11	1,394.97	5.60	3.45	172.14	-125.17	75.88	395.88	389.55	6.32	62.605	
1,519.45	1,482.95	1,419.17	1,410.68	5.75	3.51	171.96	-127.24	78.49	406.82	400.40	6.42	63.408	
1,600.00	1,556.32	1,485.53	1,475.60	6.37	3.79	171.45	-135.77	89.28	452.37	445.51	6.86	65.946	
1,700.00	1,647.39	1,567.91	1,556.19	7.15	4.13	170.95	-146.36	102.68	508.95	501.53	7.42	68.587	
1,800.00	1,738.47	1,650.29	1,636.79	7.93	4.48	170.54	-156.94	116.07	565.55	557.56	7.99	70.789	
1,900.00	1,829.55	1,732.67	1,717.38	8.73	4.84	170.21	-167.53	129.47	622.16	613.60	8.56	72.645	
2,000.00	1,920.62	1,815.05	1,797.97	9.52	5.20	169.93	-178.12	142.87	678.79	669.65	9.14	74.226	
2,100.00	2,011.70	1,897.44	1,878.56	10.32	5.56	169.70	-188.71	156.27	735.43	725.70	9.73	75.584	
2,200.00	2,102.78	1,979.82	1,959.15	11.12	5.92	169.50	-199.30	169.67	792.07	781.75	10.32	76.759	
2,300.00	2,193.85	2,062.20	2,039.75	11.92	6.29	169.33	-209.89	183.06	848.72	837.81	10.91	77.786	
2,400.00	2,284.93	2,144.58	2,120.34	12.72	6.66	169.17	-220.47	196.46	905.37	893.87	11.51	78.691	
2,500.00	2,376.01	2,226.96	2,200.93	13.53	7.03	169.04	-231.06	209.86	962.03	949.93	12.10	79.493	
2,600.00	2,467.08	2,309.34	2,281.52	14.33	7.40	168.92	-241.65	223.26	1,018.69	1,005.99	12.70	80.208	
2,700.00	2,558.16	2,391.72	2,362.12	15.14	7.77	168.81	-252.24	236.65	1,075.35	1,062.05	13.30	80.849	
2,800.00	2,649.23	2,474.11	2,442.71	15.95	8.15	168.72	-262.83	250.05	1,132.02	1,118.12	13.90	81.425	
2,900.00	2,740.31	2,556.49	2,523.30	16.75	8.52	168.63	-273.42	263.45	1,188.69	1,174.18	14.51	81.947	
3,000.00	2,831.39	2,638.87	2,603.89	17.56	8.89	168.55	-284.00	276.85	1,245.36	1,230.25	15.11	82.422	
3,100.00	2,922.46	2,721.25	2,684.48	18.37	9.27	168.48	-294.59	290.24	1,302.03	1,286.31	15.71	82.855	
3,200.00	3,013.54	2,803.63	2,765.08	19.18	9.64	168.41	-305.18	303.64	1,358.70	1,342.38	16.32	83.252	
3,300.00	3,104.62	2,886.01	2,845.67	19.99	10.02	168.35	-315.77	317.04	1,415.37	1,398.44	16.93	83.616	
3,400.00	3,195.69	2,968.39	2,926.26	20.80	10.40	168.30	-326.36	330.44	1,472.05	1,454.51	17.53	83.952	
3,500.00	3,286.77	3,050.78	3,006.85	21.61	10.77	168.25	-336.95	343.83	1,528.72	1,510.58	18.14	84.263	
3,600.00	3,377.85	3,133.16	3,087.44	22.42	11.15	168.20	-347.53	357.23	1,585.40	1,566.65	18.75	84.551	
3,700.00	3,468.92	3,215.54	3,168.04	23.23	11.53	168.15	-358.12	370.63	1,642.07	1,622.71	19.36	84.818	
3,800.00	3,560.00	3,297.92	3,248.63	24.04	11.91	168.11	-368.71	384.03	1,698.75	1,678.78	19.97	85.068	
3,900.00	3,651.07	3,380.30	3,329.22	24.85	12.28	168.07	-379.30	397.43	1,755.43	1,734.85	20.58	85.300	
4,000.00	3,742.15	3,462.68	3,409.81	25.66	12.66	168.04	-389.89	410.82	1,812.11	1,790.92	21.19	85.518	
4,100.00	3,833.23	3,545.07	3,490.41	26.47	13.04	168.00	-400.47	424.22	1,868.78	1,846.98	21.80	85.723	
4,200.00	3,924.30	3,627.45	3,571.00	27.28	13.42	167.97	-411.06	437.62	1,925.46	1,903.05	22.41	85.914	
4,300.00	4,015.38	3,709.83	3,651.59	28.09	13.80	167.94	-421.65	451.02	1,982.14	1,959.12	23.02	86.095	
4,400.00	4,106.46	3,792.21	3,732.18	28.90	14.18	167.91	-432.24	464.41	2,038.82	2,015.19	23.63	86.265	
4,500.00	4,197.53	3,874.59	3,812.77	29.72	14.56	167.88	-442.83	477.81	2,095.50	2,071.26	24.25	86.426	
4,600.00	4,288.61	3,956.97	3,893.37	30.53	14.94	167.86	-453.42	491.21	2,152.18	2,127.32	24.86	86.578	
4,700.00	4,379.69	4,039.35	3,973.96	31.34	15.31	167.83	-464.00	504.61	2,208.86	2,183.39	25.47	86.722	
4,800.00	4,470.76	4,121.74	4,054.55	32.15	15.69	167.81	-474.59	518.00	2,265.54	2,239.46	26.08	86.859	
4,850.82	4,517.05	4,163.60	4,095.51	32.56	15.89	167.80	-479.97	524.81	2,294.35	2,267.96	26.39	86.925	
4,900.00	4,562.01	4,204.35	4,135.37	32.91	16.07	167.92	-485.21	531.44	2,321.88	2,295.10	26.78	86.695	

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 22-3 - P_WINTERS 22-3 - 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	4,654.46	4,288.59	4,217.78	33.50	16.46	168.15	-496.04	545.14	2,375.74	2,348.21	27.53	86.301	
5,100.00	4,748.18	4,374.60	4,301.92	34.04	16.86	168.33	-507.09	559.13	2,426.69	2,398.45	28.25	85.915	
5,200.00	4,843.06	4,462.28	4,387.70	34.54	17.26	168.47	-518.36	573.39	2,474.68	2,445.75	28.93	85.542	
5,300.00	4,938.98	4,551.53	4,475.01	35.00	17.68	168.58	-529.83	587.90	2,519.63	2,490.06	29.58	85.185	
5,400.00	5,035.83	4,642.23	4,563.74	35.42	18.09	168.66	-541.49	602.65	2,561.52	2,531.33	30.19	84.848	
5,500.00	5,133.49	4,734.28	4,653.79	35.78	18.52	168.70	-553.32	617.62	2,600.28	2,569.52	30.76	84.532	
5,600.00	5,231.84	4,827.55	4,745.04	36.10	18.95	168.72	-565.31	632.79	2,635.87	2,604.58	31.29	84.238	
5,700.00	5,330.76	4,921.95	4,837.38	36.37	19.38	168.71	-577.44	648.14	2,668.26	2,636.48	31.78	83.968	
5,800.00	5,430.13	5,017.35	4,930.71	36.59	19.82	168.68	-589.70	663.66	2,697.41	2,665.19	32.22	83.722	
5,900.00	5,529.83	5,113.63	5,024.90	36.77	20.27	168.61	-602.08	679.32	2,723.29	2,690.67	32.61	83.502	
6,000.00	5,629.74	5,295.59	5,203.25	36.89	20.97	168.38	-624.43	707.59	2,745.65	2,712.48	33.17	82.771	
6,070.27	5,700.00	5,794.87	5,700.00	36.95	21.97	154.65	-651.34	741.64	2,751.99	2,717.83	34.16	80.562	
6,100.00	5,729.73	5,824.60	5,729.73	36.97	22.00	154.65	-651.34	741.64	2,751.99	2,717.75	34.24	80.366	
6,200.00	5,829.73	5,924.60	5,829.73	37.04	22.11	154.65	-651.34	741.64	2,751.99	2,717.46	34.53	79.692	
6,300.00	5,929.73	6,024.60	5,929.73	37.11	22.22	154.65	-651.34	741.64	2,751.99	2,717.17	34.83	79.021	
6,400.00	6,029.73	6,124.60	6,029.73	37.18	22.34	154.65	-651.34	741.64	2,751.99	2,716.87	35.12	78.355	
6,500.00	6,129.73	6,224.60	6,129.73	37.25	22.45	154.65	-651.34	741.64	2,751.99	2,716.57	35.42	77.692	
6,600.00	6,229.73	6,324.60	6,229.73	37.33	22.57	154.65	-651.34	741.64	2,751.99	2,716.27	35.72	77.033	
6,700.00	6,329.73	6,424.60	6,329.73	37.40	22.69	154.65	-651.34	741.64	2,751.99	2,715.96	36.03	76.380	
6,800.00	6,429.73	6,524.60	6,429.73	37.48	22.81	154.65	-651.34	741.64	2,751.99	2,715.65	36.34	75.731	
6,900.00	6,529.73	6,624.60	6,529.73	37.56	22.93	154.65	-651.34	741.64	2,751.99	2,715.34	36.65	75.087	
7,000.00	6,629.73	6,724.60	6,629.73	37.63	23.06	154.65	-651.34	741.64	2,751.99	2,715.03	36.97	74.448	
7,100.00	6,729.73	6,824.60	6,729.73	37.71	23.18	154.65	-651.34	741.64	2,751.99	2,714.71	37.28	73.814	
7,200.00	6,829.73	6,924.60	6,829.73	37.79	23.31	154.65	-651.34	741.64	2,751.99	2,714.39	37.60	73.186	
7,300.00	6,929.73	7,024.60	6,929.73	37.88	23.44	154.65	-651.34	741.64	2,751.99	2,714.07	37.93	72.564	
7,400.00	7,029.73	7,124.60	7,029.73	37.96	23.57	154.65	-651.34	741.64	2,751.99	2,713.74	38.25	71.947	
7,500.00	7,129.73	7,224.60	7,129.73	38.04	23.70	154.65	-651.34	741.64	2,751.99	2,713.42	38.58	71.336	
7,540.27	7,170.00	7,264.87	7,170.00	38.08	23.75	154.65	-651.34	741.64	2,751.99	2,713.28	38.71	71.092	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 29-3 - P_WINTERS 29-3 - 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	-178.01	-16.03	-0.56	16.03				
100.00	100.00	100.00	100.00	0.10	0.10	-178.01	-16.03	-0.56	16.03	15.84	0.19	83.929	
200.00	200.00	200.00	200.00	0.32	0.32	-178.01	-16.03	-0.56	16.03	15.39	0.64	25.032	
300.00	300.00	300.00	300.00	0.55	0.55	-178.01	-16.03	-0.56	16.03	14.94	1.09	14.709 CC	
400.00	399.98	400.51	400.49	0.77	0.77	-168.55	-14.40	0.14	16.12	14.58	1.54	10.473 ES	
500.00	499.84	500.95	500.79	1.00	1.00	-179.81	-9.55	2.21	16.80	14.82	1.99	8.449	
600.00	599.45	601.25	600.69	1.24	1.24	164.37	-1.47	5.66	19.19	16.73	2.45	7.820 SF	
700.00	698.70	701.32	700.01	1.52	1.52	149.06	9.78	10.47	24.26	21.30	2.97	8.178	
800.00	797.47	801.12	798.56	1.83	1.83	137.41	24.17	16.62	32.31	28.74	3.56	9.070	
900.00	895.62	900.55	896.17	2.19	2.19	129.40	41.65	24.09	43.11	38.86	4.25	10.138	
1,000.00	993.06	999.58	992.64	2.61	2.60	123.95	62.13	32.84	56.45	51.40	5.04	11.189	
1,100.00	1,089.64	1,098.12	1,087.84	3.08	3.07	120.15	85.55	42.85	72.12	66.18	5.94	12.136	
1,200.00	1,185.27	1,196.13	1,181.59	3.62	3.59	117.39	111.81	54.07	90.01	83.07	6.95	12.956	
1,300.00	1,279.82	1,293.56	1,273.76	4.22	4.16	115.31	140.82	66.47	110.04	101.98	8.06	13.653	
1,400.00	1,373.17	1,390.34	1,364.21	4.88	4.80	113.68	172.48	80.00	132.13	122.85	9.28	14.240	
1,500.00	1,465.21	1,486.45	1,452.83	5.60	5.48	112.36	206.68	94.62	156.22	145.62	10.60	14.734	
1,519.45	1,482.95	1,505.06	1,469.84	5.75	5.62	112.13	213.62	97.58	161.13	150.26	10.87	14.825	
1,600.00	1,556.32	1,582.59	1,540.36	6.37	6.21	111.45	243.24	110.24	181.77	169.74	12.02	15.116	
1,700.00	1,647.39	1,679.21	1,628.18	7.15	6.96	110.74	280.28	126.07	207.45	193.97	13.48	15.389	
1,800.00	1,738.47	1,775.83	1,716.00	7.93	7.72	110.20	317.33	141.90	233.15	218.20	14.95	15.598	
1,900.00	1,829.55	1,872.45	1,803.82	8.73	8.49	109.76	354.37	157.73	258.86	242.44	16.42	15.761	
2,000.00	1,920.62	1,969.07	1,891.64	9.52	9.25	109.40	391.41	173.56	284.59	266.68	17.91	15.892	
2,100.00	2,011.70	2,065.69	1,979.46	10.32	10.02	109.10	428.46	189.39	310.33	290.93	19.40	15.999	
2,200.00	2,102.78	2,162.31	2,067.28	11.12	10.80	108.84	465.50	205.22	336.07	315.18	20.89	16.088	
2,300.00	2,193.85	2,258.93	2,155.10	11.92	11.57	108.63	502.55	221.05	361.82	339.44	22.39	16.162	
2,400.00	2,284.93	2,355.55	2,242.92	12.72	12.35	108.44	539.59	236.89	387.58	363.69	23.89	16.226	
2,500.00	2,376.01	2,452.17	2,330.74	13.53	13.12	108.27	576.63	252.72	413.33	387.94	25.39	16.281	
2,600.00	2,467.08	2,548.79	2,418.56	14.33	13.90	108.13	613.68	268.55	439.09	412.20	26.89	16.328	
2,700.00	2,558.16	2,645.40	2,506.39	15.14	14.68	108.00	650.72	284.38	464.85	436.46	28.40	16.370	
2,800.00	2,649.23	2,742.02	2,594.21	15.95	15.46	107.88	687.76	300.21	490.62	460.72	29.90	16.407	
2,900.00	2,740.31	2,838.64	2,682.03	16.75	16.24	107.78	724.81	316.04	516.38	484.97	31.41	16.440	
3,000.00	2,831.39	2,935.26	2,769.85	17.56	17.02	107.68	761.85	331.87	542.15	509.23	32.92	16.469	
3,100.00	2,922.46	3,031.88	2,857.67	18.37	17.80	107.59	798.90	347.70	567.92	533.49	34.43	16.495	
3,200.00	3,013.54	3,128.50	2,945.49	19.18	18.59	107.52	835.94	363.53	593.69	557.75	35.94	16.519	
3,300.00	3,104.62	3,225.12	3,033.31	19.99	19.37	107.44	872.98	379.36	619.46	582.01	37.45	16.541	
3,400.00	3,195.69	3,321.74	3,121.13	20.80	20.15	107.38	910.03	395.19	645.23	606.27	38.96	16.561	
3,500.00	3,286.77	3,418.36	3,208.95	21.61	20.93	107.32	947.07	411.02	671.00	630.53	40.47	16.579	
3,600.00	3,377.85	3,514.98	3,296.77	22.42	21.72	107.26	984.12	426.85	696.78	654.79	41.99	16.595	
3,700.00	3,468.92	3,611.60	3,384.59	23.23	22.50	107.21	1,021.16	442.68	722.55	679.05	43.50	16.611	
3,800.00	3,560.00	3,708.22	3,472.41	24.04	23.28	107.16	1,058.20	458.52	748.32	703.31	45.01	16.625	
3,900.00	3,651.07	3,804.84	3,560.23	24.85	24.07	107.11	1,095.25	474.35	774.10	727.57	46.53	16.638	
4,000.00	3,742.15	3,901.46	3,648.05	25.66	24.85	107.07	1,132.29	490.18	799.87	751.83	48.04	16.650	
4,100.00	3,833.23	3,998.08	3,735.88	26.47	25.63	107.03	1,169.34	506.01	825.65	776.09	49.55	16.662	
4,200.00	3,924.30	4,094.70	3,823.70	27.28	26.42	106.99	1,206.38	521.84	851.42	800.36	51.07	16.672	
4,300.00	4,015.38	4,191.32	3,911.52	28.09	27.20	106.96	1,243.42	537.67	877.20	824.62	52.58	16.682	
4,400.00	4,106.46	4,287.94	3,999.34	28.90	27.99	106.92	1,280.47	553.50	902.98	848.88	54.10	16.691	
4,500.00	4,197.53	4,384.56	4,087.16	29.72	28.77	106.89	1,317.51	569.33	928.75	873.14	55.61	16.700	
4,600.00	4,288.61	4,481.18	4,174.98	30.53	29.55	106.86	1,354.55	585.16	954.53	897.40	57.13	16.708	
4,700.00	4,379.69	4,577.80	4,262.80	31.34	30.34	106.83	1,391.60	600.99	980.31	921.66	58.64	16.716	
4,800.00	4,470.76	4,674.42	4,350.62	32.15	31.12	106.81	1,428.64	616.82	1,006.08	945.92	60.16	16.723	
4,850.82	4,517.05	4,723.52	4,395.25	32.56	31.52	106.79	1,447.47	624.87	1,019.18	958.25	60.93	16.727	
4,900.00	4,562.01	4,771.06	4,438.47	32.91	31.91	107.01	1,465.70	632.66	1,031.74	970.08	61.66	16.732	

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
WELD_WINTERS 5-3 PAD - P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-10 RHS													
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	4,654.46	4,867.86	4,526.45	33.50	32.70	107.29	1,502.81	648.52	1,056.55	993.50	63.04	16.759	
5,100.00	4,748.18	4,964.73	4,614.50	34.04	33.48	107.37	1,539.95	664.39	1,080.37	1,015.99	64.38	16.780	
5,200.00	4,843.06	5,061.55	4,702.50	34.54	34.27	107.28	1,577.07	680.25	1,103.25	1,037.57	65.68	16.797	
5,300.00	4,938.98	5,171.41	4,803.16	35.00	34.97	107.02	1,617.53	697.54	1,124.70	1,057.86	66.85	16.825	
5,400.00	5,035.83	5,283.04	4,907.08	35.42	35.59	106.75	1,654.97	713.54	1,144.08	1,076.18	67.89	16.851	
5,500.00	5,133.49	5,395.91	5,013.70	35.78	36.17	106.47	1,689.02	728.09	1,161.32	1,092.48	68.85	16.868	
5,600.00	5,231.84	5,509.95	5,122.82	36.10	36.70	106.18	1,719.46	741.11	1,176.39	1,106.70	69.70	16.879	
5,700.00	5,330.76	5,625.06	5,234.22	36.37	37.18	105.87	1,746.13	752.50	1,189.23	1,118.80	70.44	16.884	
5,800.00	5,430.13	5,741.16	5,347.65	36.59	37.59	105.56	1,768.83	762.20	1,199.81	1,128.74	71.07	16.882	
5,900.00	5,529.83	5,858.13	5,462.85	36.77	37.95	105.23	1,787.41	770.14	1,208.09	1,136.50	71.59	16.876	
6,000.00	5,629.74	5,975.85	5,579.53	36.89	38.25	104.88	1,801.72	776.26	1,214.03	1,142.04	71.99	16.864	
6,070.27	5,700.00	6,058.96	5,662.24	36.95	38.42	91.25	1,809.17	779.44	1,216.79	1,144.59	72.20	16.853	
6,100.00	5,729.73	6,094.21	5,697.40	36.97	38.48	91.13	1,811.66	780.50	1,217.65	1,145.37	72.28	16.847	
6,200.00	5,829.73	6,213.19	5,816.21	37.04	38.64	90.87	1,817.13	782.84	1,219.54	1,147.05	72.49	16.824	
6,300.00	5,929.73	6,326.72	5,929.73	37.11	38.74	90.82	1,818.26	783.32	1,219.93	1,147.27	72.65	16.791	
6,400.00	6,029.73	6,426.72	6,029.73	37.18	38.81	90.82	1,818.26	783.32	1,219.93	1,147.13	72.80	16.758	
6,500.00	6,129.73	6,526.72	6,129.73	37.25	38.87	90.82	1,818.26	783.32	1,219.93	1,146.99	72.94	16.725	
6,600.00	6,229.73	6,626.72	6,229.73	37.33	38.94	90.82	1,818.26	783.32	1,219.93	1,146.84	73.09	16.691	
6,700.00	6,329.73	6,726.72	6,329.73	37.40	39.02	90.82	1,818.26	783.32	1,219.93	1,146.69	73.24	16.657	
6,800.00	6,429.73	6,826.72	6,429.73	37.48	39.09	90.82	1,818.26	783.32	1,219.93	1,146.53	73.39	16.622	
6,900.00	6,529.73	6,926.72	6,529.73	37.56	39.16	90.82	1,818.26	783.32	1,219.93	1,146.38	73.55	16.587	
7,000.00	6,629.73	7,026.72	6,629.73	37.63	39.24	90.82	1,818.26	783.32	1,219.93	1,146.22	73.71	16.551	
7,100.00	6,729.73	7,126.72	6,729.73	37.71	39.31	90.82	1,818.26	783.32	1,219.93	1,146.06	73.87	16.515	
7,200.00	6,829.73	7,226.72	6,829.73	37.79	39.39	90.82	1,818.26	783.32	1,219.93	1,145.90	74.03	16.479	
7,300.00	6,929.73	7,326.72	6,929.73	37.88	39.47	90.82	1,818.26	783.32	1,219.93	1,145.73	74.19	16.442	
7,400.00	7,029.73	7,426.72	7,029.73	37.96	39.55	90.82	1,818.26	783.32	1,219.93	1,145.56	74.36	16.405	
7,500.00	7,129.73	7,526.72	7,129.73	38.04	39.63	90.82	1,818.26	783.32	1,219.93	1,145.40	74.53	16.368	
7,540.27	7,170.00	7,566.99	7,170.00	38.08	39.66	90.82	1,818.26	783.32	1,219.93	1,145.33	74.60	16.353	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 31-3 - P_WINTERS 31-3 - PLAN #1 3-10-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWMD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-178.51	-32.05	-0.84	32.06				
100.00	100.00	100.00	100.00	0.10	0.10	-178.51	-32.05	-0.84	32.06	31.87	0.19	167.814	
200.00	200.00	200.00	200.00	0.32	0.32	-178.51	-32.05	-0.84	32.06	31.42	0.64	50.050	
300.00	300.00	300.00	300.00	0.55	0.55	-178.51	-32.05	-0.84	32.06	30.97	1.09	29.411 CC, ES	
400.00	399.98	399.98	399.98	0.77	0.77	-165.88	-32.05	-0.84	33.75	32.21	1.54	21.935	
500.00	499.84	499.84	499.84	1.00	0.99	-167.75	-32.05	-0.84	38.85	36.86	1.99	19.562	
600.00	599.45	599.45	599.45	1.24	1.22	-169.95	-32.05	-0.84	47.40	44.97	2.43	19.488 SF	
700.00	698.70	699.94	699.93	1.52	1.44	-171.56	-31.36	-1.34	58.72	55.84	2.88	20.393	
800.00	797.47	801.19	801.08	1.83	1.67	-171.64	-27.92	-3.84	70.63	67.29	3.33	21.205	
900.00	895.62	902.74	902.33	2.19	1.90	-170.75	-21.56	-8.47	82.95	79.16	3.79	21.865	
1,000.00	993.06	1,004.58	1,003.51	2.61	2.16	-169.29	-12.27	-15.22	95.74	91.46	4.28	22.380	
1,100.00	1,089.64	1,106.66	1,104.47	3.08	2.45	-167.46	-0.05	-24.11	109.05	104.25	4.79	22.747	
1,200.00	1,185.27	1,205.56	1,201.97	3.62	2.76	-165.91	13.28	-33.81	124.26	118.93	5.34	23.290	
1,300.00	1,279.82	1,303.79	1,298.83	4.22	3.08	-165.03	26.53	-43.44	142.86	136.97	5.90	24.231	
1,400.00	1,373.17	1,401.35	1,395.03	4.88	3.41	-164.65	39.69	-53.01	164.78	158.31	6.47	25.471	
1,500.00	1,465.21	1,498.12	1,490.44	5.60	3.75	-164.60	52.74	-62.51	189.97	182.92	7.05	26.944	
1,519.45	1,482.95	1,516.84	1,508.90	5.75	3.82	-164.61	55.27	-64.34	195.25	188.08	7.16	27.253	
1,600.00	1,556.32	1,594.29	1,585.27	6.37	4.09	-164.80	65.71	-71.94	217.36	209.67	7.68	28.290	
1,700.00	1,647.39	1,690.45	1,680.08	7.15	4.44	-164.99	78.68	-81.37	244.81	236.47	8.33	29.372	
1,800.00	1,738.47	1,786.61	1,774.89	7.93	4.78	-165.14	91.65	-90.81	272.26	263.26	8.99	30.275	
1,900.00	1,829.55	1,882.76	1,869.70	8.73	5.14	-165.26	104.62	-100.24	299.71	290.05	9.66	31.040	
2,000.00	1,920.62	1,978.92	1,964.51	9.52	5.49	-165.36	117.59	-109.67	327.16	316.84	10.32	31.694	
2,100.00	2,011.70	2,075.07	2,059.32	10.32	5.85	-165.45	130.56	-119.10	354.62	343.63	10.99	32.259	
2,200.00	2,102.78	2,171.23	2,154.12	11.12	6.20	-165.52	143.53	-128.54	382.07	370.41	11.67	32.752	
2,300.00	2,193.85	2,267.39	2,248.93	11.92	6.56	-165.59	156.49	-137.97	409.53	397.19	12.34	33.186	
2,400.00	2,284.93	2,363.54	2,343.74	12.72	6.92	-165.64	169.46	-147.40	436.99	423.97	13.02	33.569	
2,500.00	2,376.01	2,459.70	2,438.55	13.53	7.28	-165.69	182.43	-156.83	464.44	450.75	13.70	33.911	
2,600.00	2,467.08	2,555.85	2,533.36	14.33	7.65	-165.73	195.40	-166.27	491.90	477.52	14.38	34.217	
2,700.00	2,558.16	2,652.01	2,628.17	15.14	8.01	-165.77	208.37	-175.70	519.36	504.30	15.06	34.493	
2,800.00	2,649.23	2,748.17	2,722.98	15.95	8.37	-165.81	221.34	-185.13	546.81	531.08	15.74	34.743	
2,900.00	2,740.31	2,844.32	2,817.79	16.75	8.74	-165.84	234.31	-194.56	574.27	557.85	16.42	34.970	
3,000.00	2,831.39	2,940.48	2,912.60	17.56	9.10	-165.87	247.28	-204.00	601.73	584.62	17.11	35.177	
3,100.00	2,922.46	3,036.63	3,007.41	18.37	9.46	-165.89	260.25	-213.43	629.19	611.40	17.79	35.367	
3,200.00	3,013.54	3,132.79	3,102.22	19.18	9.83	-165.92	273.21	-222.86	656.65	638.17	18.48	35.542	
3,300.00	3,104.62	3,228.95	3,197.03	19.99	10.19	-165.94	286.18	-232.29	684.10	664.94	19.16	35.703	
3,400.00	3,195.69	3,325.10	3,291.84	20.80	10.56	-165.96	299.15	-241.73	711.56	691.71	19.85	35.852	
3,500.00	3,286.77	3,421.26	3,386.65	21.61	10.93	-165.98	312.12	-251.16	739.02	718.49	20.53	35.991	
3,600.00	3,377.85	3,517.42	3,481.46	22.42	11.29	-166.00	325.09	-260.59	766.48	745.26	21.22	36.120	
3,700.00	3,468.92	3,613.57	3,576.27	23.23	11.66	-166.01	338.06	-270.02	793.94	772.03	21.91	36.240	
3,800.00	3,560.00	3,709.73	3,671.08	24.04	12.02	-166.03	351.03	-279.46	821.40	798.80	22.60	36.352	
3,900.00	3,651.07	3,805.88	3,765.89	24.85	12.39	-166.04	364.00	-288.89	848.85	825.57	23.28	36.457	
4,000.00	3,742.15	3,902.04	3,860.69	25.66	12.76	-166.06	376.97	-298.32	876.31	852.34	23.97	36.556	
4,100.00	3,833.23	3,998.20	3,955.50	26.47	13.12	-166.07	389.93	-307.75	903.77	879.11	24.66	36.649	
4,200.00	3,924.30	4,094.35	4,050.31	27.28	13.49	-166.08	402.90	-317.19	931.23	905.88	25.35	36.737	
4,300.00	4,015.38	4,190.51	4,145.12	28.09	13.86	-166.09	415.87	-326.62	958.69	932.65	26.04	36.819	
4,400.00	4,106.46	4,286.66	4,239.93	28.90	14.23	-166.10	428.84	-336.05	986.15	959.42	26.73	36.897	
4,500.00	4,197.53	4,382.82	4,334.74	29.72	14.59	-166.11	441.81	-345.48	1,013.61	986.19	27.42	36.971	
4,600.00	4,288.61	4,478.98	4,429.55	30.53	14.96	-166.12	454.78	-354.92	1,041.06	1,012.96	28.11	37.041	
4,700.00	4,379.69	4,575.13	4,524.36	31.34	15.33	-166.13	467.75	-364.35	1,068.52	1,039.73	28.80	37.108	
4,800.00	4,470.76	4,671.29	4,619.17	32.15	15.70	-166.14	480.72	-373.78	1,095.98	1,066.50	29.48	37.171	
4,850.82	4,517.05	4,720.16	4,667.35	32.56	15.88	-166.14	487.31	-378.58	1,109.94	1,080.10	29.84	37.202	
4,900.00	4,562.01	4,767.55	4,714.09	32.91	16.06	-166.21	493.70	-383.23	1,123.05	1,092.83	30.21	37.173	

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 31-3 - P_WINTERS 31-3 - 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	4,654.46	4,864.57	4,809.75	33.50	16.44	-166.29	506.79	-392.74	1,147.26	1,116.32	30.93	37.091	
5,100.00	4,748.18	4,962.35	4,906.15	34.04	16.81	-166.32	519.97	-402.33	1,168.16	1,136.54	31.63	36.938	
5,200.00	4,843.06	5,060.76	5,003.18	34.54	17.19	-166.29	533.25	-411.99	1,185.75	1,153.45	32.29	36.720	
5,300.00	4,938.98	5,159.68	5,100.73	35.00	17.57	-166.21	546.59	-421.69	1,199.99	1,167.06	32.93	36.443	
5,400.00	5,035.83	5,259.01	5,198.66	35.42	17.95	-166.07	559.98	-431.43	1,210.88	1,177.34	33.53	36.109	
5,500.00	5,133.49	5,339.31	5,277.93	35.78	18.20	-165.95	570.37	-438.99	1,219.01	1,185.02	33.99	35.867	
5,600.00	5,231.84	5,413.56	5,351.50	36.10	18.40	-165.85	578.45	-444.86	1,225.79	1,191.46	34.33	35.702	
5,700.00	5,330.76	5,500.00	5,437.44	36.37	18.60	-165.77	585.90	-450.29	1,231.36	1,196.72	34.64	35.549	
5,800.00	5,430.13	5,562.11	5,499.35	36.59	18.73	-165.72	589.97	-453.24	1,235.47	1,200.65	34.81	35.487	
5,900.00	5,529.83	5,636.41	5,573.52	36.77	18.86	-165.68	593.40	-455.74	1,238.35	1,203.40	34.95	35.432	
6,000.00	5,629.74	5,710.71	5,647.79	36.89	18.98	-165.66	595.27	-457.10	1,239.93	1,204.91	35.02	35.409	
6,070.27	5,700.00	5,762.93	5,700.00	36.95	19.04	-179.03	595.66	-457.38	1,240.25	1,205.23	35.02	35.415	
6,100.00	5,729.73	5,792.66	5,729.73	36.97	19.08	-179.03	595.66	-457.38	1,240.25	1,205.15	35.10	35.331	
6,200.00	5,829.73	5,892.66	5,829.73	37.04	19.23	-179.03	595.66	-457.38	1,240.25	1,204.84	35.41	35.024	
6,300.00	5,929.73	5,992.66	5,929.73	37.11	19.37	-179.03	595.66	-457.38	1,240.25	1,204.53	35.72	34.718	
6,400.00	6,029.73	6,092.66	6,029.73	37.18	19.52	-179.03	595.66	-457.38	1,240.25	1,204.21	36.04	34.415	
6,500.00	6,129.73	6,192.66	6,129.73	37.25	19.67	-179.03	595.66	-457.38	1,240.25	1,203.89	36.36	34.114	
6,600.00	6,229.73	6,292.66	6,229.73	37.33	19.82	-179.03	595.66	-457.38	1,240.25	1,203.57	36.68	33.816	
6,700.00	6,329.73	6,392.66	6,329.73	37.40	19.97	-179.03	595.66	-457.38	1,240.25	1,203.25	37.00	33.521	
6,800.00	6,429.73	6,492.66	6,429.73	37.48	20.12	-179.03	595.66	-457.38	1,240.25	1,202.92	37.33	33.228	
6,900.00	6,529.73	6,592.66	6,529.73	37.56	20.28	-179.03	595.66	-457.38	1,240.25	1,202.60	37.65	32.939	
7,000.00	6,629.73	6,692.66	6,629.73	37.63	20.43	-179.03	595.66	-457.38	1,240.25	1,202.27	37.98	32.652	
7,100.00	6,729.73	6,792.66	6,729.73	37.71	20.59	-179.03	595.66	-457.38	1,240.25	1,201.93	38.32	32.368	
7,200.00	6,829.73	6,892.66	6,829.73	37.79	20.75	-179.03	595.66	-457.38	1,240.25	1,201.60	38.65	32.088	
7,300.00	6,929.73	6,992.66	6,929.73	37.88	20.90	-179.03	595.66	-457.38	1,240.25	1,201.26	38.99	31.810	
7,400.00	7,029.73	7,092.66	7,029.73	37.96	21.06	-179.03	595.66	-457.38	1,240.25	1,200.92	39.33	31.535	
7,500.00	7,129.73	7,192.66	7,129.73	38.04	21.23	-179.03	595.66	-457.38	1,240.25	1,200.58	39.67	31.264	
7,540.27	7,170.00	7,232.93	7,170.00	38.08	21.29	-179.03	595.66	-457.38	1,240.25	1,200.44	39.81	31.155	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_WINTERS 5-3 PAD - P_WINTERS 32-3 - P_WINTERS 32-3 - 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	-178.61	-80.14	-1.95	80.17				
100.00	100.00	100.00	100.00	0.10	0.10	-178.61	-80.14	-1.95	80.17	79.97	0.19	419.603	
200.00	200.00	200.00	200.00	0.32	0.32	-178.61	-80.14	-1.95	80.17	79.53	0.64	125.145	
300.00	300.00	300.00	300.00	0.55	0.55	-178.61	-80.14	-1.95	80.17	79.08	1.09	73.539 CC, ES	
400.00	399.98	399.98	399.98	0.77	0.77	-165.54	-80.14	-1.95	81.85	80.32	1.54	53.198	
500.00	499.84	499.84	499.84	1.00	0.99	-166.37	-80.14	-1.95	86.93	84.95	1.99	43.772	
600.00	599.45	599.45	599.45	1.24	1.22	-167.57	-80.14	-1.95	95.42	92.99	2.43	39.221	
700.00	698.70	698.70	698.70	1.52	1.42	-168.61	-80.73	-2.46	107.95	105.09	2.86	37.749 SF	
800.00	797.47	792.32	792.24	1.83	1.60	-168.71	-83.63	-4.95	126.18	122.92	3.26	38.658	
900.00	895.62	886.08	885.74	2.19	1.79	-168.15	-88.82	-9.41	150.13	146.45	3.68	40.773	
1,000.00	993.06	977.68	976.83	2.61	2.00	-167.26	-96.12	-15.69	179.69	175.57	4.12	43.648	
1,100.00	1,089.64	1,066.69	1,065.00	3.08	2.23	-166.23	-105.33	-23.60	214.73	210.16	4.57	47.001	
1,200.00	1,185.27	1,157.74	1,154.94	3.62	2.50	-165.30	-116.10	-32.86	254.32	249.27	5.05	50.361	
1,300.00	1,279.82	1,248.14	1,244.23	4.22	2.78	-164.71	-126.81	-42.07	297.04	291.49	5.55	53.559	
1,400.00	1,373.17	1,337.06	1,332.06	4.88	3.07	-164.35	-137.34	-51.12	342.77	336.72	6.05	56.626	
1,500.00	1,465.21	1,424.40	1,418.32	5.60	3.37	-164.14	-147.69	-60.02	391.47	384.90	6.57	59.589	
1,519.45	1,482.95	1,441.19	1,434.90	5.75	3.42	-164.11	-149.68	-61.73	401.28	394.61	6.67	60.152	
1,600.00	1,556.32	1,510.60	1,503.47	6.37	3.66	-164.25	-157.90	-68.80	442.14	435.00	7.15	61.876	
1,700.00	1,647.39	1,596.77	1,588.58	7.15	3.96	-164.38	-168.11	-77.57	492.87	485.13	7.74	63.653	
1,800.00	1,738.47	1,682.94	1,673.69	7.93	4.26	-164.49	-178.32	-86.35	543.61	535.26	8.35	65.118	
1,900.00	1,829.55	1,769.12	1,758.81	8.73	4.57	-164.58	-188.52	-95.12	594.34	585.38	8.96	66.345	
2,000.00	1,920.62	1,855.29	1,843.92	9.52	4.88	-164.66	-198.73	-103.90	645.07	635.50	9.57	67.384	
2,100.00	2,011.70	1,941.46	1,929.03	10.32	5.19	-164.73	-208.94	-112.68	695.81	685.62	10.19	68.273	
2,200.00	2,102.78	2,027.63	2,014.15	11.12	5.51	-164.78	-219.15	-121.45	746.54	735.73	10.81	69.041	
2,300.00	2,193.85	2,113.80	2,099.26	11.92	5.82	-164.83	-229.36	-130.23	797.28	785.84	11.44	69.710	
2,400.00	2,284.93	2,199.98	2,184.38	12.72	6.14	-164.88	-239.57	-139.00	848.01	835.95	12.06	70.298	
2,500.00	2,376.01	2,286.15	2,269.49	13.53	6.45	-164.92	-249.78	-147.78	898.75	886.06	12.69	70.816	
2,600.00	2,467.08	2,372.32	2,354.60	14.33	6.77	-164.95	-259.98	-156.56	949.49	936.17	13.32	71.278	
2,700.00	2,558.16	2,458.49	2,439.72	15.14	7.09	-164.98	-270.19	-165.33	1,000.22	986.27	13.95	71.690	
2,800.00	2,649.23	2,544.66	2,524.83	15.95	7.41	-165.01	-280.40	-174.11	1,050.96	1,036.38	14.58	72.062	
2,900.00	2,740.31	2,630.83	2,609.94	16.75	7.73	-165.04	-290.61	-182.88	1,101.70	1,086.48	15.22	72.397	
3,000.00	2,831.39	2,717.01	2,695.06	17.56	8.05	-165.06	-300.82	-191.66	1,152.44	1,136.58	15.85	72.702	
3,100.00	2,922.46	2,803.18	2,780.17	18.37	8.37	-165.08	-311.03	-200.44	1,203.17	1,186.69	16.49	72.980	
3,200.00	3,013.54	2,889.35	2,865.28	19.18	8.69	-165.10	-321.23	-209.21	1,253.91	1,236.79	17.12	73.233	
3,300.00	3,104.62	2,975.52	2,950.40	19.99	9.01	-165.12	-331.44	-217.99	1,304.65	1,286.89	17.76	73.466	
3,400.00	3,195.69	3,061.69	3,035.51	20.80	9.33	-165.13	-341.65	-226.76	1,355.39	1,336.99	18.40	73.681	
3,500.00	3,286.77	3,147.86	3,120.63	21.61	9.66	-165.15	-351.86	-235.54	1,406.12	1,387.09	19.03	73.879	
3,600.00	3,377.85	3,234.04	3,205.74	22.42	9.98	-165.16	-362.07	-244.32	1,456.86	1,437.19	19.67	74.063	
3,700.00	3,468.92	3,320.21	3,290.85	23.23	10.30	-165.18	-372.28	-253.09	1,507.60	1,487.29	20.31	74.233	
3,800.00	3,560.00	3,406.38	3,375.97	24.04	10.62	-165.19	-382.48	-261.87	1,558.34	1,537.39	20.95	74.392	
3,900.00	3,651.07	3,492.55	3,461.08	24.85	10.95	-165.20	-392.69	-270.64	1,609.08	1,587.49	21.59	74.540	
4,000.00	3,742.15	3,578.72	3,546.19	25.66	11.27	-165.21	-402.90	-279.42	1,659.81	1,637.59	22.23	74.679	
4,100.00	3,833.23	3,664.89	3,631.31	26.47	11.59	-165.22	-413.11	-288.20	1,710.55	1,687.69	22.87	74.809	
4,200.00	3,924.30	3,751.07	3,716.42	27.28	11.92	-165.23	-423.32	-296.97	1,761.29	1,737.78	23.51	74.930	
4,300.00	4,015.38	3,837.24	3,801.54	28.09	12.24	-165.24	-433.53	-305.75	1,812.03	1,787.88	24.15	75.045	
4,400.00	4,106.46	3,923.41	3,886.65	28.90	12.56	-165.25	-443.74	-314.52	1,862.77	1,837.98	24.79	75.153	
4,500.00	4,197.53	4,009.58	3,971.76	29.72	12.89	-165.26	-453.94	-323.30	1,913.50	1,888.08	25.43	75.255	
4,600.00	4,288.61	4,095.75	4,056.88	30.53	13.21	-165.27	-464.15	-332.08	1,964.24	1,938.18	26.07	75.352	
4,700.00	4,379.69	4,181.93	4,141.99	31.34	13.53	-165.28	-474.36	-340.85	2,014.98	1,988.27	26.71	75.443	
4,800.00	4,470.76	4,268.10	4,227.10	32.15	13.86	-165.28	-484.57	-349.63	2,065.72	2,038.37	27.35	75.529	
4,850.82	4,517.05	4,311.89	4,270.36	32.56	14.02	-165.29	-489.76	-354.09	2,091.51	2,063.83	27.68	75.571	
4,900.00	4,562.01	4,354.47	4,312.42	32.91	14.18	-165.43	-494.80	-358.42	2,116.11	2,088.05	28.06	75.419	

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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
WELD_WINTERS 5-3 PAD - P_WINTERS 32-3 - P_WINTERS 32-3 - PLAN #1 3-10-10 RHS													
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	4,654.46	4,442.29	4,399.16	33.50	14.51	-165.68	-505.21	-367.37	2,163.93	2,135.14	28.79	75.168	
5,100.00	4,748.18	4,531.66	4,487.43	34.04	14.85	-165.88	-515.79	-376.47	2,208.75	2,179.26	29.49	74.899	
5,200.00	4,843.06	4,622.48	4,577.14	34.54	15.19	-166.04	-526.55	-385.72	2,250.53	2,220.37	30.16	74.619	
5,300.00	4,938.98	4,714.64	4,668.16	35.00	15.54	-166.15	-537.47	-395.11	2,289.20	2,258.41	30.80	74.332	
5,400.00	5,035.83	4,808.02	4,760.40	35.42	15.89	-166.23	-548.53	-404.62	2,324.74	2,293.34	31.40	74.043	
5,500.00	5,133.49	4,902.51	4,853.73	35.78	16.25	-166.27	-559.73	-414.24	2,357.10	2,325.14	31.96	73.756	
5,600.00	5,231.84	4,998.00	4,948.04	36.10	16.61	-166.27	-571.04	-423.96	2,386.24	2,353.76	32.48	73.472	
5,700.00	5,330.76	5,094.36	5,043.23	36.37	16.97	-166.24	-582.45	-433.78	2,412.14	2,379.18	32.96	73.193	
5,800.00	5,430.13	5,191.49	5,139.16	36.59	17.34	-166.17	-593.96	-443.67	2,434.77	2,401.38	33.39	72.921	
5,900.00	5,529.83	5,289.26	5,235.73	36.77	17.70	-166.07	-605.54	-453.63	2,454.11	2,420.33	33.78	72.656	
6,000.00	5,629.74	5,387.38	5,333.98	36.89	18.36	-165.74	-628.49	-473.35	2,467.51	2,433.07	34.43	71.660	
6,070.27	5,700.00	5,755.58	5,700.00	36.95	18.68	-179.03	-634.22	-478.28	2,470.30	2,435.52	34.78	71.028	
6,100.00	5,729.73	5,785.31	5,729.73	36.97	18.72	-179.03	-634.22	-478.28	2,470.30	2,435.44	34.86	70.858	
6,200.00	5,829.73	5,885.31	5,829.73	37.04	18.85	-179.03	-634.22	-478.28	2,470.30	2,435.16	35.15	70.282	
6,300.00	5,929.73	5,985.31	5,929.73	37.11	18.97	-179.03	-634.22	-478.28	2,470.30	2,434.87	35.44	69.711	
6,400.00	6,029.73	6,085.31	6,029.73	37.18	19.10	-179.03	-634.22	-478.28	2,470.30	2,434.58	35.73	69.144	
6,500.00	6,129.73	6,185.31	6,129.73	37.25	19.23	-179.03	-634.22	-478.28	2,470.30	2,434.28	36.02	68.579	
6,600.00	6,229.73	6,285.31	6,229.73	37.33	19.36	-179.03	-634.22	-478.28	2,470.30	2,433.99	36.32	68.017	
6,700.00	6,329.73	6,385.31	6,329.73	37.40	19.49	-179.03	-634.22	-478.28	2,470.30	2,433.68	36.62	67.458	
6,800.00	6,429.73	6,485.31	6,429.73	37.48	19.62	-179.03	-634.22	-478.28	2,470.30	2,433.38	36.92	66.904	
6,900.00	6,529.73	6,585.31	6,529.73	37.56	19.76	-179.03	-634.22	-478.28	2,470.30	2,433.07	37.23	66.353	
7,000.00	6,629.73	6,685.31	6,629.73	37.63	19.89	-179.03	-634.22	-478.28	2,470.30	2,432.76	37.54	65.806	
7,100.00	6,729.73	6,785.31	6,729.73	37.71	20.03	-179.03	-634.22	-478.28	2,470.30	2,432.45	37.85	65.263	
7,200.00	6,829.73	6,885.31	6,829.73	37.79	20.17	-179.03	-634.22	-478.28	2,470.30	2,432.14	38.17	64.724	
7,300.00	6,929.73	6,985.31	6,929.73	37.88	20.31	-179.03	-634.22	-478.28	2,470.30	2,431.82	38.48	64.190	
7,400.00	7,029.73	7,085.31	7,029.73	37.96	20.45	-179.03	-634.22	-478.28	2,470.30	2,431.50	38.80	63.660	
7,500.00	7,129.73	7,185.31	7,129.73	38.04	20.60	-179.03	-634.22	-478.28	2,470.30	2,431.18	39.13	63.135	
7,540.27	7,170.00	7,225.58	7,170.00	38.08	20.66	-179.03	-634.22	-478.28	2,470.30	2,431.05	39.26	62.925	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-INC												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	179.10	-88.89	1.39	91.58				
100.00	100.00	78.00	78.00	0.10	1.04	179.10	-88.89	1.39	88.90	87.76	1.13	78.390	
200.00	200.00	178.00	178.00	0.32	3.10	179.10	-88.89	1.39	88.90	85.48	3.42	26.028	
300.00	300.00	278.00	278.00	0.55	5.21	179.10	-88.89	1.39	88.90	83.14	5.76	15.442 CC	
400.00	399.98	377.98	377.98	0.77	7.26	-167.75	-88.89	1.39	90.60	82.57	8.03	11.288 ES	
500.00	499.84	477.84	477.84	1.00	9.29	-168.40	-88.89	1.39	95.72	85.46	10.26	9.326	
600.00	599.45	577.45	577.45	1.24	11.30	-169.33	-88.89	1.39	104.27	91.80	12.47	8.361	
700.00	698.70	676.70	676.70	1.52	13.31	-170.40	-88.89	1.39	116.27	101.63	14.64	7.940	
800.00	797.47	775.47	775.47	1.83	15.30	-171.49	-88.89	1.39	131.73	114.95	16.77	7.853 SF	
900.00	895.62	873.62	873.62	2.19	17.28	-172.51	-88.89	1.39	150.63	131.77	18.86	7.988	
1,000.00	993.06	971.06	971.06	2.61	19.24	-173.43	-88.89	1.39	172.96	152.08	20.88	8.283	
1,100.00	1,089.64	1,067.64	1,067.64	3.08	21.19	-174.23	-88.89	1.39	198.70	175.86	22.84	8.699	
1,200.00	1,185.27	1,163.27	1,163.27	3.62	23.12	-174.92	-88.89	1.39	227.82	203.09	24.73	9.211	
1,300.00	1,279.82	1,257.82	1,257.82	4.22	25.02	-175.50	-88.89	1.39	260.27	233.73	26.55	9.804	
1,400.00	1,373.17	1,351.17	1,351.17	4.88	26.90	-175.99	-88.89	1.39	296.02	267.75	28.28	10.469	
1,500.00	1,465.21	1,443.21	1,443.21	5.60	28.75	-176.40	-88.89	1.39	335.02	305.11	29.91	11.199	
1,519.45	1,482.95	1,460.95	1,460.95	5.75	29.11	-176.48	-88.89	1.39	342.98	312.76	30.22	11.349	
1,600.00	1,556.32	1,534.32	1,534.32	6.37	30.58	-176.79	-88.89	1.39	376.19	344.36	31.84	11.816	
1,700.00	1,647.39	1,625.39	1,625.39	7.15	32.42	-177.10	-88.89	1.39	417.44	383.59	33.85	12.333	
1,800.00	1,738.47	1,716.47	1,716.47	7.93	34.25	-177.37	-88.89	1.39	458.69	422.83	35.86	12.791	
1,900.00	1,829.55	1,807.55	1,807.55	8.73	36.08	-177.58	-88.89	1.39	499.95	462.07	37.88	13.199	
2,000.00	1,920.62	1,898.62	1,898.62	9.52	37.91	-177.77	-88.89	1.39	541.22	501.32	39.90	13.565	
2,100.00	2,011.70	1,989.70	1,989.70	10.32	39.75	-177.93	-88.89	1.39	582.48	540.56	41.92	13.895	
2,200.00	2,102.78	2,080.78	2,080.78	11.12	41.58	-178.06	-88.89	1.39	623.76	579.81	43.95	14.194	
2,300.00	2,193.85	2,171.85	2,171.85	11.92	43.41	-178.18	-88.89	1.39	665.03	619.06	45.97	14.466	
2,400.00	2,284.93	2,262.93	2,262.93	12.72	45.24	-178.29	-88.89	1.39	706.31	658.31	48.00	14.715	
2,500.00	2,376.01	2,354.01	2,354.01	13.53	47.08	-178.38	-88.89	1.39	747.59	697.56	50.03	14.944	
2,600.00	2,467.08	2,445.08	2,445.08	14.33	48.91	-178.47	-88.89	1.39	788.87	736.81	52.06	15.154	
2,700.00	2,558.16	2,536.16	2,536.16	15.14	50.74	-178.54	-88.89	1.39	830.15	776.06	54.09	15.349	
2,800.00	2,649.23	2,627.23	2,627.23	15.95	52.57	-178.61	-88.89	1.39	871.43	815.31	56.12	15.529	
2,900.00	2,740.31	2,718.31	2,718.31	16.75	54.40	-178.68	-88.89	1.39	912.71	854.56	58.15	15.696	
3,000.00	2,831.39	2,809.39	2,809.39	17.56	56.24	-178.73	-88.89	1.39	954.00	893.82	60.18	15.852	
3,100.00	2,922.46	2,900.46	2,900.46	18.37	58.07	-178.79	-88.89	1.39	995.28	933.07	62.21	15.998	
3,200.00	3,013.54	2,991.54	2,991.54	19.18	59.90	-178.83	-88.89	1.39	1,036.57	972.32	64.24	16.135	
3,300.00	3,104.62	3,082.62	3,082.62	19.99	61.73	-178.88	-88.89	1.39	1,077.85	1,011.57	66.28	16.263	
3,400.00	3,195.69	3,173.69	3,173.69	20.80	63.56	-178.92	-88.89	1.39	1,119.14	1,050.83	68.31	16.383	
3,500.00	3,286.77	3,264.77	3,264.77	21.61	65.39	-178.96	-88.89	1.39	1,160.43	1,090.08	70.35	16.496	
3,600.00	3,377.85	3,355.85	3,355.85	22.42	67.23	-178.99	-88.89	1.39	1,201.71	1,129.33	72.38	16.603	
3,700.00	3,468.92	3,446.92	3,446.92	23.23	69.06	-179.03	-88.89	1.39	1,243.00	1,168.59	74.41	16.704	
3,800.00	3,560.00	3,538.00	3,538.00	24.04	70.89	-179.06	-88.89	1.39	1,284.29	1,207.84	76.45	16.800	
3,900.00	3,651.07	3,629.07	3,629.07	24.85	72.72	-179.09	-88.89	1.39	1,325.58	1,247.09	78.48	16.890	
4,000.00	3,742.15	3,720.15	3,720.15	25.66	74.55	-179.12	-88.89	1.39	1,366.87	1,286.35	80.52	16.976	
4,100.00	3,833.23	3,811.23	3,811.23	26.47	76.38	-179.14	-88.89	1.39	1,408.15	1,325.60	82.55	17.058	
4,200.00	3,924.30	3,902.30	3,902.30	27.28	78.22	-179.17	-88.89	1.39	1,449.44	1,364.86	84.59	17.135	
4,300.00	4,015.38	3,993.38	3,993.38	28.09	80.05	-179.19	-88.89	1.39	1,490.73	1,404.11	86.62	17.209	
4,400.00	4,106.46	4,084.46	4,084.46	28.90	81.88	-179.21	-88.89	1.39	1,532.02	1,443.36	88.66	17.280	
4,500.00	4,197.53	4,175.53	4,175.53	29.72	83.71	-179.23	-88.89	1.39	1,573.31	1,482.62	90.69	17.347	
4,600.00	4,288.61	4,266.61	4,266.61	30.53	85.54	-179.25	-88.89	1.39	1,614.60	1,521.87	92.73	17.412	
4,700.00	4,379.69	4,357.69	4,357.69	31.34	87.37	-179.27	-88.89	1.39	1,655.89	1,561.13	94.77	17.473	
4,800.00	4,470.76	4,448.76	4,448.76	32.15	89.21	-179.29	-88.89	1.39	1,697.18	1,600.38	96.80	17.532	
4,850.82	4,517.05	4,495.05	4,495.05	32.56	90.14	-179.30	-88.89	1.39	1,718.17	1,620.33	97.84	17.561	
4,900.00	4,562.01	4,540.01	4,540.01	32.91	91.04	-179.31	-88.89	1.39	1,738.09	1,638.67	99.42	17.482	

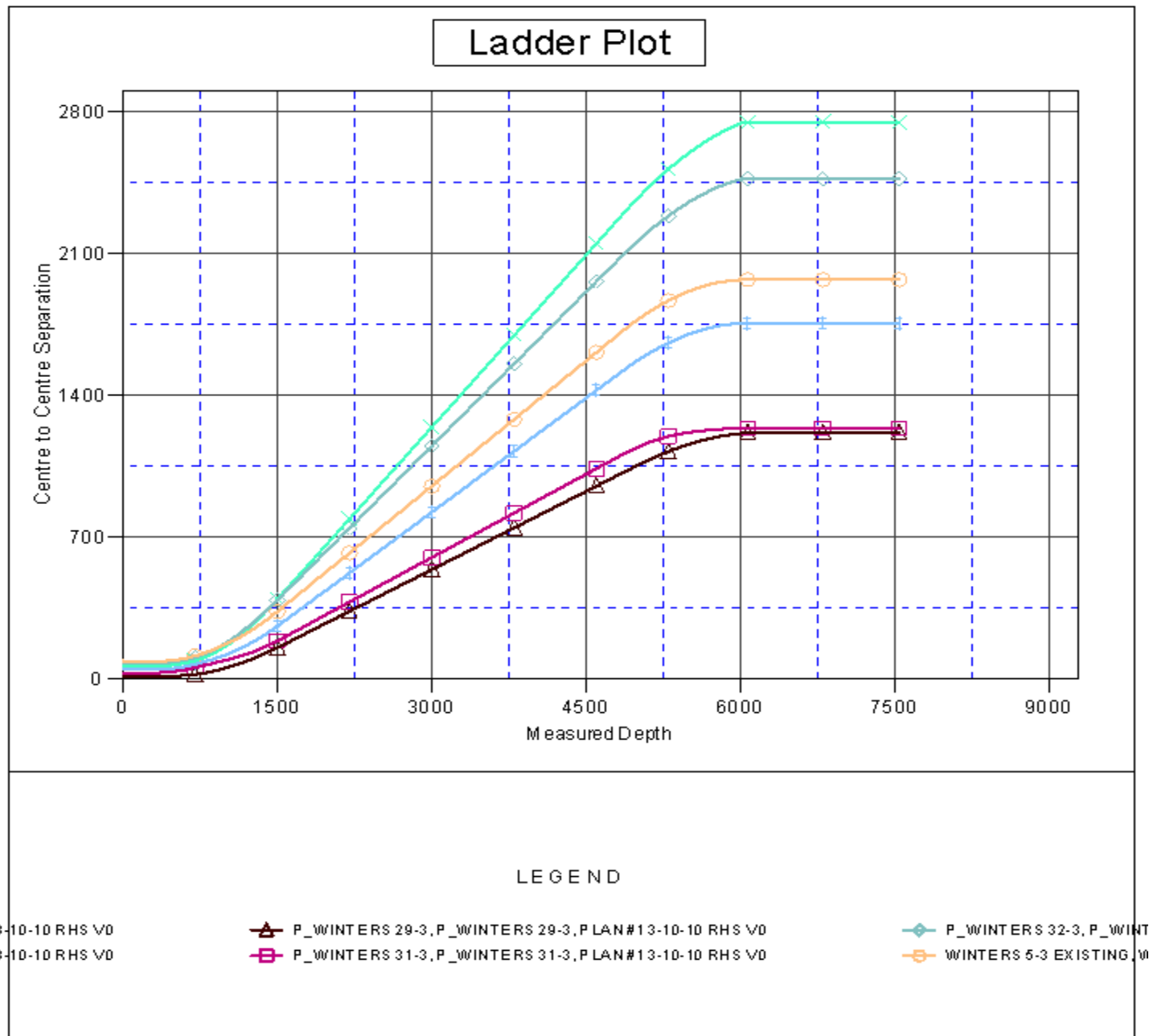
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-10-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design		WELD_WINTERS 5-3 PAD - WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING										Offset Site Error: 0.00 ft	
Survey Program: 0-INC												Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation		Separation Factor
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
5,000.00	4,654.46	4,632.46	4,632.46	33.50	92.90	-179.33	-88.89	1.39	1,776.20	1,673.53	102.66	17.301	
5,100.00	4,748.18	4,726.18	4,726.18	34.04	94.79	-179.36	-88.89	1.39	1,811.06	1,705.20	105.86	17.109	
5,200.00	4,843.06	4,821.06	4,821.06	34.54	96.69	-179.37	-88.89	1.39	1,842.63	1,733.66	108.97	16.909	
5,300.00	4,938.98	4,916.98	4,916.98	35.00	98.62	-179.39	-88.89	1.39	1,870.87	1,758.88	112.00	16.705	
5,400.00	5,035.83	5,013.83	5,013.83	35.42	100.57	-179.40	-88.89	1.39	1,895.75	1,780.83	114.92	16.496	
5,500.00	5,133.49	5,111.49	5,111.49	35.78	102.53	-179.41	-88.89	1.39	1,917.23	1,799.49	117.74	16.284	
5,600.00	5,231.84	5,209.84	5,209.84	36.10	104.51	-179.42	-88.89	1.39	1,935.29	1,814.85	120.43	16.069	
5,700.00	5,330.76	5,308.76	5,308.76	36.37	106.50	-179.43	-88.89	1.39	1,949.90	1,826.90	123.00	15.853	
5,800.00	5,430.13	5,408.13	5,408.13	36.59	108.50	-179.44	-88.89	1.39	1,961.06	1,835.63	125.43	15.635	
5,900.00	5,529.83	5,507.83	5,507.83	36.77	110.50	-179.44	-88.89	1.39	1,968.74	1,841.03	127.71	15.416	
6,000.00	5,629.74	5,607.74	5,607.74	36.89	112.51	-179.44	-88.89	1.39	1,972.93	1,843.11	129.82	15.197	
6,070.27	5,700.00	5,678.00	5,678.00	36.95	113.93	167.18	-88.89	1.39	1,973.80	1,842.59	131.21	15.043	
6,100.00	5,729.73	5,707.73	5,707.73	36.97	114.52	167.18	-88.89	1.39	1,973.80	1,841.95	131.85	14.970	
6,200.00	5,829.73	5,807.73	5,807.73	37.04	116.54	167.18	-88.89	1.39	1,973.80	1,839.79	134.01	14.729	
6,300.00	5,929.73	5,907.73	5,907.73	37.11	118.55	167.18	-88.89	1.39	1,973.80	1,837.63	136.17	14.495	
6,400.00	6,029.73	6,007.73	6,007.73	37.18	120.56	167.18	-88.89	1.39	1,973.80	1,835.47	138.33	14.269	
6,500.00	6,129.73	6,107.73	6,107.73	37.25	122.57	167.18	-88.89	1.39	1,973.80	1,833.30	140.49	14.049	
6,600.00	6,229.73	6,207.73	6,207.73	37.33	124.58	167.18	-88.89	1.39	1,973.80	1,831.14	142.66	13.836	
6,700.00	6,329.73	6,307.73	6,307.73	37.40	126.59	167.18	-88.89	1.39	1,973.80	1,828.97	144.82	13.629	
6,800.00	6,429.73	6,407.73	6,407.73	37.48	128.60	167.18	-88.89	1.39	1,973.80	1,826.81	146.99	13.428	
6,900.00	6,529.73	6,507.73	6,507.73	37.56	130.61	167.18	-88.89	1.39	1,973.80	1,824.64	149.16	13.233	
7,000.00	6,629.73	6,607.73	6,607.73	37.63	132.62	167.18	-88.89	1.39	1,973.80	1,822.47	151.33	13.043	
7,100.00	6,729.73	6,707.73	6,707.73	37.71	134.64	167.18	-88.89	1.39	1,973.80	1,820.29	153.50	12.859	
7,200.00	6,829.73	6,807.73	6,807.73	37.79	136.65	167.18	-88.89	1.39	1,973.80	1,818.12	155.67	12.679	
7,300.00	6,929.73	6,907.73	6,907.73	37.88	138.66	167.18	-88.89	1.39	1,973.80	1,815.95	157.85	12.504	
7,400.00	7,029.73	7,007.73	7,007.73	37.96	140.67	167.18	-88.89	1.39	1,973.80	1,813.77	160.02	12.334	
7,500.00	7,129.73	7,107.73	7,107.73	38.04	142.68	167.18	-88.89	1.39	1,973.80	1,811.60	162.20	12.169	
7,540.27	7,170.00	7,148.00	7,148.00	38.08	143.49	167.18	-88.89	1.39	1,973.80	1,810.72	163.07	12.104	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	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 @ 4672.00ft (Original Well Elev) Coordinates are relative to: P_WINTERS 30-3
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 30-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 30-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 30-3	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 @ 4672.00ft (Original Well Elev) Coordinates are relative to: P_WINTERS 30-3
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
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