



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_WINTERS 5-3 PAD

P_WINTERS 22-3

P_WINTERS 22-3

Plan: PLAN #1 3-10-10 RHS

Standard Planning Report

10 March, 2010

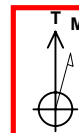




Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_WINTERS 5-3 PAD
 Well: P_WINTERS 22-3
 Wellbore: P_WINTERS 22-3
 Section: SECTION 3 T5N R65W
 SHL: 1943 FNL 517 FWL
 Design: PLAN #1 3-10-10 RHS
 Latitude: 40° 25' 47.935 N
 Longitude: 104° 39' 24.977 W
 GL: 4657.00
 KB: WELL @ 4672.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 8.98°
 Magnetic Field
 Strength: 53294.0snT
 Dip Angle: 67.14°
 Date: 3/10/2010
 Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3553.00	3609.05	PARKMAN
4280.00	4352.19	SUSSEX
6700.00	6794.87	NIO A
7010.00	7104.87	CODELL
7086.00	7180.87	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
1228.17	11.96	128.32	1223.83	-38.58	48.82	2.00	128.32	62.22	Start 3968.53 hold at 1228.17 MD
5196.70	11.96	128.32	5106.17	-548.65	694.22	0.00	0.00	884.85	Start Drop -2.00
5794.87	0.00	0.00	5700.00	-587.23	743.03	2.00	180.00	947.07	Start 1470.00 hold at 5794.87 MD
7264.87	0.00	0.00	7170.00	-587.23	743.03	0.00	0.00	947.07	TD at 7264.87

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

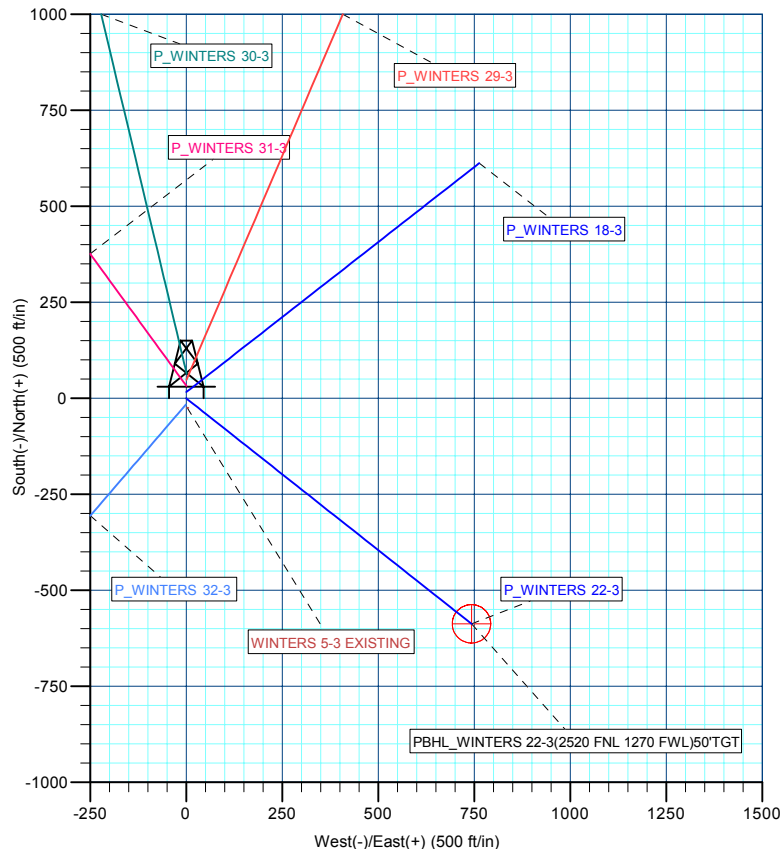
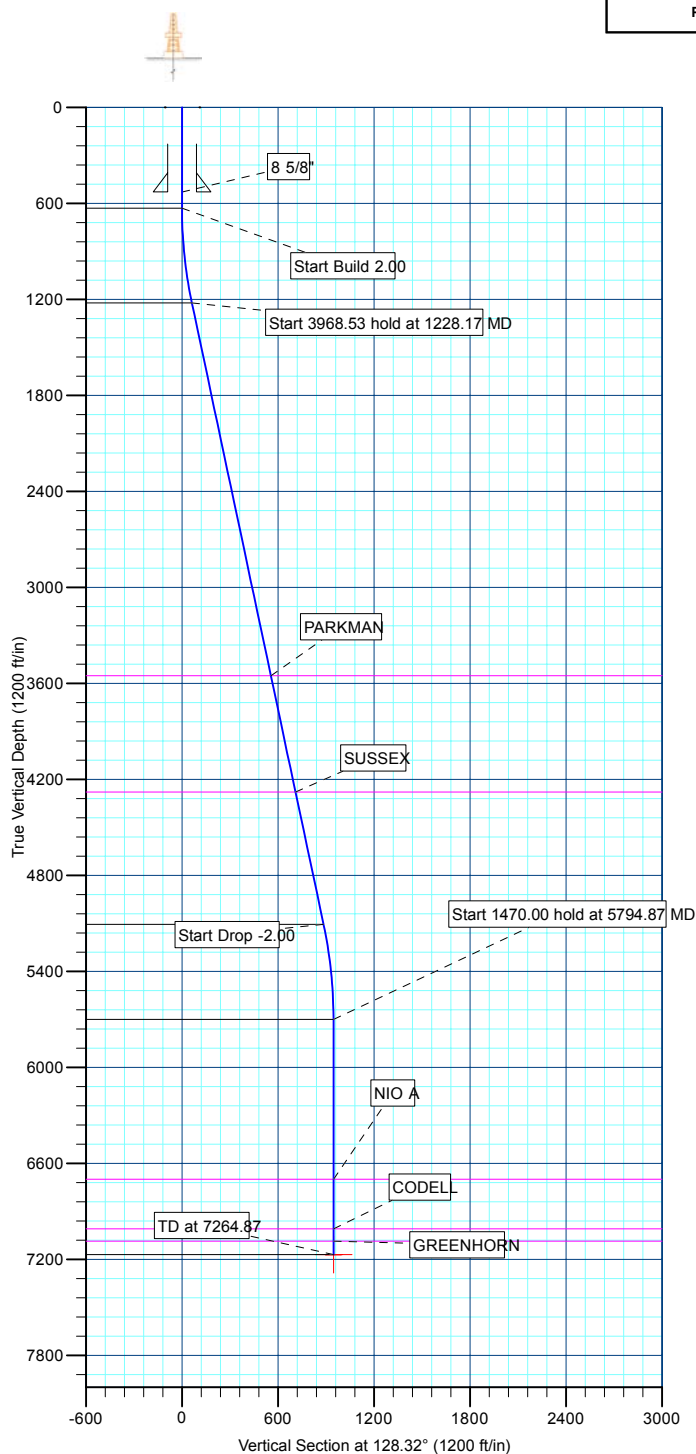
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7170.00	-587.23	743.03	40° 25' 42.132 N	104° 39' 15.368 W	Circle (Radius: 50.00)

WELL DETAILS: P_WINTERS 22-3

+N/-S	+E/-W	Northing	Ground Level: Easting	4657.00 Latitude	Longitude	Slot
0.00	0.00	1400598.43	3234694.12	40° 25' 47.935 N	104° 39' 24.977 W	

LEGEND

- P_WINTERS 18-3, P_WINTERS 18-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 29-3, P_WINTERS 29-3, PLAN #1 3-10-10 RHS V0
- P_WINTERS 30-3, P_WINTERS 30-3, 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 22-3/P_WINTERS 22-3)

Created By: Robert H. Scott Date: 11:30, March 10 2010



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_WINTERS 5-3 PAD
P_WINTERS 22-3**

**P_WINTERS 22-3
PLAN #1 3-10-10 RHS**

Anticollision Report

10 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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	7,264.87	PLAN #1 3-10-10 RHS (P_WINTERS 22-3	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	630.00	630.00	16.04	13.47	6.234	CC, ES
P_WINTERS 18-3 - P_WINTERS 18-3 - PLAN #1 3-10-1	700.00	699.74	17.10	14.23	5.961	SF
P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-1	300.00	300.00	48.09	47.00	44.115	CC, ES
P_WINTERS 29-3 - P_WINTERS 29-3 - PLAN #1 3-10-1	630.00	623.56	65.75	63.18	25.558	SF
P_WINTERS 30-3 - P_WINTERS 30-3 - PLAN #1 3-10-1	300.00	300.00	64.12	63.03	58.823	CC, ES
P_WINTERS 30-3 - P_WINTERS 30-3 - PLAN #1 3-10-1	630.00	621.65	82.20	79.62	31.792	SF
P_WINTERS 31-3 - P_WINTERS 31-3 - PLAN #1 3-10-1	630.00	630.00	32.06	29.49	12.459	CC, ES
P_WINTERS 31-3 - P_WINTERS 31-3 - PLAN #1 3-10-1	700.00	699.34	33.28	30.41	11.599	SF
P_WINTERS 32-3 - P_WINTERS 32-3 - PLAN #1 3-10-1	630.00	630.00	16.04	13.47	6.234	CC
P_WINTERS 32-3 - P_WINTERS 32-3 - PLAN #1 3-10-1	700.00	699.67	16.25	13.39	5.691	ES, SF
WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - W	947.24	924.59	17.71	-2.55	0.874	Level 1, CC, SF
WINTERS 5-3 EXISTING - WINTERS 5-3 EXISTING - W	1,000.00	976.97	18.80	-2.62	0.878	Level 1, ES

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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
							+N/-S (ft)	+E/-W (ft)					
0.00	0.00	0.00	0.00	0.00	0.00	0.99	16.04	0.28	16.04				
100.00	100.00	100.00	100.00	0.10	0.10	0.99	16.04	0.28	16.04	15.85	0.19	83.977	
200.00	200.00	200.00	200.00	0.32	0.32	0.99	16.04	0.28	16.04	15.40	0.64	25.046	
300.00	300.00	300.00	300.00	0.55	0.55	0.99	16.04	0.28	16.04	14.95	1.09	14.718	
400.00	400.00	400.00	400.00	0.77	0.77	0.99	16.04	0.28	16.04	14.50	1.54	10.420	
500.00	500.00	500.00	500.00	0.99	0.99	0.99	16.04	0.28	16.04	14.05	1.99	8.066	
600.00	600.00	600.00	600.00	1.22	1.22	0.99	16.04	0.28	16.04	13.61	2.44	6.579	
630.00	630.00	630.00	630.00	1.29	1.29	0.99	16.04	0.28	16.04	13.47	2.57	6.234	CC, ES
700.00	699.99	699.74	699.73	1.43	1.44	-127.37	16.56	0.95	17.10	14.23	2.87	5.961	SF
800.00	799.90	799.18	799.08	1.62	1.66	-127.51	19.12	4.21	22.26	18.99	3.27	6.799	
900.00	899.60	898.15	897.76	1.83	1.88	-127.61	23.76	10.16	31.70	28.00	3.70	8.565	
1,000.00	998.97	996.39	995.39	2.07	2.13	-127.63	30.45	18.71	45.39	41.23	4.16	10.915	
1,100.00	1,097.89	1,093.64	1,091.62	2.35	2.40	-127.57	39.09	29.77	63.26	58.60	4.66	13.587	
1,200.00	1,196.25	1,189.66	1,186.11	2.67	2.71	-127.44	49.60	43.21	85.26	80.05	5.21	16.379	
1,228.17	1,223.83	1,216.46	1,212.37	2.77	2.80	-127.39	52.88	47.41	92.18	86.82	5.37	17.168	
1,300.00	1,294.10	1,285.34	1,279.71	3.04	3.05	-127.32	61.81	58.84	110.58	104.76	5.82	18.999	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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-MWMD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1,400.00	1,391.93	1,381.98	1,374.14	3.44	3.42	-127.19	74.46	75.02	136.30	129.82	6.48	21.037	
1,500.00	1,489.76	1,478.61	1,468.57	3.85	3.81	-127.10	87.10	91.20	162.02	154.86	7.16	22.628	
1,600.00	1,587.59	1,575.25	1,563.00	4.27	4.21	-127.03	99.74	107.37	187.74	179.88	7.86	23.889	
1,700.00	1,685.41	1,671.88	1,657.43	4.70	4.62	-126.98	112.38	123.55	213.46	204.89	8.57	24.906	
1,800.00	1,783.24	1,768.52	1,751.86	5.13	5.03	-126.94	125.03	139.72	239.18	229.89	9.29	25.740	
1,900.00	1,881.07	1,865.16	1,846.29	5.57	5.45	-126.91	137.67	155.90	264.90	254.88	10.02	26.432	
2,000.00	1,978.90	1,961.79	1,940.72	6.01	5.87	-126.89	150.31	172.08	290.62	279.87	10.76	27.015	
2,100.00	2,076.73	2,058.43	2,035.14	6.46	6.29	-126.87	162.96	188.25	316.34	304.85	11.50	27.510	
2,200.00	2,174.56	2,155.06	2,129.57	6.91	6.72	-126.85	175.60	204.43	342.07	329.82	12.24	27.937	
2,300.00	2,272.38	2,251.70	2,224.00	7.36	7.15	-126.83	188.24	220.60	367.79	354.79	12.99	28.306	
2,400.00	2,370.21	2,348.33	2,318.43	7.81	7.58	-126.82	200.88	236.78	393.51	379.76	13.74	28.630	
2,500.00	2,468.04	2,444.97	2,412.86	8.26	8.01	-126.81	213.53	252.96	419.23	404.73	14.50	28.915	
2,600.00	2,565.87	2,541.60	2,507.29	8.72	8.44	-126.80	226.17	269.13	444.95	429.70	15.25	29.168	
2,700.00	2,663.70	2,638.24	2,601.72	9.17	8.88	-126.79	238.81	285.31	470.67	454.66	16.01	29.394	
2,800.00	2,761.52	2,734.88	2,696.15	9.63	9.31	-126.78	251.45	301.48	496.39	479.62	16.77	29.596	
2,900.00	2,859.35	2,831.51	2,790.58	10.08	9.75	-126.77	264.10	317.66	522.11	504.58	17.53	29.779	
3,000.00	2,957.18	2,928.15	2,885.01	10.54	10.19	-126.76	276.74	333.84	547.83	529.54	18.29	29.945	
3,100.00	3,055.01	3,024.78	2,979.44	11.00	10.62	-126.76	289.38	350.01	573.56	554.50	19.06	30.096	
3,200.00	3,152.84	3,121.42	3,073.87	11.46	11.06	-126.75	302.03	366.19	599.28	579.45	19.82	30.234	
3,300.00	3,250.66	3,218.05	3,168.30	11.92	11.50	-126.75	314.67	382.36	625.00	604.41	20.59	30.360	
3,400.00	3,348.49	3,314.69	3,262.73	12.37	11.94	-126.74	327.31	398.54	650.72	629.37	21.35	30.476	
3,500.00	3,446.32	3,411.32	3,357.16	12.83	12.37	-126.74	339.95	414.72	676.44	654.32	22.12	30.584	
3,600.00	3,544.15	3,507.96	3,451.59	13.29	12.81	-126.73	352.60	430.89	702.16	679.28	22.88	30.683	
3,700.00	3,641.98	3,604.60	3,546.02	13.75	13.25	-126.73	365.24	447.07	727.88	704.23	23.65	30.775	
3,800.00	3,739.80	3,701.23	3,640.44	14.21	13.69	-126.72	377.88	463.24	753.60	729.18	24.42	30.861	
3,900.00	3,837.63	3,797.87	3,734.87	14.67	14.13	-126.72	390.52	479.42	779.32	754.14	25.19	30.941	
4,000.00	3,935.46	3,894.50	3,829.30	15.13	14.57	-126.72	403.17	495.60	805.05	779.09	25.96	31.016	
4,100.00	4,033.29	3,991.14	3,923.73	15.59	15.01	-126.71	415.81	511.77	830.77	804.04	26.72	31.086	
4,200.00	4,131.12	4,087.77	4,018.16	16.05	15.45	-126.71	428.45	527.95	856.49	828.99	27.49	31.152	
4,300.00	4,228.94	4,184.41	4,112.59	16.52	15.89	-126.71	441.10	544.12	882.21	853.95	28.26	31.214	
4,400.00	4,326.77	4,281.04	4,207.02	16.98	16.33	-126.71	453.74	560.30	907.93	878.90	29.03	31.272	
4,500.00	4,424.60	4,377.68	4,301.45	17.44	16.77	-126.70	466.38	576.48	933.65	903.85	29.80	31.327	
4,600.00	4,522.43	4,474.31	4,395.88	17.90	17.21	-126.70	479.02	592.65	959.37	928.80	30.57	31.380	
4,700.00	4,620.26	4,570.95	4,490.31	18.36	17.66	-126.70	491.67	608.83	985.09	953.75	31.34	31.429	
4,800.00	4,718.08	4,667.59	4,584.74	18.82	18.10	-126.70	504.31	625.01	1,010.81	978.70	32.11	31.476	
4,900.00	4,815.91	4,764.22	4,679.17	19.28	18.54	-126.70	516.95	641.18	1,036.54	1,003.65	32.89	31.520	
5,000.00	4,913.74	4,860.86	4,773.60	19.74	18.98	-126.69	529.59	657.36	1,062.26	1,028.60	33.66	31.562	
5,100.00	5,011.57	4,957.49	4,868.03	20.21	19.42	-126.69	542.24	673.53	1,087.98	1,053.55	34.43	31.602	
5,196.70	5,106.17	5,050.94	4,959.34	20.65	19.85	-126.69	554.46	689.18	1,112.85	1,077.68	35.17	31.639	
5,200.00	5,109.40	5,054.13	4,962.46	20.67	19.86	-126.71	554.88	689.71	1,113.70	1,078.50	35.20	31.639	
5,300.00	5,207.59	5,151.03	5,057.14	20.98	20.31	-127.03	567.56	705.93	1,138.34	1,102.39	35.95	31.665	
5,400.00	5,306.38	5,269.44	5,173.10	21.26	20.75	-127.17	582.32	724.82	1,160.38	1,123.72	36.66	31.654	
5,500.00	5,405.65	5,401.62	5,303.54	21.50	21.15	-127.25	595.44	741.60	1,177.75	1,140.46	37.28	31.588	
5,600.00	5,505.28	5,535.54	5,436.56	21.69	21.47	-127.31	604.94	753.76	1,190.15	1,152.34	37.81	31.479	
5,700.00	5,605.15	5,670.64	5,571.33	21.85	21.72	-127.34	610.63	761.04	1,197.52	1,159.28	38.23	31.321	
5,794.87	5,700.00	5,799.36	5,700.00	21.97	21.89	0.97	612.41	763.32	1,199.81	1,161.26	38.55	31.122	
5,800.00	5,705.13	5,804.49	5,705.13	21.97	21.89	0.97	612.41	763.32	1,199.81	1,161.25	38.56	31.112	
5,900.00	5,805.13	5,904.49	5,805.13	22.08	22.01	0.97	612.41	763.32	1,199.81	1,160.99	38.82	30.907	
6,000.00	5,905.13	6,004.49	5,905.13	22.20	22.13	0.97	612.41	763.32	1,199.81	1,160.72	39.09	30.692	
6,100.00	6,005.13	6,104.49	6,005.13	22.31	22.26	0.97	612.41	763.32	1,199.81	1,160.44	39.37	30.477	
6,200.00	6,105.13	6,204.49	6,105.13	22.43	22.39	0.97	612.41	763.32	1,199.81	1,160.17	39.65	30.263	
6,300.00	6,205.13	6,304.49	6,205.13	22.54	22.52	0.97	612.41	763.32	1,199.81	1,159.88	39.93	30.050	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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
6,400.00	6,305.13	6,404.49	6,305.13	22.66	22.65	0.97	612.41	763.32	1,199.81	1,159.60	40.21	29.837	
6,500.00	6,405.13	6,504.49	6,405.13	22.78	22.78	0.97	612.41	763.32	1,199.81	1,159.31	40.50	29.625	
6,600.00	6,505.13	6,604.49	6,505.13	22.90	22.91	0.97	612.41	763.32	1,199.81	1,159.02	40.79	29.414	
6,700.00	6,605.13	6,704.49	6,605.13	23.03	23.05	0.97	612.41	763.32	1,199.81	1,158.73	41.08	29.204	
6,800.00	6,705.13	6,804.49	6,705.13	23.15	23.19	0.97	612.41	763.32	1,199.81	1,158.43	41.38	28.995	
6,900.00	6,805.13	6,904.49	6,805.13	23.28	23.32	0.97	612.41	763.32	1,199.81	1,158.13	41.68	28.787	
7,000.00	6,905.13	7,004.49	6,905.13	23.40	23.46	0.97	612.41	763.32	1,199.81	1,157.83	41.98	28.581	
7,100.00	7,005.13	7,104.49	7,005.13	23.53	23.60	0.97	612.41	763.32	1,199.81	1,157.53	42.28	28.375	
7,200.00	7,105.13	7,204.49	7,105.13	23.66	23.75	0.97	612.41	763.32	1,199.81	1,157.22	42.59	28.171	
7,264.87	7,170.00	7,269.36	7,170.00	23.75	23.84	0.97	612.41	763.32	1,199.81	1,157.02	42.79	28.039	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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	1.00	48.08	0.84	48.09				
100.00	100.00	100.00	100.00	0.10	0.10	1.00	48.08	0.84	48.09	47.90	0.19	251.717	
200.00	200.00	200.00	200.00	0.32	0.32	1.00	48.08	0.84	48.09	47.45	0.64	75.073	
300.00	300.00	300.00	300.00	0.55	0.55	1.00	48.08	0.84	48.09	47.00	1.09	44.115 CC, ES	
400.00	400.00	398.43	398.41	0.77	0.77	1.73	49.64	1.50	49.69	48.15	1.53	32.371	
500.00	500.00	496.63	496.47	0.99	0.99	3.67	54.29	3.49	54.51	52.53	1.98	27.521	
600.00	600.00	594.37	593.85	1.22	1.23	6.24	61.98	6.77	62.65	60.22	2.43	25.748	
630.00	630.00	623.56	622.88	1.29	1.31	7.04	64.87	8.01	65.75	63.18	2.57	25.558 SF	
700.00	699.99	691.39	690.17	1.43	1.49	-119.87	72.63	11.33	74.58	71.72	2.86	26.049	
800.00	799.90	787.27	784.92	1.62	1.79	-119.42	86.10	17.08	91.42	88.14	3.28	27.865	
900.00	899.60	881.62	877.63	1.83	2.12	-120.04	102.19	23.96	113.11	109.39	3.72	30.412	
1,000.00	998.97	974.07	967.87	2.07	2.50	-121.12	120.67	31.86	139.61	135.43	4.18	33.369	
1,100.00	1,097.89	1,064.30	1,055.27	2.35	2.91	-122.28	141.28	40.66	170.87	166.19	4.68	36.508	
1,200.00	1,196.25	1,152.02	1,139.51	2.67	3.35	-123.35	163.73	50.26	206.80	201.59	5.21	39.670	
1,228.17	1,223.83	1,176.23	1,162.64	2.77	3.48	-123.63	170.35	53.09	217.75	212.38	5.37	40.553	
1,300.00	1,294.10	1,237.20	1,220.58	3.04	3.83	-124.62	187.80	60.54	246.82	241.02	5.80	42.585	
1,400.00	1,391.93	1,320.37	1,298.93	3.44	4.34	-125.49	213.42	71.49	289.48	283.08	6.41	45.181	
1,500.00	1,489.76	1,400.00	1,373.17	3.85	4.86	-125.96	239.90	82.81	334.56	327.53	7.03	47.593	
1,600.00	1,587.59	1,480.49	1,447.36	4.27	5.44	-126.17	268.59	95.07	381.92	374.24	7.68	49.741	
1,700.00	1,685.41	1,560.84	1,520.59	4.70	6.04	-126.21	299.01	108.07	431.35	423.01	8.34	51.714	
1,800.00	1,783.24	1,647.49	1,599.35	5.13	6.72	-126.22	332.23	122.27	481.26	472.22	9.04	53.235	
1,900.00	1,881.07	1,734.15	1,678.12	5.57	7.39	-126.22	365.46	136.46	531.16	521.42	9.75	54.491	
2,000.00	1,978.90	1,820.81	1,756.88	6.01	8.08	-126.22	398.68	150.66	581.07	570.61	10.46	55.539	
2,100.00	2,076.73	1,907.46	1,835.65	6.46	8.76	-126.23	431.90	164.86	630.98	619.80	11.18	56.425	
2,200.00	2,174.56	1,994.12	1,914.41	6.91	9.45	-126.23	465.13	179.06	680.89	668.98	11.91	57.180	
2,300.00	2,272.38	2,080.77	1,993.17	7.36	10.14	-126.23	498.35	193.26	730.79	718.16	12.64	57.829	
2,400.00	2,370.21	2,167.43	2,071.94	7.81	10.84	-126.23	531.57	207.46	780.70	767.33	13.37	58.395	
2,500.00	2,468.04	2,254.09	2,150.70	8.26	11.53	-126.24	564.80	221.65	830.61	816.50	14.10	58.890	
2,600.00	2,565.87	2,340.74	2,229.47	8.72	12.23	-126.24	598.02	235.85	880.52	865.67	14.84	59.327	
2,700.00	2,663.70	2,427.40	2,308.23	9.17	12.92	-126.24	631.25	250.05	930.42	914.84	15.58	59.715	
2,800.00	2,761.52	2,514.05	2,387.00	9.63	13.62	-126.24	664.47	264.25	980.33	964.01	16.32	60.061	
2,900.00	2,859.35	2,600.71	2,465.76	10.08	14.32	-126.24	697.69	278.45	1,030.24	1,013.17	17.06	60.372	
3,000.00	2,957.18	2,687.37	2,544.53	10.54	15.02	-126.24	730.92	292.64	1,080.14	1,062.34	17.81	60.653	
3,100.00	3,055.01	2,774.02	2,623.29	11.00	15.72	-126.24	764.14	306.84	1,130.05	1,111.50	18.55	60.907	
3,200.00	3,152.84	2,860.68	2,702.05	11.46	16.42	-126.25	797.37	321.04	1,179.96	1,160.66	19.30	61.138	
3,300.00	3,250.66	2,947.33	2,780.82	11.92	17.12	-126.25	830.59	335.24	1,229.87	1,209.82	20.05	61.349	
3,400.00	3,348.49	3,033.99	2,859.58	12.37	17.82	-126.25	863.81	349.44	1,279.77	1,258.98	20.79	61.543	
3,500.00	3,446.32	3,120.65	2,938.35	12.83	18.52	-126.25	897.04	363.64	1,329.68	1,308.14	21.54	61.721	
3,600.00	3,544.15	3,207.30	3,017.11	13.29	19.22	-126.25	930.26	377.83	1,379.59	1,357.30	22.29	61.886	
3,700.00	3,641.98	3,293.96	3,095.88	13.75	19.92	-126.25	963.48	392.03	1,429.50	1,406.45	23.04	62.038	
3,800.00	3,739.80	3,380.61	3,174.64	14.21	20.63	-126.25	996.71	406.23	1,479.40	1,455.61	23.79	62.179	
3,900.00	3,837.63	3,467.27	3,253.41	14.67	21.33	-126.25	1,029.93	420.43	1,529.31	1,504.77	24.54	62.310	
4,000.00	3,935.46	3,553.93	3,332.17	15.13	22.03	-126.25	1,063.16	434.63	1,579.22	1,553.92	25.29	62.433	
4,100.00	4,033.29	3,640.58	3,410.94	15.59	22.73	-126.25	1,096.38	448.82	1,629.12	1,603.08	26.05	62.547	
4,200.00	4,131.12	3,727.24	3,489.70	16.05	23.44	-126.25	1,129.60	463.02	1,679.03	1,652.23	26.80	62.654	
4,300.00	4,228.94	3,813.89	3,568.46	16.52	24.14	-126.25	1,162.83	477.22	1,728.94	1,701.39	27.55	62.755	
4,400.00	4,326.77	3,900.55	3,647.23	16.98	24.84	-126.25	1,196.05	491.42	1,778.85	1,750.54	28.30	62.849	
4,500.00	4,424.60	3,987.21	3,725.99	17.44	25.55	-126.25	1,229.28	505.62	1,828.75	1,799.70	29.06	62.938	
4,600.00	4,522.43	4,073.86	3,804.76	17.90	26.25	-126.25	1,262.50	519.82	1,878.66	1,848.85	29.81	63.022	
4,700.00	4,620.26	4,160.52	3,883.52	18.36	26.95	-126.25	1,295.72	534.01	1,928.57	1,898.00	30.56	63.101	
4,800.00	4,718.08	4,247.17	3,962.29	18.82	27.66	-126.25	1,328.95	548.21	1,978.48	1,947.16	31.32	63.176	
4,900.00	4,815.91	4,333.83	4,041.05	19.28	28.36	-126.25	1,362.17	562.41	2,028.38	1,996.31	32.07	63.247	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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
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	4,913.74	4,420.49	4,119.82	19.74	29.06	-126.25	1,395.40	576.61	2,078.29	2,045.47	32.82	63.314	
5,100.00	5,011.57	4,507.14	4,198.58	20.21	29.77	-126.25	1,428.62	590.81	2,128.20	2,094.62	33.58	63.378	
5,196.70	5,106.17	4,590.94	4,274.75	20.65	30.45	-126.25	1,460.75	604.54	2,176.46	2,142.15	34.31	63.437	
5,200.00	5,109.40	4,593.80	4,277.35	20.67	30.47	-126.29	1,461.84	605.01	2,178.10	2,143.76	34.34	63.424	
5,300.00	5,207.59	4,680.99	4,356.59	20.98	31.18	-127.14	1,495.27	619.29	2,227.05	2,191.77	35.28	63.125	
5,400.00	5,306.38	4,769.09	4,436.67	21.26	31.89	-127.87	1,529.05	633.73	2,274.15	2,237.97	36.18	62.862	
5,500.00	5,405.65	4,858.01	4,517.50	21.50	32.62	-128.47	1,563.14	648.30	2,319.36	2,282.33	37.03	62.640	
5,600.00	5,505.28	4,947.64	4,598.96	21.69	33.34	-128.96	1,597.50	662.98	2,362.66	2,324.83	37.82	62.465	
5,700.00	5,605.15	5,037.86	4,680.96	21.85	34.08	-129.35	1,632.09	677.76	2,404.02	2,365.45	38.56	62.339	
5,794.87	5,700.00	5,341.88	4,962.48	21.97	35.90	-0.50	1,737.31	722.73	2,438.81	2,399.04	39.78	61.311	
5,800.00	5,705.13	5,364.67	4,984.05	21.97	36.01	-0.43	1,744.09	725.62	2,440.35	2,400.50	39.84	61.248	
5,900.00	5,805.13	5,830.53	5,435.60	22.08	37.88	0.63	1,847.52	769.83	2,462.78	2,421.77	41.00	60.061	
6,000.00	5,905.13	6,302.12	5,905.13	22.20	38.72	0.97	1,882.36	784.72	2,469.94	2,428.14	41.80	59.084	
6,100.00	6,005.13	6,402.12	6,005.13	22.31	38.79	0.97	1,882.36	784.72	2,469.94	2,427.89	42.05	58.732	
6,200.00	6,105.13	6,502.12	6,105.13	22.43	38.86	0.97	1,882.36	784.72	2,469.94	2,427.64	42.31	58.381	
6,300.00	6,205.13	6,602.12	6,205.13	22.54	38.93	0.97	1,882.36	784.72	2,469.94	2,427.38	42.56	58.029	
6,400.00	6,305.13	6,702.12	6,305.13	22.66	39.00	0.97	1,882.36	784.72	2,469.94	2,427.12	42.82	57.677	
6,500.00	6,405.13	6,802.12	6,405.13	22.78	39.07	0.97	1,882.36	784.72	2,469.94	2,426.86	43.09	57.325	
6,600.00	6,505.13	6,902.12	6,505.13	22.90	39.14	0.97	1,882.36	784.72	2,469.94	2,426.59	43.35	56.973	
6,700.00	6,605.13	7,002.12	6,605.13	23.03	39.22	0.97	1,882.36	784.72	2,469.94	2,426.32	43.62	56.622	
6,800.00	6,705.13	7,102.12	6,705.13	23.15	39.29	0.97	1,882.36	784.72	2,469.94	2,426.05	43.89	56.271	
6,900.00	6,805.13	7,202.12	6,805.13	23.28	39.37	0.97	1,882.36	784.72	2,469.94	2,425.78	44.17	55.921	
7,000.00	6,905.13	7,302.12	6,905.13	23.40	39.45	0.97	1,882.36	784.72	2,469.94	2,425.50	44.45	55.572	
7,100.00	7,005.13	7,402.12	7,005.13	23.53	39.53	0.97	1,882.36	784.72	2,469.94	2,425.22	44.73	55.223	
7,200.00	7,105.13	7,502.12	7,105.13	23.66	39.61	0.97	1,882.36	784.72	2,469.94	2,424.93	45.01	54.876	
7,264.87	7,170.00	7,566.99	7,170.00	23.75	39.66	0.97	1,882.36	784.72	2,469.94	2,424.75	45.19	54.651	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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 30-3 - P_WINTERS 30-3 - 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	1.24	64.11	1.39	64.12				
100.00	100.00	100.00	100.00	0.10	0.10	1.24	64.11	1.39	64.12	63.93	0.19	335.636	
200.00	200.00	200.00	200.00	0.32	0.32	1.24	64.11	1.39	64.12	63.48	0.64	100.102	
300.00	300.00	300.00	300.00	0.55	0.55	1.24	64.11	1.39	64.12	63.03	1.09	58.823 CC, ES	
400.00	400.00	397.84	397.82	0.77	0.76	0.88	65.73	1.01	65.78	64.24	1.53	42.869	
500.00	500.00	495.46	495.30	0.99	0.99	-0.12	70.59	-0.15	70.75	68.77	1.98	35.687	
600.00	600.00	592.62	592.11	1.22	1.23	-1.50	78.64	-2.06	79.06	76.61	2.44	32.364	
630.00	630.00	621.65	620.97	1.29	1.30	-1.95	81.66	-2.78	82.20	79.62	2.59	31.792 SF	
700.00	699.99	689.01	687.82	1.43	1.49	-131.58	89.77	-4.71	91.27	88.41	2.86	31.944	
800.00	799.90	783.98	781.69	1.62	1.78	-134.26	103.79	-8.04	109.12	105.85	3.27	33.414	
900.00	899.60	876.97	873.07	1.83	2.11	-137.16	120.44	-12.00	132.87	129.19	3.68	36.087	
1,000.00	998.97	967.46	961.44	2.07	2.47	-139.82	139.41	-16.51	162.57	158.47	4.11	39.602	
1,100.00	1,097.89	1,055.03	1,046.32	2.35	2.87	-142.05	160.35	-21.49	198.14	193.60	4.54	43.682	
1,200.00	1,196.25	1,139.29	1,127.33	2.67	3.29	-143.85	182.86	-26.84	239.37	234.40	4.97	48.120	
1,228.17	1,223.83	1,162.38	1,149.41	2.77	3.42	-144.28	189.44	-28.41	251.98	246.88	5.10	49.411	
1,300.00	1,294.10	1,220.30	1,204.55	3.04	3.74	-145.58	206.69	-32.51	285.38	279.94	5.44	52.454	
1,400.00	1,391.93	1,300.00	1,279.82	3.44	4.22	-146.92	232.19	-38.57	334.12	328.20	5.93	56.389	
1,500.00	1,489.76	1,375.16	1,350.10	3.85	4.71	-147.84	258.10	-44.73	385.30	378.88	6.41	60.076	
1,600.00	1,587.59	1,449.06	1,418.49	4.27	5.23	-148.51	285.31	-51.20	438.75	431.84	6.91	63.510	
1,700.00	1,685.41	1,520.80	1,484.19	4.70	5.76	-148.99	313.36	-57.87	494.33	486.93	7.40	66.758	
1,800.00	1,783.24	1,603.19	1,559.22	5.13	6.39	-149.42	346.46	-65.74	550.93	542.99	7.94	69.383	
1,900.00	1,881.07	1,685.57	1,634.25	5.57	7.04	-149.77	379.55	-73.61	607.54	599.06	8.48	71.618	
2,000.00	1,978.90	1,767.95	1,709.28	6.01	7.68	-150.06	412.65	-81.48	664.16	655.13	9.03	73.541	
2,100.00	2,076.73	1,850.33	1,784.31	6.46	8.33	-150.30	445.74	-89.35	720.80	711.21	9.58	75.210	
2,200.00	2,174.56	1,932.71	1,859.34	6.91	8.99	-150.51	478.84	-97.22	777.44	767.30	10.14	76.668	
2,300.00	2,272.38	2,015.09	1,934.37	7.36	9.64	-150.69	511.93	-105.09	834.09	823.39	10.70	77.952	
2,400.00	2,370.21	2,097.47	2,009.40	7.81	10.30	-150.85	545.03	-112.96	890.74	879.48	11.26	79.088	
2,500.00	2,468.04	2,179.86	2,084.43	8.26	10.96	-150.98	578.12	-120.82	947.40	935.57	11.83	80.097	
2,600.00	2,565.87	2,262.24	2,159.46	8.72	11.62	-151.11	611.22	-128.69	1,004.06	991.66	12.40	81.002	
2,700.00	2,663.70	2,344.62	2,234.49	9.17	12.28	-151.22	644.31	-136.56	1,060.72	1,047.75	12.96	81.816	
2,800.00	2,761.52	2,427.00	2,309.52	9.63	12.94	-151.32	677.41	-144.43	1,117.38	1,103.85	13.54	82.552	
2,900.00	2,859.35	2,509.38	2,384.55	10.08	13.60	-151.40	710.50	-152.30	1,174.05	1,159.94	14.11	83.221	
3,000.00	2,957.18	2,591.76	2,459.58	10.54	14.27	-151.48	743.60	-160.17	1,230.72	1,216.04	14.68	83.830	
3,100.00	3,055.01	2,674.14	2,534.61	11.00	14.93	-151.56	776.69	-168.04	1,287.39	1,272.13	15.26	84.387	
3,200.00	3,152.84	2,756.53	2,609.64	11.46	15.60	-151.63	809.79	-175.91	1,344.06	1,328.23	15.83	84.899	
3,300.00	3,250.66	2,838.91	2,684.67	11.92	16.26	-151.69	842.88	-183.78	1,400.73	1,384.33	16.41	85.370	
3,400.00	3,348.49	2,921.29	2,759.70	12.37	16.93	-151.74	875.98	-191.65	1,457.41	1,440.42	16.99	85.805	
3,500.00	3,446.32	3,003.67	2,834.73	12.83	17.59	-151.80	909.07	-199.51	1,514.08	1,496.52	17.56	86.208	
3,600.00	3,544.15	3,086.05	2,909.76	13.29	18.26	-151.85	942.17	-207.38	1,570.76	1,552.62	18.14	86.583	
3,700.00	3,641.98	3,168.43	2,984.79	13.75	18.92	-151.89	975.26	-215.25	1,627.43	1,608.71	18.72	86.931	
3,800.00	3,739.80	3,250.81	3,059.82	14.21	19.59	-151.94	1,008.36	-223.12	1,684.11	1,664.81	19.30	87.256	
3,900.00	3,837.63	3,333.20	3,134.85	14.67	20.26	-151.97	1,041.45	-230.99	1,740.79	1,720.91	19.88	87.560	
4,000.00	3,935.46	3,415.58	3,209.88	15.13	20.92	-152.01	1,074.55	-238.86	1,797.47	1,777.00	20.46	87.845	
4,100.00	4,033.29	3,497.96	3,284.91	15.59	21.59	-152.05	1,107.64	-246.73	1,854.14	1,833.10	21.04	88.113	
4,200.00	4,131.12	3,580.34	3,359.94	16.05	22.26	-152.08	1,140.74	-254.60	1,910.82	1,889.20	21.62	88.364	
4,300.00	4,228.94	3,662.72	3,434.97	16.52	22.93	-152.11	1,173.83	-262.47	1,967.50	1,945.30	22.21	88.601	
4,400.00	4,326.77	3,745.10	3,510.00	16.98	23.59	-152.14	1,206.93	-270.33	2,024.18	2,001.39	22.79	88.825	
4,500.00	4,424.60	3,827.48	3,585.03	17.44	24.26	-152.17	1,240.02	-278.20	2,080.86	2,057.49	23.37	89.036	
4,600.00	4,522.43	3,909.87	3,660.06	17.90	24.93	-152.19	1,273.12	-286.07	2,137.54	2,113.59	23.95	89.236	
4,700.00	4,620.26	3,992.25	3,735.09	18.36	25.60	-152.22	1,306.21	-293.94	2,194.22	2,169.69	24.54	89.426	
4,800.00	4,718.08	4,074.63	3,810.12	18.82	26.26	-152.24	1,339.31	-301.81	2,250.90	2,225.78	25.12	89.606	
4,900.00	4,815.91	4,157.01	3,885.15	19.28	26.93	-152.27	1,372.40	-309.68	2,307.59	2,281.88	25.70	89.777	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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 30-3 - P_WINTERS 30-3 - 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	4,913.74	4,239.39	3,960.18	19.74	27.60	-152.29	1,405.50	-317.55	2,364.27	2,337.98	26.29	89.939	
5,100.00	5,011.57	4,321.77	4,035.21	20.21	28.27	-152.31	1,438.59	-325.42	2,420.95	2,394.08	26.87	90.095	
5,196.70	5,106.17	4,401.44	4,107.76	20.65	28.92	-152.33	1,470.60	-333.03	2,475.76	2,448.32	27.44	90.238	
5,200.00	5,109.40	4,404.16	4,110.24	20.67	28.94	-152.35	1,471.69	-333.29	2,477.63	2,450.17	27.46	90.217	
5,300.00	5,207.59	4,487.46	4,186.11	20.98	29.61	-152.95	1,505.16	-341.24	2,532.94	2,504.70	28.24	89.682	
5,400.00	5,306.38	4,572.42	4,263.49	21.26	30.30	-153.47	1,539.29	-349.36	2,585.64	2,556.64	29.00	89.156	
5,500.00	5,405.65	4,658.95	4,342.29	21.50	31.01	-153.89	1,574.05	-357.62	2,635.66	2,605.93	29.73	88.651	
5,600.00	5,505.28	4,746.92	4,422.42	21.69	31.72	-154.24	1,609.39	-366.03	2,682.95	2,652.52	30.43	88.176	
5,700.00	5,605.15	4,836.24	4,503.76	21.85	32.44	-154.52	1,645.27	-374.56	2,727.45	2,696.37	31.09	87.737	
5,794.87	5,700.00	6,070.27	5,700.00	21.97	36.95	-25.35	1,899.84	-435.09	2,751.99	2,717.83	34.16	80.562	
5,800.00	5,705.13	6,075.40	5,705.13	21.97	36.95	-25.35	1,899.84	-435.09	2,751.99	2,717.82	34.17	80.528	
5,900.00	5,805.13	6,175.40	5,805.13	22.08	37.02	-25.35	1,899.84	-435.09	2,751.99	2,717.53	34.46	79.858	
6,000.00	5,905.13	6,275.40	5,905.13	22.20	37.09	-25.35	1,899.84	-435.09	2,751.99	2,717.24	34.75	79.186	
6,100.00	6,005.13	6,375.40	6,005.13	22.31	37.16	-25.35	1,899.84	-435.09	2,751.99	2,716.94	35.05	78.518	
6,200.00	6,105.13	6,475.40	6,105.13	22.43	37.24	-25.35	1,899.84	-435.09	2,751.99	2,716.65	35.35	77.855	
6,300.00	6,205.13	6,575.40	6,205.13	22.54	37.31	-25.35	1,899.84	-435.09	2,751.99	2,716.34	35.65	77.195	
6,400.00	6,305.13	6,675.40	6,305.13	22.66	37.38	-25.35	1,899.84	-435.09	2,751.99	2,716.04	35.95	76.540	
6,500.00	6,405.13	6,775.40	6,405.13	22.78	37.46	-25.35	1,899.84	-435.09	2,751.99	2,715.73	36.26	75.890	
6,600.00	6,505.13	6,875.40	6,505.13	22.90	37.54	-25.35	1,899.84	-435.09	2,751.99	2,715.42	36.57	75.245	
6,700.00	6,605.13	6,975.40	6,605.13	23.03	37.61	-25.35	1,899.84	-435.09	2,751.99	2,715.11	36.89	74.605	
6,800.00	6,705.13	7,075.40	6,705.13	23.15	37.69	-25.35	1,899.84	-435.09	2,751.99	2,714.79	37.20	73.970	
6,900.00	6,805.13	7,175.40	6,805.13	23.28	37.77	-25.35	1,899.84	-435.09	2,751.99	2,714.47	37.52	73.340	
7,000.00	6,905.13	7,275.40	6,905.13	23.40	37.86	-25.35	1,899.84	-435.09	2,751.99	2,714.15	37.85	72.717	
7,100.00	7,005.13	7,375.40	7,005.13	23.53	37.94	-25.35	1,899.84	-435.09	2,751.99	2,713.82	38.17	72.098	
7,200.00	7,105.13	7,475.40	7,105.13	23.66	38.02	-25.35	1,899.84	-435.09	2,751.99	2,713.50	38.50	71.486	
7,264.87	7,170.00	7,540.27	7,170.00	23.75	38.08	-25.35	1,899.84	-435.09	2,751.99	2,713.28	38.71	71.092	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	0.99	32.06	0.56	32.06				
100.00	100.00	100.00	100.00	0.10	0.10	0.99	32.06	0.56	32.06	31.87	0.19	167.825	
200.00	200.00	200.00	200.00	0.32	0.32	0.99	32.06	0.56	32.06	31.42	0.64	50.053	
300.00	300.00	300.00	300.00	0.55	0.55	0.99	32.06	0.56	32.06	30.97	1.09	29.413	
400.00	400.00	400.00	400.00	0.77	0.77	0.99	32.06	0.56	32.06	30.52	1.54	20.825	
500.00	500.00	500.00	500.00	0.99	0.99	0.99	32.06	0.56	32.06	30.07	1.99	16.119	
600.00	600.00	600.00	600.00	1.22	1.22	0.99	32.06	0.56	32.06	29.62	2.44	13.148	
630.00	630.00	630.00	630.00	1.29	1.29	0.99	32.06	0.56	32.06	29.49	2.57	12.459 CC, ES	
700.00	699.99	699.34	699.33	1.43	1.44	-129.34	32.74	0.06	33.28	30.41	2.87	11.599 SF	
800.00	799.90	797.92	797.82	1.62	1.66	-137.28	36.04	-2.34	39.72	36.45	3.27	12.130	
900.00	899.60	895.32	894.95	1.83	1.89	-146.39	41.99	-6.67	52.78	49.09	3.69	14.322	
1,000.00	998.97	990.90	989.95	2.07	2.12	-153.51	50.42	-12.80	72.99	68.90	4.09	17.828	
1,100.00	1,097.89	1,084.04	1,082.14	2.35	2.38	-158.36	61.10	-20.56	100.20	95.70	4.50	22.269	
1,200.00	1,196.25	1,177.21	1,174.03	2.67	2.67	-161.64	73.57	-29.63	133.28	128.37	4.91	27.165	
1,228.17	1,223.83	1,203.50	1,199.94	2.77	2.75	-162.36	77.11	-32.21	143.25	138.23	5.02	28.532	
1,300.00	1,294.10	1,270.39	1,265.90	3.04	2.97	-163.98	86.14	-38.77	169.09	163.75	5.34	31.667	
1,400.00	1,391.93	1,363.52	1,357.73	3.44	3.28	-165.55	98.70	-47.91	205.21	199.42	5.79	35.441	
1,500.00	1,489.76	1,456.65	1,449.55	3.85	3.60	-166.66	111.26	-57.05	241.41	235.17	6.25	38.644	
1,600.00	1,587.59	1,549.78	1,541.38	4.27	3.93	-167.48	123.82	-66.18	277.68	270.97	6.71	41.385	
1,700.00	1,685.41	1,642.91	1,633.20	4.70	4.26	-168.11	136.38	-75.32	313.98	306.80	7.18	43.752	
1,800.00	1,783.24	1,736.04	1,725.03	5.13	4.60	-168.60	148.94	-84.45	350.31	342.66	7.65	45.811	
1,900.00	1,881.07	1,829.17	1,816.85	5.57	4.94	-169.01	161.50	-93.59	386.65	378.53	8.12	47.617	
2,000.00	1,978.90	1,922.30	1,908.68	6.01	5.28	-169.34	174.06	-102.72	423.01	414.42	8.60	49.212	
2,100.00	2,076.73	2,015.43	2,000.50	6.46	5.63	-169.63	186.62	-111.86	459.39	450.31	9.07	50.629	
2,200.00	2,174.56	2,108.55	2,092.33	6.91	5.97	-169.87	199.18	-121.00	495.77	486.21	9.55	51.896	
2,300.00	2,272.38	2,201.68	2,184.15	7.36	6.32	-170.07	211.74	-130.13	532.15	522.12	10.03	53.035	
2,400.00	2,370.21	2,294.81	2,275.98	7.81	6.67	-170.26	224.30	-139.27	568.54	558.03	10.52	54.062	
2,500.00	2,468.04	2,387.94	2,367.80	8.26	7.01	-170.42	236.86	-148.40	604.94	593.94	11.00	54.995	
2,600.00	2,565.87	2,481.07	2,459.63	8.72	7.36	-170.56	249.42	-157.54	641.34	629.85	11.48	55.845	
2,700.00	2,663.70	2,574.20	2,551.45	9.17	7.72	-170.68	261.98	-166.67	677.74	665.77	11.97	56.622	
2,800.00	2,761.52	2,667.33	2,643.28	9.63	8.07	-170.80	274.55	-175.81	714.15	701.69	12.46	57.335	
2,900.00	2,859.35	2,760.46	2,735.10	10.08	8.42	-170.90	287.11	-184.94	750.55	737.61	12.94	57.992	
3,000.00	2,957.18	2,853.59	2,826.93	10.54	8.77	-170.99	299.67	-194.08	786.96	773.53	13.43	58.599	
3,100.00	3,055.01	2,946.72	2,918.75	11.00	9.12	-171.08	312.23	-203.22	823.37	809.46	13.92	59.162	
3,200.00	3,152.84	3,039.85	3,010.58	11.46	9.48	-171.15	324.79	-212.35	859.78	845.38	14.41	59.684	
3,300.00	3,250.66	3,132.97	3,102.40	11.92	9.83	-171.22	337.35	-221.49	896.20	881.30	14.89	60.170	
3,400.00	3,348.49	3,226.10	3,194.23	12.37	10.18	-171.29	349.91	-230.62	932.61	917.23	15.38	60.625	
3,500.00	3,446.32	3,319.23	3,286.05	12.83	10.54	-171.35	362.47	-239.76	969.03	953.16	15.87	61.049	
3,600.00	3,544.15	3,412.36	3,377.88	13.29	10.89	-171.41	375.03	-248.89	1,005.44	989.08	16.36	61.448	
3,700.00	3,641.98	3,505.49	3,469.70	13.75	11.25	-171.46	387.59	-258.03	1,041.86	1,025.01	16.85	61.822	
3,800.00	3,739.80	3,598.62	3,561.52	14.21	11.60	-171.51	400.15	-267.17	1,078.28	1,060.94	17.34	62.174	
3,900.00	3,837.63	3,691.75	3,653.35	14.67	11.96	-171.55	412.71	-276.30	1,114.70	1,096.86	17.83	62.506	
4,000.00	3,935.46	3,784.88	3,745.17	15.13	12.31	-171.60	425.27	-285.44	1,151.12	1,132.79	18.32	62.819	
4,100.00	4,033.29	3,878.01	3,837.00	15.59	12.67	-171.64	437.83	-294.57	1,187.54	1,168.72	18.82	63.115	
4,200.00	4,131.12	3,971.14	3,928.82	16.05	13.02	-171.67	450.39	-303.71	1,223.96	1,204.65	19.31	63.396	
4,300.00	4,228.94	4,064.27	4,020.65	16.52	13.38	-171.71	462.95	-312.84	1,260.38	1,240.58	19.80	63.662	
4,400.00	4,326.77	4,157.40	4,112.47	16.98	13.73	-171.74	475.52	-321.98	1,296.80	1,276.51	20.29	63.915	
4,500.00	4,424.60	4,250.52	4,204.30	17.44	14.09	-171.78	488.08	-331.11	1,333.22	1,312.44	20.78	64.155	
4,600.00	4,522.43	4,343.65	4,296.12	17.90	14.44	-171.81	500.64	-340.25	1,369.64	1,348.37	21.27	64.384	
4,700.00	4,620.26	4,436.78	4,387.95	18.36	14.80	-171.83	513.20	-349.39	1,406.06	1,384.30	21.77	64.602	
4,800.00	4,718.08	4,529.91	4,479.77	18.82	15.16	-171.86	525.76	-358.52	1,442.48	1,420.23	22.26	64.810	
4,900.00	4,815.91	4,623.04	4,571.60	19.28	15.51	-171.89	538.32	-367.66	1,478.91	1,456.16	22.75	65.009	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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	4,913.74	4,716.17	4,663.42	19.74	15.87	-171.91	550.88	-376.79	1,515.33	1,492.09	23.24	65.199	
5,100.00	5,011.57	4,809.30	4,755.25	20.21	16.22	-171.93	563.44	-385.93	1,551.75	1,528.02	23.73	65.381	
5,196.70	5,106.17	4,899.36	4,844.04	20.65	16.57	-171.96	575.59	-394.76	1,586.97	1,562.76	24.21	65.549	
5,200.00	5,109.40	4,902.43	4,847.07	20.67	16.58	-171.96	576.00	-395.06	1,588.17	1,563.94	24.23	65.544	
5,300.00	5,207.59	4,996.21	4,939.54	20.98	16.94	-172.07	588.65	-404.26	1,622.87	1,598.06	24.81	65.408	
5,400.00	5,306.38	5,091.13	5,033.14	21.26	17.30	-172.16	601.45	-413.58	1,654.31	1,628.95	25.36	65.230	
5,500.00	5,405.65	5,187.09	5,127.74	21.50	17.67	-172.22	614.39	-422.99	1,682.45	1,656.57	25.88	65.015	
5,600.00	5,505.28	5,285.45	5,224.73	21.69	18.05	-172.24	627.66	-432.64	1,707.25	1,680.89	26.36	64.759	
5,700.00	5,605.15	5,527.70	5,465.03	21.85	18.66	-172.21	651.96	-450.31	1,724.51	1,697.48	27.03	63.793	
5,794.87	5,700.00	5,762.93	5,700.00	21.97	19.04	-43.88	659.76	-455.99	1,729.93	1,702.33	27.60	62.678	
5,800.00	5,705.13	5,768.06	5,705.13	21.97	19.05	-43.88	659.76	-455.99	1,729.93	1,702.31	27.62	62.637	
5,900.00	5,805.13	5,868.06	5,805.13	22.08	19.19	-43.88	659.76	-455.99	1,729.93	1,701.95	27.98	61.831	
6,000.00	5,905.13	5,968.06	5,905.13	22.20	19.34	-43.88	659.76	-455.99	1,729.93	1,701.58	28.35	61.028	
6,100.00	6,005.13	6,068.06	6,005.13	22.31	19.48	-43.88	659.76	-455.99	1,729.93	1,701.21	28.72	60.241	
6,200.00	6,105.13	6,168.06	6,105.13	22.43	19.63	-43.88	659.76	-455.99	1,729.93	1,700.84	29.09	59.470	
6,300.00	6,205.13	6,268.06	6,205.13	22.54	19.78	-43.88	659.76	-455.99	1,729.93	1,700.46	29.46	58.714	
6,400.00	6,305.13	6,368.06	6,305.13	22.66	19.93	-43.88	659.76	-455.99	1,729.93	1,700.09	29.84	57.973	
6,500.00	6,405.13	6,468.06	6,405.13	22.78	20.08	-43.88	659.76	-455.99	1,729.93	1,699.71	30.22	57.246	
6,600.00	6,505.13	6,568.06	6,505.13	22.90	20.24	-43.88	659.76	-455.99	1,729.93	1,699.33	30.60	56.534	
6,700.00	6,605.13	6,668.06	6,605.13	23.03	20.39	-43.88	659.76	-455.99	1,729.93	1,698.94	30.98	55.837	
6,800.00	6,705.13	6,768.06	6,705.13	23.15	20.55	-43.88	659.76	-455.99	1,729.93	1,698.56	31.37	55.153	
6,900.00	6,805.13	6,868.06	6,805.13	23.28	20.71	-43.88	659.76	-455.99	1,729.93	1,698.17	31.75	54.483	
7,000.00	6,905.13	6,968.06	6,905.13	23.40	20.87	-43.88	659.76	-455.99	1,729.93	1,697.79	32.14	53.826	
7,100.00	7,005.13	7,068.06	7,005.13	23.53	21.03	-43.88	659.76	-455.99	1,729.93	1,697.40	32.53	53.182	
7,200.00	7,105.13	7,168.06	7,105.13	23.66	21.19	-43.88	659.76	-455.99	1,729.93	1,697.01	32.92	52.551	
7,264.87	7,170.00	7,232.93	7,170.00	23.75	21.29	-43.88	659.76	-455.99	1,729.93	1,696.75	33.17	52.149	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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	-178.01	-16.03	-0.56	16.04				
100.00	100.00	100.00	100.00	0.10	0.10	-178.01	-16.03	-0.56	16.04	15.85	0.19	83.972	
200.00	200.00	200.00	200.00	0.32	0.32	-178.01	-16.03	-0.56	16.04	15.40	0.64	25.044	
300.00	300.00	300.00	300.00	0.55	0.55	-178.01	-16.03	-0.56	16.04	14.95	1.09	14.717	
400.00	400.00	400.00	400.00	0.77	0.77	-178.01	-16.03	-0.56	16.04	14.50	1.54	10.420	
500.00	500.00	500.00	500.00	0.99	0.99	-178.01	-16.03	-0.56	16.04	14.05	1.99	8.065	
600.00	600.00	600.00	600.00	1.22	1.22	-178.01	-16.03	-0.56	16.04	13.60	2.44	6.578	
630.00	630.00	630.00	630.00	1.29	1.29	-178.01	-16.03	-0.56	16.04	13.47	2.57	6.234 CC	
700.00	699.99	699.67	699.67	1.43	1.43	57.96	-16.68	-1.11	16.25	13.39	2.85	5.691 ES, SF	
800.00	799.90	798.95	798.85	1.62	1.61	76.46	-19.81	-3.80	18.43	15.20	3.23	5.708	
900.00	899.60	897.60	897.21	1.83	1.81	97.81	-25.50	-8.70	25.79	22.16	3.63	7.106	
1,000.00	998.97	995.25	994.26	2.07	2.04	111.96	-33.67	-15.71	39.55	35.49	4.06	9.745	
1,100.00	1,097.89	1,091.79	1,089.79	2.35	2.30	119.91	-44.18	-24.75	59.13	54.60	4.53	13.059	
1,200.00	1,196.25	1,188.81	1,185.63	2.67	2.60	125.29	-55.67	-34.63	82.31	77.26	5.05	16.312	
1,228.17	1,223.83	1,216.02	1,212.51	2.77	2.68	126.58	-58.89	-37.40	89.30	84.10	5.20	17.175	
1,300.00	1,294.10	1,285.34	1,280.97	3.04	2.90	129.50	-67.10	-44.46	107.52	101.91	5.61	19.168	
1,400.00	1,391.93	1,381.83	1,376.28	3.44	3.22	132.24	-78.54	-54.29	133.19	126.99	6.20	21.483	
1,500.00	1,489.76	1,478.32	1,471.58	3.85	3.55	134.08	-89.97	-64.12	159.04	152.24	6.81	23.368	
1,600.00	1,587.59	1,574.82	1,566.89	4.27	3.88	135.41	-101.40	-73.94	185.01	177.58	7.42	24.920	
1,700.00	1,685.41	1,671.31	1,662.20	4.70	4.22	136.42	-112.83	-83.77	211.04	202.99	8.05	26.213	
1,800.00	1,783.24	1,767.80	1,757.51	5.13	4.57	137.20	-124.26	-93.60	237.13	228.44	8.69	27.302	
1,900.00	1,881.07	1,864.30	1,852.82	5.57	4.91	137.83	-135.69	-103.42	263.24	253.92	9.32	28.232	
2,000.00	1,978.90	1,960.79	1,948.13	6.01	5.26	138.34	-147.12	-113.25	289.38	279.42	9.97	29.032	
2,100.00	2,076.73	2,057.28	2,043.43	6.46	5.61	138.77	-158.55	-123.08	315.54	304.93	10.61	29.727	
2,200.00	2,174.56	2,153.77	2,138.74	6.91	5.97	139.14	-169.98	-132.91	341.72	330.45	11.26	30.337	
2,300.00	2,272.38	2,250.27	2,234.05	7.36	6.32	139.45	-181.42	-142.73	367.90	355.98	11.92	30.876	
2,400.00	2,370.21	2,346.76	2,329.36	7.81	6.68	139.72	-192.85	-152.56	394.09	381.52	12.57	31.356	
2,500.00	2,468.04	2,443.25	2,424.67	8.26	7.03	139.96	-204.28	-162.39	420.29	407.07	13.22	31.786	
2,600.00	2,565.87	2,539.75	2,519.98	8.72	7.39	140.16	-215.71	-172.21	446.50	432.62	13.88	32.173	
2,700.00	2,663.70	2,636.24	2,615.28	9.17	7.75	140.35	-227.14	-182.04	472.71	458.17	14.53	32.524	
2,800.00	2,761.52	2,732.73	2,710.59	9.63	8.11	140.52	-238.57	-191.87	498.92	483.73	15.19	32.844	
2,900.00	2,859.35	2,829.23	2,805.90	10.08	8.47	140.67	-250.00	-201.70	525.14	509.29	15.85	33.137	
3,000.00	2,957.18	2,925.72	2,901.21	10.54	8.83	140.80	-261.43	-211.52	551.36	534.86	16.51	33.405	
3,100.00	3,055.01	3,022.21	2,996.52	11.00	9.19	140.93	-272.87	-221.35	577.59	560.42	17.16	33.653	
3,200.00	3,152.84	3,118.71	3,091.83	11.46	9.55	141.04	-284.30	-231.18	603.81	585.99	17.82	33.883	
3,300.00	3,250.66	3,215.20	3,187.13	11.92	9.91	141.14	-295.73	-241.01	630.04	611.56	18.48	34.096	
3,400.00	3,348.49	3,311.69	3,282.44	12.37	10.27	141.24	-307.16	-250.83	656.27	637.13	19.14	34.295	
3,500.00	3,446.32	3,408.19	3,377.75	12.83	10.63	141.32	-318.59	-260.66	682.50	662.71	19.79	34.481	
3,600.00	3,544.15	3,504.68	3,473.06	13.29	10.99	141.40	-330.02	-270.49	708.74	688.28	20.45	34.655	
3,700.00	3,641.98	3,601.17	3,568.37	13.75	11.35	141.48	-341.45	-280.31	734.97	713.86	21.11	34.819	
3,800.00	3,739.80	3,697.67	3,663.68	14.21	11.72	141.55	-352.88	-290.14	761.20	739.44	21.77	34.973	
3,900.00	3,837.63	3,794.16	3,758.99	14.67	12.08	141.62	-364.31	-299.97	787.44	765.02	22.42	35.119	
4,000.00	3,935.46	3,890.65	3,854.29	15.13	12.44	141.68	-375.75	-309.80	813.68	790.60	23.08	35.257	
4,100.00	4,033.29	3,987.15	3,949.60	15.59	12.80	141.73	-387.18	-319.62	839.92	816.18	23.73	35.388	
4,200.00	4,131.12	4,083.64	4,044.91	16.05	13.16	141.79	-398.61	-329.45	866.15	841.76	24.39	35.512	
4,300.00	4,228.94	4,180.13	4,140.22	16.52	13.53	141.84	-410.04	-339.28	892.39	867.35	25.05	35.631	
4,400.00	4,326.77	4,276.63	4,235.53	16.98	13.89	141.89	-421.47	-349.10	918.63	892.93	25.70	35.744	
4,500.00	4,424.60	4,373.12	4,330.84	17.44	14.25	141.93	-432.90	-358.93	944.87	918.52	26.36	35.852	
4,600.00	4,522.43	4,469.61	4,426.14	17.90	14.62	141.97	-444.33	-368.76	971.11	944.11	27.01	35.955	
4,700.00	4,620.26	4,566.10	4,521.45	18.36	14.98	142.01	-455.76	-378.59	997.36	969.68	27.67	36.043	
4,800.00	4,718.08	4,662.60	4,616.76	18.82	15.34	142.05	-467.20	-388.41	1,023.60	995.26	28.34	36.122	
4,900.00	4,815.91	4,759.09	4,712.07	19.28	15.71	142.09	-478.63	-398.24	1,049.84	1,020.84	29.00	36.197	

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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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
5,000.00	4,913.74	4,855.58	4,807.38	19.74	16.07	142.12	-490.06	-408.07	1,076.08	1,046.41	29.67	36.269	
5,100.00	5,011.57	4,952.08	4,902.69	20.21	16.43	142.16	-501.49	-417.89	1,102.33	1,071.99	30.34	36.337	
5,196.70	5,106.17	5,045.39	4,994.85	20.65	16.79	142.19	-512.54	-427.40	1,127.70	1,096.72	30.98	36.401	
5,200.00	5,109.40	5,048.57	4,997.99	20.67	16.80	142.20	-512.92	-427.72	1,128.57	1,097.56	31.00	36.401	
5,300.00	5,207.59	5,145.44	5,093.67	20.98	17.16	142.48	-524.40	-437.59	1,153.39	1,121.73	31.65	36.438	
5,400.00	5,306.38	5,242.91	5,189.95	21.26	17.53	142.63	-535.94	-447.51	1,175.52	1,143.25	32.27	36.425	
5,500.00	5,405.65	5,353.44	5,299.18	21.50	17.91	142.61	-548.75	-458.52	1,194.77	1,161.89	32.87	36.344	
5,600.00	5,505.28	5,488.53	5,433.33	21.69	18.25	142.54	-560.68	-468.78	1,208.97	1,175.57	33.40	36.195	
5,700.00	5,605.15	5,625.19	5,569.66	21.85	18.49	142.50	-567.86	-474.96	1,217.41	1,183.60	33.82	35.999	
5,794.87	5,700.00	5,755.58	5,700.00	21.97	18.68	-89.20	-570.11	-476.89	1,220.04	1,185.89	34.15	35.724	
5,800.00	5,705.13	5,760.71	5,705.13	21.97	18.69	-89.20	-570.11	-476.89	1,220.04	1,185.88	34.17	35.709	
5,900.00	5,805.13	5,860.71	5,805.13	22.08	18.82	-89.20	-570.11	-476.89	1,220.04	1,185.61	34.44	35.427	
6,000.00	5,905.13	5,960.71	5,905.13	22.20	18.94	-89.20	-570.11	-476.89	1,220.04	1,185.34	34.71	35.152	
6,100.00	6,005.13	6,060.71	6,005.13	22.31	19.07	-89.20	-570.11	-476.89	1,220.04	1,185.06	34.98	34.877	
6,200.00	6,105.13	6,160.71	6,105.13	22.43	19.19	-89.20	-570.11	-476.89	1,220.04	1,184.79	35.26	34.604	
6,300.00	6,205.13	6,260.71	6,205.13	22.54	19.32	-89.20	-570.11	-476.89	1,220.04	1,184.51	35.54	34.331	
6,400.00	6,305.13	6,360.71	6,305.13	22.66	19.45	-89.20	-570.11	-476.89	1,220.04	1,184.22	35.82	34.058	
6,500.00	6,405.13	6,460.71	6,405.13	22.78	19.59	-89.20	-570.11	-476.89	1,220.04	1,183.93	36.11	33.788	
6,600.00	6,505.13	6,560.71	6,505.13	22.90	19.72	-89.20	-570.11	-476.89	1,220.04	1,183.64	36.40	33.518	
6,700.00	6,605.13	6,660.71	6,605.13	23.03	19.86	-89.20	-570.11	-476.89	1,220.04	1,183.35	36.69	33.250	
6,800.00	6,705.13	6,760.71	6,705.13	23.15	20.00	-89.20	-570.11	-476.89	1,220.04	1,183.05	36.99	32.983	
6,900.00	6,805.13	6,860.71	6,805.13	23.28	20.14	-89.20	-570.11	-476.89	1,220.04	1,182.75	37.29	32.718	
7,000.00	6,905.13	6,960.71	6,905.13	23.40	20.28	-89.20	-570.11	-476.89	1,220.04	1,182.45	37.59	32.454	
7,100.00	7,005.13	7,060.71	7,005.13	23.53	20.42	-89.20	-570.11	-476.89	1,220.04	1,182.14	37.90	32.192	
7,200.00	7,105.13	7,160.71	7,105.13	23.66	20.56	-89.20	-570.11	-476.89	1,220.04	1,181.84	38.21	31.932	
7,264.87	7,170.00	7,225.58	7,170.00	23.75	20.66	-89.20	-570.11	-476.89	1,220.04	1,181.63	38.41	31.764	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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	173.59	-24.78	2.78	33.25				
100.00	100.00	78.00	78.00	0.10	1.04	173.59	-24.78	2.78	24.93	23.80	1.13	21.986	
200.00	200.00	178.00	178.00	0.32	3.10	173.59	-24.78	2.78	24.93	21.52	3.42	7.300	
300.00	300.00	278.00	278.00	0.55	5.21	173.59	-24.78	2.78	24.93	19.18	5.76	4.331	
400.00	400.00	378.00	378.00	0.77	7.26	173.59	-24.78	2.78	24.93	16.90	8.03	3.105	
500.00	500.00	478.00	478.00	0.99	9.29	173.59	-24.78	2.78	24.93	14.65	10.29	2.424	
600.00	600.00	578.00	578.00	1.22	11.32	173.59	-24.78	2.78	24.93	12.40	12.54	1.989	
630.00	630.00	608.00	608.00	1.29	11.92	173.59	-24.78	2.78	24.93	11.72	13.21	1.887	
700.00	699.99	677.99	677.99	1.43	13.34	46.71	-24.78	2.78	24.34	9.58	14.76	1.649	
800.00	799.90	777.90	777.90	1.62	15.35	54.83	-24.78	2.78	21.68	4.72	16.96	1.278 Level 3	
900.00	899.60	877.60	877.60	1.83	17.36	74.80	-24.78	2.78	18.36	-0.83	19.19	0.957 Level 1	
947.24	946.59	924.59	924.59	1.94	18.31	90.00	-24.78	2.78	17.71	-2.55	20.26	0.874 Level 1, CC, SF	
1,000.00	998.97	976.97	976.97	2.07	19.36	109.47	-24.78	2.78	18.80	-2.62	21.42	0.878 Level 1, ES	
1,100.00	1,097.89	1,075.89	1,075.89	2.35	21.36	139.37	-24.78	2.78	27.41	3.92	23.49	1.167 Level 2	
1,200.00	1,196.25	1,174.25	1,174.25	2.67	23.34	155.13	-24.78	2.78	42.81	17.34	25.47	1.681	
1,228.17	1,223.83	1,201.83	1,201.83	2.77	23.89	157.94	-24.78	2.78	48.06	22.04	26.02	1.847	
1,300.00	1,294.10	1,272.10	1,272.10	3.04	25.31	163.09	-24.78	2.78	62.14	34.60	27.54	2.256	
1,400.00	1,391.93	1,369.93	1,369.93	3.44	27.28	167.29	-24.78	2.78	82.22	52.54	29.68	2.770	
1,500.00	1,489.76	1,467.76	1,467.76	3.85	29.24	169.84	-24.78	2.78	102.56	70.72	31.84	3.221	
1,600.00	1,587.59	1,565.59	1,565.59	4.27	31.21	171.54	-24.78	2.78	123.03	89.02	34.01	3.618	
1,700.00	1,685.41	1,663.41	1,663.41	4.70	33.18	172.76	-24.78	2.78	143.58	107.39	36.18	3.968	
1,800.00	1,783.24	1,761.24	1,761.24	5.13	35.15	173.67	-24.78	2.78	164.17	125.81	38.36	4.280	
1,900.00	1,881.07	1,859.07	1,859.07	5.57	37.12	174.38	-24.78	2.78	184.79	144.25	40.54	4.559	
2,000.00	1,978.90	1,956.90	1,956.90	6.01	39.09	174.94	-24.78	2.78	205.43	162.71	42.72	4.809	
2,100.00	2,076.73	2,054.73	2,054.73	6.46	41.05	175.41	-24.78	2.78	226.09	181.19	44.90	5.036	
2,200.00	2,174.56	2,152.56	2,152.56	6.91	43.02	175.79	-24.78	2.78	246.76	199.68	47.08	5.241	
2,300.00	2,272.38	2,250.38	2,250.38	7.36	44.99	176.12	-24.78	2.78	267.44	218.17	49.27	5.428	
2,400.00	2,370.21	2,348.21	2,348.21	7.81	46.96	176.40	-24.78	2.78	288.13	236.67	51.45	5.600	
2,500.00	2,468.04	2,446.04	2,446.04	8.26	48.93	176.64	-24.78	2.78	308.82	255.18	53.64	5.758	
2,600.00	2,565.87	2,543.87	2,543.87	8.72	50.89	176.85	-24.78	2.78	329.51	273.69	55.82	5.903	
2,700.00	2,663.70	2,641.70	2,641.70	9.17	52.86	177.04	-24.78	2.78	350.21	292.20	58.01	6.037	
2,800.00	2,761.52	2,739.52	2,739.52	9.63	54.83	177.20	-24.78	2.78	370.92	310.72	60.20	6.161	
2,900.00	2,859.35	2,837.35	2,837.35	10.08	56.80	177.35	-24.78	2.78	391.62	329.24	62.39	6.277	
3,000.00	2,957.18	2,935.18	2,935.18	10.54	58.77	177.48	-24.78	2.78	412.33	347.76	64.58	6.385	
3,100.00	3,055.01	3,033.01	3,033.01	11.00	60.73	177.60	-24.78	2.78	433.04	366.28	66.77	6.486	
3,200.00	3,152.84	3,130.84	3,130.84	11.46	62.70	177.71	-24.78	2.78	453.76	384.80	68.96	6.580	
3,300.00	3,250.66	3,228.66	3,228.66	11.92	64.67	177.81	-24.78	2.78	474.47	403.32	71.15	6.669	
3,400.00	3,348.49	3,326.49	3,326.49	12.37	66.64	177.90	-24.78	2.78	495.18	421.85	73.34	6.752	
3,500.00	3,446.32	3,424.32	3,424.32	12.83	68.60	177.99	-24.78	2.78	515.90	440.37	75.53	6.831	
3,600.00	3,544.15	3,522.15	3,522.15	13.29	70.57	178.07	-24.78	2.78	536.62	458.90	77.72	6.905	
3,700.00	3,641.98	3,619.98	3,619.98	13.75	72.54	178.14	-24.78	2.78	557.33	477.43	79.91	6.975	
3,800.00	3,739.80	3,717.80	3,717.80	14.21	74.51	178.21	-24.78	2.78	578.05	495.95	82.10	7.041	
3,900.00	3,837.63	3,815.63	3,815.63	14.67	76.47	178.27	-24.78	2.78	598.77	514.48	84.29	7.104	
4,000.00	3,935.46	3,913.46	3,913.46	15.13	78.44	178.33	-24.78	2.78	619.49	533.01	86.48	7.163	
4,100.00	4,033.29	4,011.29	4,011.29	15.59	80.41	178.38	-24.78	2.78	640.21	551.54	88.67	7.220	
4,200.00	4,131.12	4,109.12	4,109.12	16.05	82.38	178.43	-24.78	2.78	660.93	570.07	90.86	7.274	
4,300.00	4,228.94	4,206.94	4,206.94	16.52	84.34	178.48	-24.78	2.78	681.65	588.60	93.05	7.325	
4,400.00	4,326.77	4,304.77	4,304.77	16.98	86.31	178.52	-24.78	2.78	702.38	607.13	95.25	7.374	
4,500.00	4,424.60	4,402.60	4,402.60	17.44	88.28	178.57	-24.78	2.78	723.10	625.66	97.44	7.421	
4,600.00	4,522.43	4,500.43	4,500.43	17.90	90.25	178.61	-24.78	2.78	743.82	644.19	99.63	7.466	
4,700.00	4,620.26	4,598.26	4,598.26	18.36	92.21	178.64	-24.78	2.78	764.54	662.72	101.82	7.509	
4,800.00	4,718.08	4,696.08	4,696.08	18.82	94.18	178.68	-24.78	2.78	785.27	681.25	104.01	7.550	

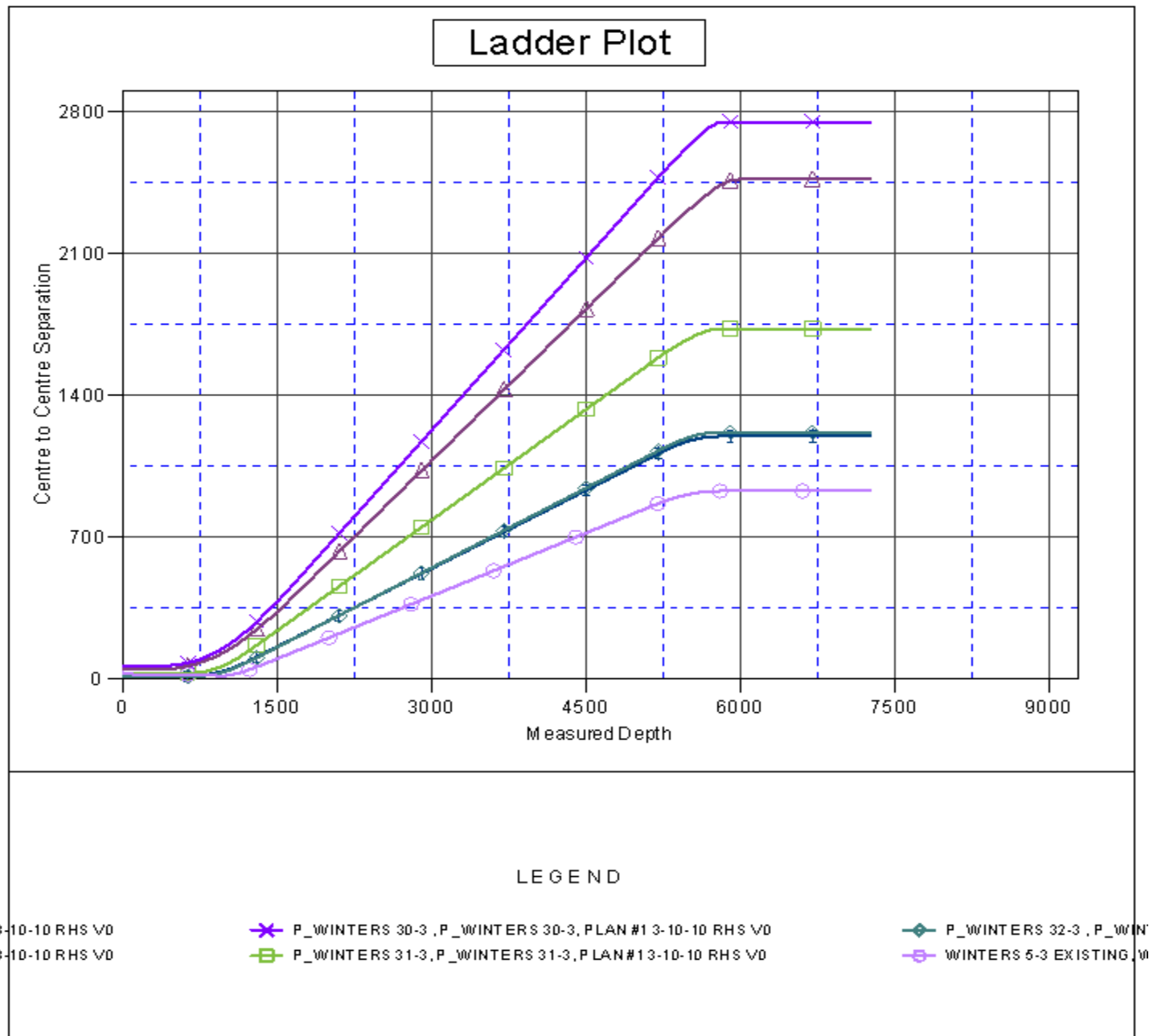
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,815.91	4,793.91	4,793.91	19.28	96.15	178.71	-24.78	2.78	805.99	699.79	106.21	7.589	
5,000.00	4,913.74	4,891.74	4,891.74	19.74	98.11	178.75	-24.78	2.78	826.72	718.32	108.40	7.627	
5,100.00	5,011.57	4,989.57	4,989.57	20.21	100.08	178.78	-24.78	2.78	847.44	736.85	110.59	7.663	
5,196.70	5,106.17	5,084.17	5,084.17	20.65	101.98	178.80	-24.78	2.78	867.48	754.77	112.71	7.697	
5,200.00	5,109.40	5,087.40	5,087.40	20.67	102.05	178.81	-24.78	2.78	868.16	755.36	112.80	7.696	
5,300.00	5,207.59	5,185.59	5,185.59	20.98	104.02	178.84	-24.78	2.78	887.06	771.46	115.60	7.673	
5,400.00	5,306.38	5,284.38	5,284.38	21.26	106.01	178.86	-24.78	2.78	902.52	784.20	118.33	7.627	
5,500.00	5,405.65	5,383.65	5,383.65	21.50	108.01	178.88	-24.78	2.78	914.53	793.61	120.93	7.563	
5,600.00	5,505.28	5,483.28	5,483.28	21.69	110.01	178.90	-24.78	2.78	923.07	799.68	123.39	7.481	
5,700.00	5,605.15	5,583.15	5,583.15	21.85	112.02	178.91	-24.78	2.78	928.12	802.41	125.71	7.383	
5,794.87	5,700.00	5,678.00	5,678.00	21.97	113.93	-52.77	-24.78	2.78	929.69	801.92	127.77	7.276	
5,800.00	5,705.13	5,683.13	5,683.13	21.97	114.03	-52.77	-24.78	2.78	929.69	801.81	127.88	7.270	
5,900.00	5,805.13	5,783.13	5,783.13	22.08	116.04	-52.77	-24.78	2.78	929.69	799.63	130.06	7.148	
6,000.00	5,905.13	5,883.13	5,883.13	22.20	118.05	-52.77	-24.78	2.78	929.69	797.45	132.24	7.030	
6,100.00	6,005.13	5,983.13	5,983.13	22.31	120.06	-52.77	-24.78	2.78	929.69	795.27	134.42	6.916	
6,200.00	6,105.13	6,083.13	6,083.13	22.43	122.07	-52.77	-24.78	2.78	929.69	793.08	136.61	6.806	
6,300.00	6,205.13	6,183.13	6,183.13	22.54	124.09	-52.77	-24.78	2.78	929.69	790.90	138.79	6.698	
6,400.00	6,305.13	6,283.13	6,283.13	22.66	126.10	-52.77	-24.78	2.78	929.69	788.71	140.98	6.595	
6,500.00	6,405.13	6,383.13	6,383.13	22.78	128.11	-52.77	-24.78	2.78	929.69	786.52	143.17	6.494	
6,600.00	6,505.13	6,483.13	6,483.13	22.90	130.12	-52.77	-24.78	2.78	929.69	784.33	145.36	6.396	
6,700.00	6,605.13	6,583.13	6,583.13	23.03	132.13	-52.77	-24.78	2.78	929.69	782.14	147.55	6.301	
6,800.00	6,705.13	6,683.13	6,683.13	23.15	134.14	-52.77	-24.78	2.78	929.69	779.95	149.74	6.209	
6,900.00	6,805.13	6,783.13	6,783.13	23.28	136.15	-52.77	-24.78	2.78	929.69	777.76	151.93	6.119	
7,000.00	6,905.13	6,883.13	6,883.13	23.40	138.16	-52.77	-24.78	2.78	929.69	775.57	154.12	6.032	
7,100.00	7,005.13	6,983.13	6,983.13	23.53	140.17	-52.77	-24.78	2.78	929.69	773.37	156.32	5.947	
7,200.00	7,105.13	7,083.13	7,083.13	23.66	142.18	-52.77	-24.78	2.78	929.69	771.18	158.51	5.865	
7,264.87	7,170.00	7,148.00	7,148.00	23.75	143.49	-52.77	-24.78	2.78	929.69	769.76	159.93	5.813	

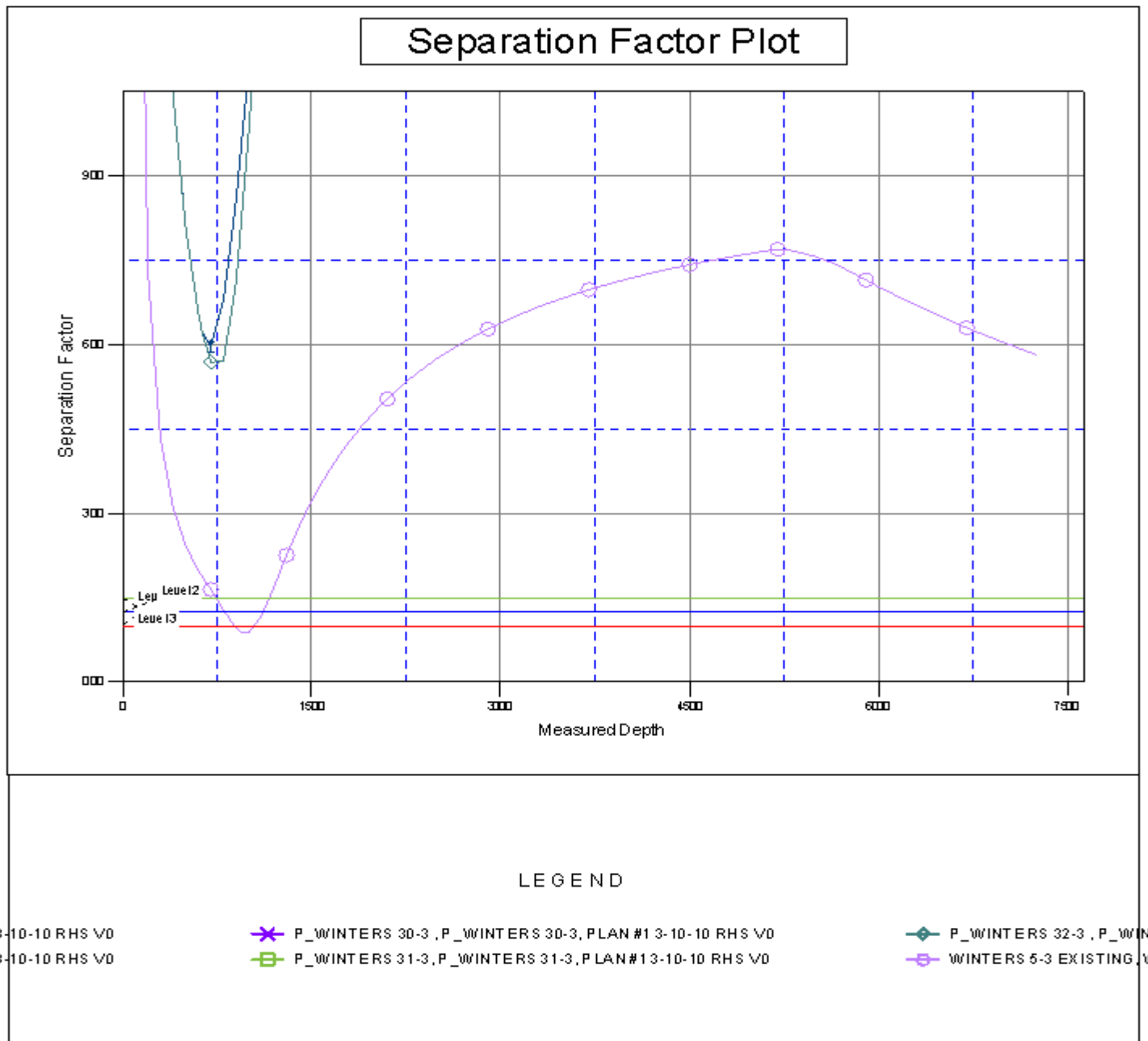
Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_WINTERS 22-3
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4672.00ft (Original Well Elev)
Reference Site:	WELD_WINTERS 5-3 PAD	MD Reference:	WELL @ 4672.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_WINTERS 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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 22-3
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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_WINTERS 22-3	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 22-3
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°



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 22-3		
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 22-3					
Well Position	+N/-S	-16.04 ft	Northing:	1,400,598.43 ft	Latitude:	40° 25' 47.935 N
	+E/-W	-0.28 ft	Easting:	3,234,694.12 ft	Longitude:	104° 39' 24.977 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,657.00 ft

Wellbore	P_WINTERS 22-3				
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	128.32

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	
1,228.17	11.96	128.32	1,223.83	-38.58	48.82	2.00	2.00	0.00	128.32	
5,196.70	11.96	128.32	5,106.17	-548.65	694.22	0.00	0.00	0.00	0.00	
5,794.87	0.00	0.00	5,700.00	-587.23	743.03	2.00	-2.00	0.00	180.00	
7,264.87	0.00	0.00	7,170.00	-587.23	743.03	0.00	0.00	0.00	0.00	PBHL_WINTERS 2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 22-3		
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	128.32	699.99	-0.53	0.67	0.86	2.00	2.00	0.00
800.00	3.40	128.32	799.90	-3.13	3.96	5.04	2.00	2.00	0.00
900.00	5.40	128.32	899.60	-7.88	9.97	12.71	2.00	2.00	0.00
1,000.00	7.40	128.32	998.97	-14.79	18.72	23.86	2.00	2.00	0.00
1,100.00	9.40	128.32	1,097.89	-23.85	30.18	38.47	2.00	2.00	0.00
1,200.00	11.40	128.32	1,196.25	-35.04	44.34	56.52	2.00	2.00	0.00
Start 3968.53 hold at 1228.17 MD									
1,228.17	11.96	128.32	1,223.83	-38.58	48.82	62.22	2.00	2.00	0.00
1,300.00	11.96	128.32	1,294.10	-47.81	60.50	77.11	0.00	0.00	0.00
1,400.00	11.96	128.32	1,391.93	-60.67	76.76	97.84	0.00	0.00	0.00
1,500.00	11.96	128.32	1,489.76	-73.52	93.03	118.57	0.00	0.00	0.00
1,600.00	11.96	128.32	1,587.59	-86.37	109.29	139.30	0.00	0.00	0.00
1,700.00	11.96	128.32	1,685.41	-99.22	125.55	160.03	0.00	0.00	0.00
1,800.00	11.96	128.32	1,783.24	-112.08	141.81	180.76	0.00	0.00	0.00
1,900.00	11.96	128.32	1,881.07	-124.93	158.08	201.48	0.00	0.00	0.00
2,000.00	11.96	128.32	1,978.90	-137.78	174.34	222.21	0.00	0.00	0.00
2,100.00	11.96	128.32	2,076.73	-150.64	190.60	242.94	0.00	0.00	0.00
2,200.00	11.96	128.32	2,174.56	-163.49	206.87	263.67	0.00	0.00	0.00
2,300.00	11.96	128.32	2,272.38	-176.34	223.13	284.40	0.00	0.00	0.00
2,400.00	11.96	128.32	2,370.21	-189.19	239.39	305.13	0.00	0.00	0.00
2,500.00	11.96	128.32	2,468.04	-202.05	255.65	325.86	0.00	0.00	0.00
2,600.00	11.96	128.32	2,565.87	-214.90	271.92	346.58	0.00	0.00	0.00
2,700.00	11.96	128.32	2,663.70	-227.75	288.18	367.31	0.00	0.00	0.00
2,800.00	11.96	128.32	2,761.52	-240.60	304.44	388.04	0.00	0.00	0.00
2,900.00	11.96	128.32	2,859.35	-253.46	320.71	408.77	0.00	0.00	0.00
3,000.00	11.96	128.32	2,957.18	-266.31	336.97	429.50	0.00	0.00	0.00
3,100.00	11.96	128.32	3,055.01	-279.16	353.23	450.23	0.00	0.00	0.00
3,200.00	11.96	128.32	3,152.84	-292.02	369.50	470.96	0.00	0.00	0.00
3,300.00	11.96	128.32	3,250.66	-304.87	385.76	491.68	0.00	0.00	0.00
3,400.00	11.96	128.32	3,348.49	-317.72	402.02	512.41	0.00	0.00	0.00
3,500.00	11.96	128.32	3,446.32	-330.57	418.28	533.14	0.00	0.00	0.00
3,600.00	11.96	128.32	3,544.15	-343.43	434.55	553.87	0.00	0.00	0.00
PARKMAN									
3,609.05	11.96	128.32	3,553.00	-344.59	436.02	555.75	0.00	0.00	0.00
3,700.00	11.96	128.32	3,641.98	-356.28	450.81	574.60	0.00	0.00	0.00
3,800.00	11.96	128.32	3,739.80	-369.13	467.07	595.33	0.00	0.00	0.00
3,900.00	11.96	128.32	3,837.63	-381.99	483.34	616.06	0.00	0.00	0.00
4,000.00	11.96	128.32	3,935.46	-394.84	499.60	636.79	0.00	0.00	0.00
4,100.00	11.96	128.32	4,033.29	-407.69	515.86	657.51	0.00	0.00	0.00
4,200.00	11.96	128.32	4,131.12	-420.54	532.12	678.24	0.00	0.00	0.00
4,300.00	11.96	128.32	4,228.94	-433.40	548.39	698.97	0.00	0.00	0.00
SUSSEX									
4,352.19	11.96	128.32	4,280.00	-440.10	556.87	709.79	0.00	0.00	0.00
4,400.00	11.96	128.32	4,326.77	-446.25	564.65	719.70	0.00	0.00	0.00
4,500.00	11.96	128.32	4,424.60	-459.10	580.91	740.43	0.00	0.00	0.00
4,600.00	11.96	128.32	4,522.43	-471.95	597.18	761.16	0.00	0.00	0.00
4,700.00	11.96	128.32	4,620.26	-484.81	613.44	781.89	0.00	0.00	0.00
4,800.00	11.96	128.32	4,718.08	-497.66	629.70	802.61	0.00	0.00	0.00
4,900.00	11.96	128.32	4,815.91	-510.51	645.96	823.34	0.00	0.00	0.00
5,000.00	11.96	128.32	4,913.74	-523.37	662.23	844.07	0.00	0.00	0.00
5,100.00	11.96	128.32	5,011.57	-536.22	678.49	864.80	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_WINTERS 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 22-3		
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 Drop -2.00									
5,196.70	11.96	128.32	5,106.17	-548.65	694.22	884.85	0.00	0.00	0.00
5,200.00	11.90	128.32	5,109.40	-549.07	694.75	885.53	2.00	-2.00	0.00
5,300.00	9.90	128.32	5,207.59	-560.79	709.58	904.43	2.00	-2.00	0.00
5,400.00	7.90	128.32	5,306.38	-570.38	721.72	919.90	2.00	-2.00	0.00
5,500.00	5.90	128.32	5,405.65	-577.83	731.14	931.91	2.00	-2.00	0.00
5,600.00	3.90	128.32	5,505.28	-583.12	737.84	940.44	2.00	-2.00	0.00
5,700.00	1.90	128.32	5,605.15	-586.25	741.80	945.50	2.00	-2.00	0.00
Start 1470.00 hold at 5794.87 MD									
5,794.87	0.00	0.00	5,700.00	-587.23	743.03	947.07	2.00	-2.00	0.00
5,800.00	0.00	0.00	5,705.13	-587.23	743.03	947.07	0.00	0.00	0.00
5,900.00	0.00	0.00	5,805.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,000.00	0.00	0.00	5,905.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,100.00	0.00	0.00	6,005.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,200.00	0.00	0.00	6,105.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,300.00	0.00	0.00	6,205.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,400.00	0.00	0.00	6,305.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,500.00	0.00	0.00	6,405.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,600.00	0.00	0.00	6,505.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,700.00	0.00	0.00	6,605.13	-587.23	743.03	947.07	0.00	0.00	0.00
NIO A									
6,794.87	0.00	0.00	6,700.00	-587.23	743.03	947.07	0.00	0.00	0.00
6,800.00	0.00	0.00	6,705.13	-587.23	743.03	947.07	0.00	0.00	0.00
6,900.00	0.00	0.00	6,805.13	-587.23	743.03	947.07	0.00	0.00	0.00
7,000.00	0.00	0.00	6,905.13	-587.23	743.03	947.07	0.00	0.00	0.00
7,100.00	0.00	0.00	7,005.13	-587.23	743.03	947.07	0.00	0.00	0.00
CODELL									
7,104.87	0.00	0.00	7,010.00	-587.23	743.03	947.07	0.00	0.00	0.00
GREENHORN									
7,180.87	0.00	0.00	7,086.00	-587.23	743.03	947.07	0.00	0.00	0.00
7,200.00	0.00	0.00	7,105.13	-587.23	743.03	947.07	0.00	0.00	0.00
PBHL_WINTERS 22-3(2520 FNL 1270 FWL)50'TGT									
7,264.87	0.00	0.00	7,170.00	-587.23	743.03	947.07	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 22-3	0.00	0.00	7,170.00	-587.23	743.03	1,400,018.30	3,235,442.70	40° 25' 42.132 N	104° 39' 15.368 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 22-3
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 22-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_WINTERS 22-3		
Design:	PLAN #1 3-10-10 RHS		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,609.05	3,553.00	PARKMAN			
4,352.19	4,280.00	SUSSEX			
6,794.87	6,700.00	NIO A			
7,104.87	7,010.00	CODELL			
7,180.87	7,086.00	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	
1,228.17	1,223.83	-38.58	48.82	Start 3968.53 hold at 1228.17 MD	
5,196.70	5,106.17	-548.65	694.22	Start Drop -2.00	
5,794.87	5,700.00	-587.23	743.03	Start 1470.00 hold at 5794.87 MD	
7,264.87	7,170.00	-587.23	743.03	TD at 7264.87	