



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_JESSER 18-2 PAD

P_BROWN 5-2

P_BROWN 5-2

Plan: PLAN #1 3-16-10 RHS

Standard Planning Report

16 March, 2010

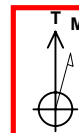




Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_JESSER 18-2 PAD
 Well: P_BROWN 5-2
 Wellbore: P_BROWN 5-2
 Section: SECTION 2 T1N R66W
 SHL: 1178 FNL 1142 FWL
 Design: PLAN #1 3-16-10 RHS
 Latitude: 40° 5' 2.655 N
 Longitude: 104° 44' 58.610 W
 GL: 5143.00
 KB: WELL @ 5158.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 8.99°
 Magnetic Field
 Strength: 53095.8nT
 Dip Angle: 66.84°
 Date: 3/16/2010
 Model: IGRF2010

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4296.00	4365.26	PARKMAN
4786.00	4868.54	SUSSEX
7266.00	7376.73	NIO A
7586.00	7696.73	CODELL
8046.00	8156.73	JSAND

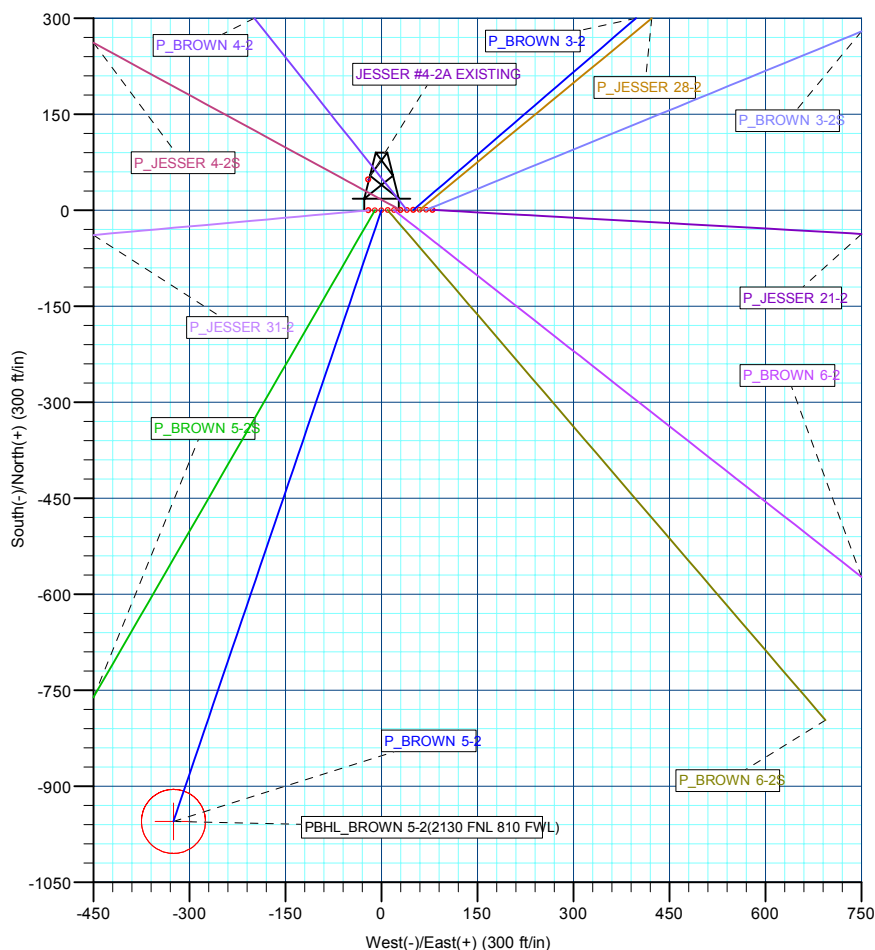
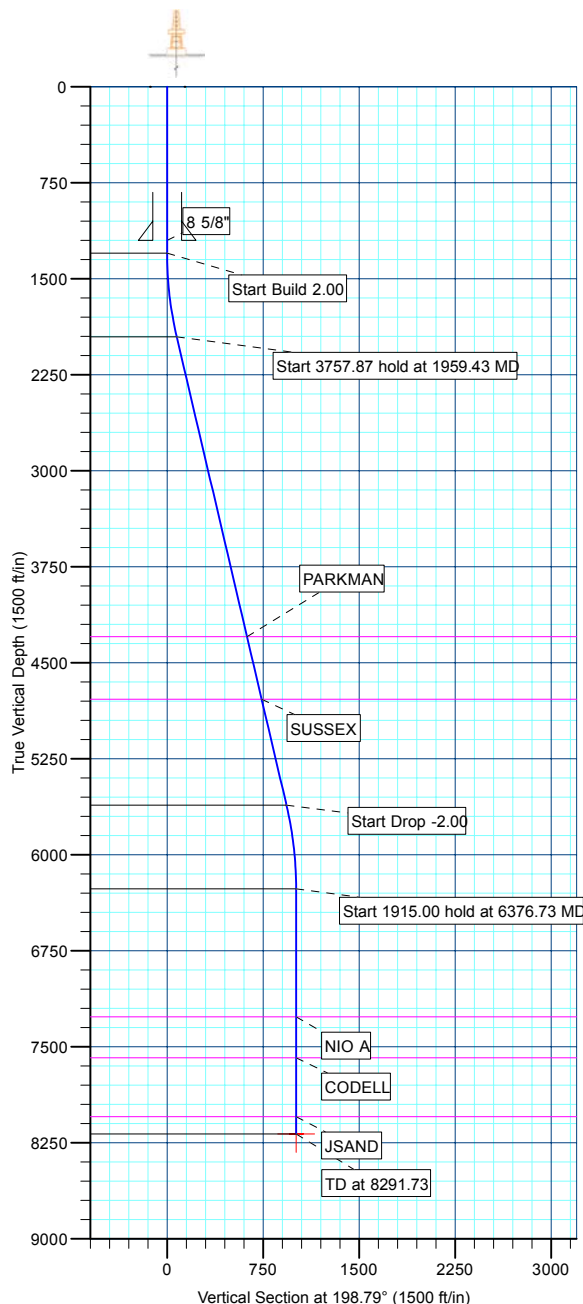
CASING DETAILS			
TVD	MD	Name	Size
1200.00	1200.00	8 5/8"	8.62

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	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1959.43	13.19	198.79	1953.63	-71.53	-24.34	2.00	198.79	75.56	Start 3757.87 hold at 1959.43 MD
5717.30	13.19	198.79	5612.37	-883.22	-300.53	0.00	0.00	932.95	Start Drop -2.00
6376.73	0.00	0.00	6266.00	-954.75	-324.87	2.00	180.00	1008.51	Start 1915.00 hold at 6376.73 MD
8291.73	0.00	0.00	8181.00	-954.75	-324.87	0.00	0.00	1008.51	TD at 8291.73

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8181.00	-954.75	-324.87	40° 4' 53.220 N	104° 45' 2.790 W	Circle (Radius: 50.00)

WELL DETAILS: P_BROWN 5-2						
+N/-S	+E/-W	Northing	Ground Level: Easting	5143.00 Latitude	Longitude	Slot
0.00	0.00	1274360.19	3209961.67	40° 5' 2.655 N	104° 44' 58.610 W	

LEGEND	
JESSER #4-2A EXISTING, JESSER #4-2A EXISTING, JESSER #4-2A EXISTING V0	
P_BROWN 3-2, P_BROWN 3-2, PLAN #1 3-16-10 RHS V0	
P_BROWN 3-2S, P_BROWN 3-2S, PLAN #1 3-16-10 RHS V0	
P_BROWN 4-2, P_BROWN 4-2, PLAN #1 3-16-10 RHS V0	
P_BROWN 5-2S, P_BROWN 5-2S, PLAN #1 3-16-10 RHS V0	
P_BROWN 6-2, P_BROWN 6-2, PLAN #1 3-16-10 RHS V0	
P_BROWN 6-2S, P_BROWN 6-2S, PLAN #1 3-16-10 RHS V0	
P_JESSER 21-2, P_JESSER 21-2, PLAN #1 3-16-10 RHS V0	
P_JESSER 28-2, P_JESSER 28-2, PLAN #1 3-16-10 RHS V0	
P_JESSER 31-2, P_JESSER 31-2, PLAN #1 3-16-10 RHS V0	
P_JESSER 4-2S, P_JESSER 4-2S, PLAN #1 3-16-10 RHS V0	
PLAN #1 3-16-10 RHS	



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 5-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site:	WELD_JESSER 18-2 PAD	North Reference:	True
Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 5-2		
Design:	PLAN #1 3-16-10 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_JESSER 18-2 PAD, SECTION 2 T1N R66W											
Site Position:						Northing:			1,274,361.36ft			Latitude:			40° 5' 2.663 N		
From:			Lat/Long			Easting:			3,210,011.75ft			Longitude:			104° 44' 57.966 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.48 °		

Well	P_BROWN 5-2					
Well Position	+N/-S	-0.75 ft	Northing:	1,274,360.19 ft	Latitude:	40° 5' 2.655 N
	+E/-W	-50.09 ft	Easting:	3,209,961.67 ft	Longitude:	104° 44' 58.610 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,143.00 ft

Wellbore	P_BROWN 5-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/16/2010	9.00	66.84	53,096

Design	PLAN #1 3-16-10 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	198.79

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,959.43	13.19	198.79	1,953.63	-71.53	-24.34	2.00	2.00	0.00	198.79	
5,717.30	13.19	198.79	5,612.37	-883.22	-300.53	0.00	0.00	0.00	0.00	
6,376.73	0.00	0.00	6,266.00	-954.75	-324.87	2.00	-2.00	0.00	180.00	
8,291.73	0.00	0.00	8,181.00	-954.75	-324.87	0.00	0.00	0.00	0.00	PBHL_BROWN 5-2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 5-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site:	WELD_JESSER 18-2 PAD	North Reference:	True
Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 5-2		
Design:	PLAN #1 3-16-10 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									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	2.00	198.79	1,399.98	-1.65	-0.56	1.75	2.00	2.00	0.00
1,500.00	4.00	198.79	1,499.84	-6.61	-2.25	6.98	2.00	2.00	0.00
1,600.00	6.00	198.79	1,599.45	-14.86	-5.06	15.69	2.00	2.00	0.00
1,700.00	8.00	198.79	1,698.70	-26.39	-8.98	27.88	2.00	2.00	0.00
1,800.00	10.00	198.79	1,797.47	-41.20	-14.02	43.52	2.00	2.00	0.00
1,900.00	12.00	198.79	1,895.62	-59.27	-20.17	62.60	2.00	2.00	0.00
Start 3757.87 hold at 1959.43 MD									
1,959.43	13.19	198.79	1,953.63	-71.53	-24.34	75.56	2.00	2.00	0.00
2,000.00	13.19	198.79	1,993.12	-80.30	-27.32	84.82	0.00	0.00	0.00
2,100.00	13.19	198.79	2,090.48	-101.90	-34.67	107.63	0.00	0.00	0.00
2,200.00	13.19	198.79	2,187.85	-123.50	-42.02	130.45	0.00	0.00	0.00
2,300.00	13.19	198.79	2,285.21	-145.09	-49.37	153.26	0.00	0.00	0.00
2,400.00	13.19	198.79	2,382.57	-166.69	-56.72	176.08	0.00	0.00	0.00
2,500.00	13.19	198.79	2,479.93	-188.29	-64.07	198.90	0.00	0.00	0.00
2,600.00	13.19	198.79	2,577.30	-209.89	-71.42	221.71	0.00	0.00	0.00
2,700.00	13.19	198.79	2,674.66	-231.49	-78.77	244.53	0.00	0.00	0.00
2,800.00	13.19	198.79	2,772.02	-253.09	-86.12	267.34	0.00	0.00	0.00
2,900.00	13.19	198.79	2,869.38	-274.69	-93.47	290.16	0.00	0.00	0.00
3,000.00	13.19	198.79	2,966.75	-296.29	-100.82	312.98	0.00	0.00	0.00
3,100.00	13.19	198.79	3,064.11	-317.89	-108.17	335.79	0.00	0.00	0.00
3,200.00	13.19	198.79	3,161.47	-339.49	-115.52	358.61	0.00	0.00	0.00
3,300.00	13.19	198.79	3,258.83	-361.09	-122.87	381.42	0.00	0.00	0.00
3,400.00	13.19	198.79	3,356.20	-382.69	-130.22	404.24	0.00	0.00	0.00
3,500.00	13.19	198.79	3,453.56	-404.29	-137.57	427.05	0.00	0.00	0.00
3,600.00	13.19	198.79	3,550.92	-425.89	-144.92	449.87	0.00	0.00	0.00
3,700.00	13.19	198.79	3,648.28	-447.49	-152.27	472.69	0.00	0.00	0.00
3,800.00	13.19	198.79	3,745.65	-469.09	-159.62	495.50	0.00	0.00	0.00
3,900.00	13.19	198.79	3,843.01	-490.69	-166.97	518.32	0.00	0.00	0.00
4,000.00	13.19	198.79	3,940.37	-512.29	-174.31	541.13	0.00	0.00	0.00
4,100.00	13.19	198.79	4,037.73	-533.89	-181.66	563.95	0.00	0.00	0.00
4,200.00	13.19	198.79	4,135.09	-555.49	-189.01	586.77	0.00	0.00	0.00
4,300.00	13.19	198.79	4,232.46	-577.09	-196.36	609.58	0.00	0.00	0.00
PARKMAN									
4,365.26	13.19	198.79	4,296.00	-591.18	-201.16	624.47	0.00	0.00	0.00
4,400.00	13.19	198.79	4,329.82	-598.69	-203.71	632.40	0.00	0.00	0.00
4,500.00	13.19	198.79	4,427.18	-620.29	-211.06	655.21	0.00	0.00	0.00
4,600.00	13.19	198.79	4,524.54	-641.89	-218.41	678.03	0.00	0.00	0.00
4,700.00	13.19	198.79	4,621.91	-663.49	-225.76	700.84	0.00	0.00	0.00
4,800.00	13.19	198.79	4,719.27	-685.09	-233.11	723.66	0.00	0.00	0.00
SUSSEX									
4,868.54	13.19	198.79	4,786.00	-699.89	-238.15	739.30	0.00	0.00	0.00
4,900.00	13.19	198.79	4,816.63	-706.69	-240.46	746.48	0.00	0.00	0.00
5,000.00	13.19	198.79	4,913.99	-728.29	-247.81	769.29	0.00	0.00	0.00
5,100.00	13.19	198.79	5,011.36	-749.89	-255.16	792.11	0.00	0.00	0.00
5,200.00	13.19	198.79	5,108.72	-771.48	-262.51	814.92	0.00	0.00	0.00
5,300.00	13.19	198.79	5,206.08	-793.08	-269.86	837.74	0.00	0.00	0.00
5,400.00	13.19	198.79	5,303.44	-814.68	-277.21	860.56	0.00	0.00	0.00
5,500.00	13.19	198.79	5,400.81	-836.28	-284.56	883.37	0.00	0.00	0.00
5,600.00	13.19	198.79	5,498.17	-857.88	-291.91	906.19	0.00	0.00	0.00
5,700.00	13.19	198.79	5,595.53	-879.48	-299.26	929.00	0.00	0.00	0.00
Start Drop -2.00									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 5-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site:	WELD_JESSER 18-2 PAD	North Reference:	True
Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 5-2		
Design:	PLAN #1 3-16-10 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,717.30	13.19	198.79	5,612.37	-883.22	-300.53	932.95	0.00	0.00	0.00
5,800.00	11.53	198.79	5,693.15	-899.98	-306.23	950.65	2.00	-2.00	0.00
5,900.00	9.53	198.79	5,791.46	-917.29	-312.12	968.94	2.00	-2.00	0.00
6,000.00	7.53	198.79	5,890.35	-931.34	-316.90	983.78	2.00	-2.00	0.00
6,100.00	5.53	198.79	5,989.70	-942.11	-320.57	995.16	2.00	-2.00	0.00
6,200.00	3.53	198.79	6,089.38	-949.59	-323.11	1,003.06	2.00	-2.00	0.00
6,300.00	1.53	198.79	6,189.28	-953.78	-324.54	1,007.48	2.00	-2.00	0.00
Start 1915.00 hold at 6376.73 MD									
6,376.73	0.00	0.00	6,266.00	-954.75	-324.87	1,008.51	2.00	-2.00	210.09
6,400.00	0.00	0.00	6,289.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
6,500.00	0.00	0.00	6,389.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
6,600.00	0.00	0.00	6,489.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
6,700.00	0.00	0.00	6,589.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
6,800.00	0.00	0.00	6,689.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
6,900.00	0.00	0.00	6,789.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,000.00	0.00	0.00	6,889.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,100.00	0.00	0.00	6,989.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,200.00	0.00	0.00	7,089.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,300.00	0.00	0.00	7,189.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
NIO A									
7,376.73	0.00	0.00	7,266.00	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,400.00	0.00	0.00	7,289.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,500.00	0.00	0.00	7,389.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,600.00	0.00	0.00	7,489.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
CODELL									
7,696.73	0.00	0.00	7,586.00	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,700.00	0.00	0.00	7,589.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,800.00	0.00	0.00	7,689.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
7,900.00	0.00	0.00	7,789.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
8,000.00	0.00	0.00	7,889.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
8,100.00	0.00	0.00	7,989.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
JSAND									
8,156.73	0.00	0.00	8,046.00	-954.75	-324.87	1,008.51	0.00	0.00	0.00
8,200.00	0.00	0.00	8,089.27	-954.75	-324.87	1,008.51	0.00	0.00	0.00
PBHL_BROWN 5-2(2130 FNL 810 FWL)									
8,291.73	0.00	0.00	8,181.00	-954.75	-324.87	1,008.51	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_BROWN 5-2(2	0.00	0.00	8,181.00	-954.75	-324.87	1,273,402.73	3,209,644.89	40° 4' 53.220 N	104° 45' 2.790 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 5-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site:	WELD_JESSER 18-2 PAD	North Reference:	True
Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 5-2		
Design:	PLAN #1 3-16-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,200.00	1,200.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,365.26	4,296.00	PARKMAN				
4,868.54	4,786.00	SUSSEX				
7,376.73	7,266.00	NIO A				
7,696.73	7,586.00	CODELL				
8,156.73	8,046.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,300.00	1,300.00	0.00	0.00	Start Build 2.00	
1,959.43	1,953.63	-71.53	-24.34	Start 3757.87 hold at 1959.43 MD	
5,717.30	5,612.37	-883.22	-300.53	Start Drop -2.00	
6,376.73	6,266.00	-954.75	-324.87	Start 1915.00 hold at 6376.73 MD	
8,291.73	8,181.00	-954.75	-324.87	TD at 8291.73	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_JESSER 18-2 PAD
P_BROWN 5-2**

**P_BROWN 5-2
PLAN #1 3-16-10 RHS**

Anticollision Report

16 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 3-16-10 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 3/16/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,291.73	PLAN #1 3-16-10 RHS (P_BROWN 5-2)	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_JESSER 18-2 PAD						
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,300.00	1,279.00	52.24	0.28	1.005	Level 2, CC
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,400.00	1,378.98	53.55	-2.59	0.954	Level 1, SF
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,500.00	1,478.84	57.63	-2.61	0.957	Level 1, ES
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,300.00	1,300.00	50.09	44.51	8.968	CC, ES
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,400.00	1,398.57	52.07	46.07	8.683	SF
P_BROWN 3-2S - P_BROWN 3-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	69.96	64.37	12.525	CC, ES
P_BROWN 3-2S - P_BROWN 3-2S - PLAN #1 3-16-10 F	1,400.00	1,398.26	71.76	65.77	11.974	SF
P_BROWN 4-2 - P_BROWN 4-2 - PLAN #1 3-16-10 RHS	1,445.77	1,446.73	39.47	33.29	6.384	CC, ES
P_BROWN 4-2 - P_BROWN 4-2 - PLAN #1 3-16-10 RHS	1,500.00	1,500.97	39.89	33.50	6.239	SF
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	10.07	4.49	1.803	CC
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,400.00	1,399.87	10.18	4.20	1.703	ES
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,500.00	1,499.75	10.65	4.32	1.682	SF
P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS	1,300.00	1,300.00	19.87	14.28	3.557	CC, ES, SF
P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	10.08	4.49	1.805	CC, ES, SF
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	80.03	74.44	14.328	CC, ES
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,400.00	1,397.22	82.31	76.33	13.754	SF
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	59.88	54.30	10.721	CC, ES
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,400.00	1,398.29	61.86	55.86	10.317	SF
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	20.15	14.56	3.607	CC, ES
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,400.00	1,399.27	21.36	15.37	3.567	SF
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,474.23	1,475.16	29.07	22.79	4.626	CC
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,500.00	1,500.96	29.16	22.78	4.569	ES, SF

Offset Design WELD_JESSER 18-2 PAD - JESSER #4-2A EXISTING - JESSER #4-2A EXISTING - JESSER #4-2A E											
Survey Program: 0-UNKNOWN											
Reference Offset Semi Major Axis											
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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)
0.00	0.00	0.00	0.00	0.00	0.00	-23.02	48.08	-20.43	56.30		
100.00	100.00	79.00	79.00	0.10	1.58	-23.02	48.08	-20.43	52.24	50.56	1.68
200.00	200.00	179.00	179.00	0.32	5.16	-23.02	48.08	-20.43	52.24	46.76	5.48
300.00	300.00	279.00	279.00	0.55	9.16	-23.02	48.08	-20.43	52.24	42.53	9.71
400.00	400.00	379.00	379.00	0.77	13.16	-23.02	48.08	-20.43	52.24	38.31	13.93
500.00	500.00	479.00	479.00	0.99	17.16	-23.02	48.08	-20.43	52.24	34.08	18.15
											2.877

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis					Distance						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	
600.00	600.00	579.00	579.00	1.22	21.16	-23.02	48.08	-20.43	52.24	29.86	22.38	2.334	
700.00	700.00	679.00	679.00	1.44	25.16	-23.02	48.08	-20.43	52.24	25.63	26.60	1.963	
800.00	800.00	779.00	779.00	1.67	29.16	-23.02	48.08	-20.43	52.24	21.41	30.83	1.694	
900.00	900.00	879.00	879.00	1.89	33.16	-23.02	48.08	-20.43	52.24	17.18	35.05	1.490 Level 3	
1,000.00	1,000.00	979.00	979.00	2.12	37.16	-23.02	48.08	-20.43	52.24	12.96	39.28	1.330 Level 3	
1,100.00	1,100.00	1,079.00	1,079.00	2.34	41.16	-23.02	48.08	-20.43	52.24	8.73	43.50	1.201 Level 2	
1,200.00	1,200.00	1,179.00	1,179.00	2.57	45.16	-23.02	48.08	-20.43	52.24	4.51	47.73	1.094 Level 2	
1,300.00	1,300.00	1,279.00	1,279.00	2.79	49.16	-23.02	48.08	-20.43	52.24	0.28	51.95	1.005 Level 2, CC	
1,400.00	1,399.98	1,378.98	1,378.98	2.99	53.16	139.42	48.08	-20.43	53.55	-2.59	56.14	0.954 Level 1, SF	
1,500.00	1,499.84	1,478.84	1,478.84	3.16	57.15	142.75	48.08	-20.43	57.63	-2.61	60.24	0.957 Level 1, ES	
1,600.00	1,599.45	1,578.45	1,578.45	3.35	61.14	147.34	48.08	-20.43	64.78	0.52	64.26	1.008 Level 2	
1,700.00	1,698.70	1,677.70	1,677.70	3.56	65.11	152.24	48.08	-20.43	75.34	7.18	68.17	1.105 Level 2	
1,800.00	1,797.47	1,776.47	1,776.47	3.79	69.06	156.79	48.08	-20.43	89.51	17.58	71.93	1.244 Level 2	
1,900.00	1,895.62	1,874.62	1,874.62	4.07	72.98	160.68	48.08	-20.43	107.34	31.82	75.52	1.421 Level 3	
1,959.43	1,953.63	1,932.63	1,932.63	4.25	75.31	162.65	48.08	-20.43	119.67	42.09	77.58	1.543	
2,000.00	1,993.12	1,972.12	1,972.12	4.38	76.88	163.88	48.08	-20.43	128.56	49.37	79.19	1.623	
2,100.00	2,090.48	2,069.48	2,069.48	4.73	80.78	166.29	48.08	-20.43	150.65	67.49	83.16	1.811	
2,200.00	2,187.85	2,166.85	2,166.85	5.11	84.67	168.08	48.08	-20.43	172.93	85.77	87.16	1.984	
2,300.00	2,285.21	2,264.21	2,264.21	5.50	88.57	169.46	48.08	-20.43	195.33	104.17	91.16	2.143	
2,400.00	2,382.57	2,361.57	2,361.57	5.91	92.46	170.56	48.08	-20.43	217.82	122.64	95.18	2.289	
2,500.00	2,479.93	2,458.93	2,458.93	6.33	96.36	171.45	48.08	-20.43	240.37	141.17	99.20	2.423	
2,600.00	2,577.30	2,556.30	2,556.30	6.75	100.25	172.19	48.08	-20.43	262.96	159.73	103.23	2.547	
2,700.00	2,674.66	2,653.66	2,653.66	7.19	104.15	172.81	48.08	-20.43	285.59	178.33	107.26	2.663	
2,800.00	2,772.02	2,751.02	2,751.02	7.63	108.04	173.34	48.08	-20.43	308.25	196.95	111.30	2.770	
2,900.00	2,869.38	2,848.38	2,848.38	8.08	111.94	173.80	48.08	-20.43	330.93	215.60	115.34	2.869	
3,000.00	2,966.75	2,945.75	2,945.75	8.54	115.83	174.20	48.08	-20.43	353.63	234.25	119.38	2.962	
3,100.00	3,064.11	3,043.11	3,043.11	8.99	119.72	174.55	48.08	-20.43	376.34	252.92	123.42	3.049	
3,200.00	3,161.47	3,140.47	3,140.47	9.46	123.62	174.86	48.08	-20.43	399.06	271.60	127.47	3.131	
3,300.00	3,258.83	3,237.83	3,237.83	9.92	127.51	175.14	48.08	-20.43	421.80	290.28	131.52	3.207	
3,400.00	3,356.20	3,335.20	3,335.20	10.39	131.41	175.39	48.08	-20.43	444.54	308.97	135.57	3.279	
3,500.00	3,453.56	3,432.56	3,432.56	10.85	135.30	175.61	48.08	-20.43	467.29	327.67	139.62	3.347	
3,600.00	3,550.92	3,529.92	3,529.92	11.32	139.20	175.81	48.08	-20.43	490.04	346.37	143.67	3.411	
3,700.00	3,648.28	3,627.28	3,627.28	11.80	143.09	176.00	48.08	-20.43	512.80	365.08	147.72	3.471	
3,800.00	3,745.65	3,724.65	3,724.65	12.27	146.99	176.17	48.08	-20.43	535.57	383.79	151.78	3.529	
3,900.00	3,843.01	3,822.01	3,822.01	12.74	150.88	176.33	48.08	-20.43	558.34	402.51	155.83	3.583	
4,000.00	3,940.37	3,919.37	3,919.37	13.22	154.77	176.47	48.08	-20.43	581.11	421.22	159.89	3.634	
4,100.00	4,037.73	4,016.73	4,016.73	13.70	158.67	176.60	48.08	-20.43	603.89	439.94	163.95	3.683	
4,200.00	4,135.09	4,114.09	4,114.09	14.18	162.56	176.73	48.08	-20.43	626.67	458.66	168.00	3.730	
4,300.00	4,232.46	4,211.46	4,211.46	14.65	166.46	176.84	48.08	-20.43	649.45	477.39	172.06	3.775	
4,400.00	4,329.82	4,308.82	4,308.82	15.13	170.35	176.95	48.08	-20.43	672.23	496.11	176.12	3.817	
4,500.00	4,427.18	4,406.18	4,406.18	15.62	174.25	177.05	48.08	-20.43	695.02	514.84	180.18	3.857	
4,600.00	4,524.54	4,503.54	4,503.54	16.10	178.14	177.14	48.08	-20.43	717.81	533.57	184.24	3.896	
4,700.00	4,621.91	4,600.91	4,600.91	16.58	182.04	177.23	48.08	-20.43	740.60	552.30	188.30	3.933	
4,800.00	4,719.27	4,698.27	4,698.27	17.06	185.93	177.31	48.08	-20.43	763.39	571.03	192.36	3.969	
4,900.00	4,816.63	4,795.63	4,795.63	17.54	189.83	177.39	48.08	-20.43	786.18	589.76	196.42	4.003	
5,000.00	4,913.99	4,892.99	4,892.99	18.03	193.72	177.47	48.08	-20.43	808.98	608.49	200.48	4.035	
5,100.00	5,011.36	4,990.36	4,990.36	18.51	197.61	177.54	48.08	-20.43	831.77	627.22	204.55	4.066	
5,200.00	5,108.72	5,087.72	5,087.72	18.99	201.51	177.60	48.08	-20.43	854.57	645.96	208.61	4.097	
5,300.00	5,206.08	5,185.08	5,185.08	19.48	205.40	177.66	48.08	-20.43	877.36	664.69	212.67	4.125	
5,400.00	5,303.44	5,282.44	5,282.44	19.96	209.30	177.72	48.08	-20.43	900.16	683.43	216.73	4.153	
5,500.00	5,400.81	5,379.81	5,379.81	20.45	213.19	177.78	48.08	-20.43	922.96	702.17	220.80	4.180	
5,600.00	5,498.17	5,477.17	5,477.17	20.93	217.09	177.83	48.08	-20.43	945.76	720.90	224.86	4.206	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_JESSER 18-2 PAD - JESSER #4-2A EXISTING - JESSER #4-2A EXISTING - JESSER #4-2A E												Offset Well Error:	0.00 ft
Survey Program: 0-UNKNOWN													
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
5,700.00	5,595.53	5,574.53	5,574.53	21.42	220.98	177.88	48.08	-20.43	968.56	739.64	228.92	4.231	
5,717.30	5,612.37	5,591.37	5,591.37	21.50	221.65	177.89	48.08	-20.43	972.51	742.88	229.63	4.235	
5,800.00	5,693.15	5,672.15	5,672.15	21.84	224.89	177.94	48.08	-20.43	990.20	755.89	234.31	4.226	
5,900.00	5,791.46	5,770.46	5,770.46	22.14	228.82	177.99	48.08	-20.43	1,008.47	768.63	239.84	4.205	
6,000.00	5,890.35	5,869.35	5,869.35	22.40	232.77	178.03	48.08	-20.43	1,023.30	778.15	245.15	4.174	
6,100.00	5,989.70	5,968.70	5,968.70	22.63	236.75	178.06	48.08	-20.43	1,034.68	784.47	250.20	4.135	
6,200.00	6,089.38	6,068.38	6,068.38	22.83	240.74	178.08	48.08	-20.43	1,042.58	787.60	254.98	4.089	
6,300.00	6,189.28	6,168.28	6,168.28	22.98	244.73	178.09	48.08	-20.43	1,047.00	787.54	259.46	4.035	
6,376.73	6,266.00	6,245.00	6,245.00	23.08	247.80	16.89	48.08	-20.43	1,048.02	785.33	262.69	3.990	
6,400.00	6,289.27	6,268.27	6,268.27	23.11	248.73	16.89	48.08	-20.43	1,048.02	784.36	263.67	3.975	
6,500.00	6,389.27	6,368.27	6,368.27	23.22	252.73	16.89	48.08	-20.43	1,048.02	780.19	267.84	3.913	
6,600.00	6,489.27	6,468.27	6,468.27	23.33	256.73	16.89	48.08	-20.43	1,048.02	776.02	272.01	3.853	
6,700.00	6,589.27	6,568.27	6,568.27	23.44	260.73	16.89	48.08	-20.43	1,048.02	771.84	276.18	3.795	
6,800.00	6,689.27	6,668.27	6,668.27	23.55	264.73	16.89	48.08	-20.43	1,048.02	767.67	280.36	3.738	
6,900.00	6,789.27	6,768.27	6,768.27	23.66	268.73	16.89	48.08	-20.43	1,048.02	763.49	284.53	3.683	
7,000.00	6,889.27	6,868.27	6,868.27	23.78	272.73	16.89	48.08	-20.43	1,048.02	759.31	288.71	3.630	
7,100.00	6,989.27	6,968.27	6,968.27	23.90	276.73	16.89	48.08	-20.43	1,048.02	755.13	292.89	3.578	
7,200.00	7,089.27	7,068.27	7,068.27	24.01	280.73	16.89	48.08	-20.43	1,048.02	750.95	297.07	3.528	
7,300.00	7,189.27	7,168.27	7,168.27	24.13	284.73	16.89	48.08	-20.43	1,048.02	746.77	301.25	3.479	
7,400.00	7,289.27	7,268.27	7,268.27	24.26	288.73	16.89	48.08	-20.43	1,048.02	742.59	305.43	3.431	
7,500.00	7,389.27	7,368.27	7,368.27	24.38	292.73	16.89	48.08	-20.43	1,048.02	738.41	309.62	3.385	
7,600.00	7,489.27	7,468.27	7,468.27	24.50	296.73	16.89	48.08	-20.43	1,048.02	734.22	313.80	3.340	
7,700.00	7,589.27	7,568.27	7,568.27	24.63	300.73	16.89	48.08	-20.43	1,048.02	730.04	317.98	3.296	
7,800.00	7,689.27	7,668.27	7,668.27	24.76	304.73	16.89	48.08	-20.43	1,048.02	725.85	322.17	3.253	
7,900.00	7,789.27	7,768.27	7,768.27	24.89	308.73	16.89	48.08	-20.43	1,048.02	721.67	326.36	3.211	
8,000.00	7,889.27	7,868.27	7,868.27	25.02	312.73	16.89	48.08	-20.43	1,048.02	717.48	330.54	3.171	
8,100.00	7,989.27	7,968.27	7,968.27	25.15	316.73	16.89	48.08	-20.43	1,048.02	713.29	334.73	3.131	
8,200.00	8,089.27	8,068.27	8,068.27	25.28	320.73	16.89	48.08	-20.43	1,048.02	709.10	338.92	3.092	
8,291.73	8,181.00	8,160.00	8,160.00	25.40	324.40	16.89	48.08	-20.43	1,048.02	705.26	342.77	3.058	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 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	89.14	0.75	50.09	50.09				
100.00	100.00	100.00	100.00	0.10	0.10	89.14	0.75	50.09	50.09	49.90	0.19	262.188	
200.00	200.00	200.00	200.00	0.32	0.32	89.14	0.75	50.09	50.09	49.45	0.64	78.197	
300.00	300.00	300.00	300.00	0.55	0.55	89.14	0.75	50.09	50.09	49.00	1.09	45.951	
400.00	400.00	400.00	400.00	0.77	0.77	89.14	0.75	50.09	50.09	48.55	1.54	32.534	
500.00	500.00	500.00	500.00	0.99	0.99	89.14	0.75	50.09	50.09	48.10	1.99	25.182	
600.00	600.00	600.00	600.00	1.22	1.22	89.14	0.75	50.09	50.09	47.65	2.44	20.540	
700.00	700.00	700.00	700.00	1.44	1.44	89.14	0.75	50.09	50.09	47.20	2.89	17.343	
800.00	800.00	800.00	800.00	1.67	1.67	89.14	0.75	50.09	50.09	46.75	3.34	15.007	
900.00	900.00	900.00	900.00	1.89	1.89	89.14	0.75	50.09	50.09	46.30	3.79	13.226	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.14	0.75	50.09	50.09	45.85	4.24	11.823	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.14	0.75	50.09	50.09	45.41	4.69	10.689	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.14	0.75	50.09	50.09	44.96	5.14	9.753	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.14	0.75	50.09	50.09	44.51	5.59	8.968 CC, ES	
1,400.00	1,399.98	1,398.57	1,398.55	2.99	3.01	-112.59	1.86	51.37	52.07	46.07	6.00	8.683 SF	
1,500.00	1,499.84	1,496.48	1,496.32	3.16	3.22	-120.08	5.14	55.19	58.73	52.36	6.38	9.210	
1,600.00	1,599.45	1,593.09	1,592.58	3.35	3.44	-129.08	10.52	61.44	71.50	64.74	6.76	10.579	
1,700.00	1,698.70	1,687.81	1,686.62	3.56	3.67	-137.06	17.85	69.95	91.29	84.15	7.14	12.790	
1,800.00	1,797.47	1,780.07	1,777.83	3.79	3.91	-143.15	26.93	80.50	118.16	110.65	7.51	15.733	
1,900.00	1,895.62	1,869.39	1,865.65	4.07	4.16	-147.51	37.55	92.83	151.78	143.91	7.88	19.266	
1,959.43	1,953.63	1,920.91	1,916.06	4.25	4.32	-149.47	44.48	100.88	174.79	166.69	8.09	21.594	
2,000.00	1,993.12	1,955.46	1,949.76	4.38	4.44	-150.73	49.46	106.66	191.49	183.23	8.26	23.183	
2,100.00	2,090.48	2,043.76	2,035.60	4.73	4.75	-153.14	62.95	122.34	234.18	225.49	8.69	26.961	
2,200.00	2,187.85	2,133.75	2,123.06	5.11	5.09	-154.85	76.78	138.39	277.23	268.11	9.13	30.374	
2,300.00	2,285.21	2,223.75	2,210.52	5.50	5.44	-156.10	90.61	154.45	320.43	310.85	9.58	33.449	
2,400.00	2,382.57	2,313.74	2,297.99	5.91	5.80	-157.06	104.43	170.51	363.73	353.69	10.04	36.220	
2,500.00	2,479.93	2,403.73	2,385.45	6.33	6.18	-157.81	118.26	186.57	407.09	396.58	10.51	38.724	
2,600.00	2,577.30	2,493.73	2,472.92	6.75	6.57	-158.42	132.09	202.63	450.50	439.51	10.99	40.990	
2,700.00	2,674.66	2,583.72	2,560.38	7.19	6.96	-158.92	145.91	218.69	493.94	482.47	11.47	43.046	
2,800.00	2,772.02	2,673.72	2,647.84	7.63	7.36	-159.34	159.74	234.75	537.41	525.45	11.96	44.918	
2,900.00	2,869.38	2,763.71	2,735.31	8.08	7.76	-159.69	173.57	250.81	580.90	568.44	12.46	46.627	
3,000.00	2,966.75	2,853.71	2,822.77	8.54	8.17	-160.00	187.39	266.87	624.40	611.44	12.96	48.191	
3,100.00	3,064.11	2,943.70	2,910.24	8.99	8.58	-160.27	201.22	282.93	667.92	654.46	13.46	49.628	
3,200.00	3,161.47	3,033.70	2,997.70	9.46	9.00	-160.50	215.05	298.99	711.44	697.48	13.96	50.950	
3,300.00	3,258.83	3,123.69	3,085.16	9.92	9.42	-160.71	228.87	315.05	754.98	740.50	14.47	52.169	
3,400.00	3,356.20	3,213.69	3,172.63	10.39	9.84	-160.90	242.70	331.11	798.52	783.54	14.98	53.297	
3,500.00	3,453.56	3,303.68	3,260.09	10.85	10.26	-161.06	256.53	347.16	842.07	826.57	15.50	54.343	
3,600.00	3,550.92	3,393.68	3,347.56	11.32	10.69	-161.21	270.35	363.22	885.62	869.61	16.01	55.315	
3,700.00	3,648.28	3,483.67	3,435.02	11.80	11.12	-161.35	284.18	379.28	929.18	912.65	16.53	56.219	
3,800.00	3,745.65	3,573.66	3,522.48	12.27	11.54	-161.47	298.01	395.34	972.74	955.69	17.05	57.063	
3,900.00	3,843.01	3,663.66	3,609.95	12.74	11.97	-161.58	311.83	411.40	1,016.30	998.73	17.57	57.851	
4,000.00	3,940.37	3,753.65	3,697.41	13.22	12.40	-161.69	325.66	427.46	1,059.87	1,041.78	18.09	58.590	
4,100.00	4,037.73	3,843.65	3,784.88	13.70	12.84	-161.78	339.49	443.52	1,103.44	1,084.83	18.61	59.284	
4,200.00	4,135.09	3,933.64	3,872.34	14.18	13.27	-161.87	353.31	459.58	1,147.01	1,127.87	19.14	59.936	
4,300.00	4,232.46	4,023.64	3,959.80	14.65	13.70	-161.95	367.14	475.64	1,190.59	1,170.92	19.66	60.549	
4,400.00	4,329.82	4,113.63	4,047.27	15.13	14.14	-162.03	380.97	491.70	1,234.16	1,213.97	20.19	61.128	
4,500.00	4,427.18	4,203.63	4,134.73	15.62	14.57	-162.10	394.79	507.76	1,277.74	1,257.02	20.72	61.674	
4,600.00	4,524.54	4,293.62	4,222.20	16.10	15.01	-162.16	408.62	523.82	1,321.32	1,300.07	21.25	62.191	
4,700.00	4,621.91	4,383.62	4,309.66	16.58	15.45	-162.23	422.45	539.88	1,364.90	1,343.12	21.78	62.680	
4,800.00	4,719.27	4,473.61	4,397.12	17.06	15.88	-162.28	436.27	555.93	1,408.48	1,386.18	22.31	63.144	
4,900.00	4,816.63	4,563.60	4,484.59	17.54	16.32	-162.34	450.10	571.99	1,452.06	1,429.23	22.84	63.584	
5,000.00	4,913.99	4,653.60	4,572.05	18.03	16.76	-162.39	463.93	588.05	1,495.65	1,472.28	23.37	64.003	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	5,011.36	4,743.59	4,659.52	18.51	17.20	-162.44	477.75	604.11	1,539.23	1,515.33	23.90	64.401	
5,200.00	5,108.72	4,833.59	4,746.98	18.99	17.64	-162.48	491.58	620.17	1,582.82	1,558.39	24.43	64.781	
5,300.00	5,206.08	4,923.58	4,834.44	19.48	18.08	-162.53	505.41	636.23	1,626.41	1,601.44	24.97	65.143	
5,400.00	5,303.44	5,013.58	4,921.91	19.96	18.52	-162.57	519.23	652.29	1,669.99	1,644.49	25.50	65.488	
5,500.00	5,400.81	5,103.57	5,009.37	20.45	18.96	-162.61	533.06	668.35	1,713.58	1,687.55	26.04	65.818	
5,600.00	5,498.17	5,193.57	5,096.84	20.93	19.40	-162.64	546.89	684.41	1,757.17	1,730.60	26.57	66.134	
5,700.00	5,595.53	5,283.56	5,184.30	21.42	19.84	-162.68	560.71	700.47	1,800.76	1,773.65	27.11	66.436	
5,717.30	5,612.37	5,299.13	5,199.43	21.50	19.92	-162.69	563.11	703.25	1,808.30	1,781.10	27.20	66.487	
5,800.00	5,693.15	5,374.05	5,272.24	21.84	20.28	-162.93	574.62	716.61	1,843.32	1,815.55	27.76	66.392	
5,900.00	5,791.46	5,465.88	5,361.49	22.14	20.73	-163.17	588.72	733.00	1,882.88	1,854.48	28.40	66.297	
6,000.00	5,890.35	5,558.98	5,451.97	22.40	21.19	-163.35	603.03	749.62	1,919.35	1,890.35	29.01	66.170	
6,100.00	5,989.70	5,653.22	5,543.56	22.63	21.65	-163.47	617.51	766.43	1,952.69	1,923.11	29.58	66.018	
6,200.00	6,089.38	5,886.63	5,771.98	22.83	22.50	-163.44	648.66	802.61	1,980.51	1,950.13	30.38	65.202	
6,300.00	6,189.28	6,189.60	6,072.87	22.98	23.23	-163.40	670.93	828.49	1,995.68	1,964.50	31.17	64.016	
6,376.73	6,266.00	6,382.83	6,266.00	23.08	23.51	35.39	674.31	832.41	1,998.29	1,966.65	31.64	63.164	
6,400.00	6,289.27	6,406.09	6,289.27	23.11	23.53	35.39	674.31	832.41	1,998.29	1,966.57	31.72	63.005	
6,500.00	6,389.27	6,506.09	6,389.27	23.22	23.66	35.39	674.31	832.41	1,998.29	1,966.23	32.06	62.325	
6,600.00	6,489.27	6,606.09	6,489.27	23.33	23.79	35.39	674.31	832.41	1,998.29	1,965.88	32.41	61.655	
6,700.00	6,589.27	6,706.09	6,589.27	23.44	23.92	35.39	674.31	832.41	1,998.29	1,965.53	32.76	60.995	
6,800.00	6,689.27	6,806.09	6,689.27	23.55	24.05	35.39	674.31	832.41	1,998.29	1,965.17	33.12	60.344	
6,900.00	6,789.27	6,906.09	6,789.27	23.66	24.18	35.39	674.31	832.41	1,998.29	1,964.82	33.47	59.703	
7,000.00	6,889.27	7,006.09	6,889.27	23.78	24.32	35.39	674.31	832.41	1,998.29	1,964.46	33.83	59.071	
7,100.00	6,989.27	7,106.09	6,989.27	23.90	24.45	35.39	674.31	832.41	1,998.29	1,964.10	34.19	58.449	
7,200.00	7,089.27	7,206.09	7,089.27	24.01	24.59	35.39	674.31	832.41	1,998.29	1,963.74	34.55	57.836	
7,300.00	7,189.27	7,306.09	7,189.27	24.13	24.73	35.39	674.31	832.41	1,998.29	1,963.37	34.91	57.233	
7,400.00	7,289.27	7,406.09	7,289.27	24.26	24.87	35.39	674.31	832.41	1,998.29	1,963.01	35.28	56.639	
7,500.00	7,389.27	7,506.09	7,389.27	24.38	25.01	35.39	674.31	832.41	1,998.29	1,962.64	35.65	56.055	
7,600.00	7,489.27	7,606.09	7,489.27	24.50	25.15	35.39	674.31	832.41	1,998.29	1,962.27	36.02	55.479	
7,700.00	7,589.27	7,706.09	7,589.27	24.63	25.29	35.39	674.31	832.41	1,998.29	1,961.90	36.39	54.912	
7,800.00	7,689.27	7,806.09	7,689.27	24.76	25.44	35.39	674.31	832.41	1,998.29	1,961.52	36.76	54.355	
7,900.00	7,789.27	7,906.09	7,789.27	24.89	25.58	35.39	674.31	832.41	1,998.29	1,961.15	37.14	53.806	
8,000.00	7,889.27	8,006.09	7,889.27	25.02	25.73	35.39	674.31	832.41	1,998.29	1,960.77	37.52	53.266	
8,100.00	7,989.27	8,106.09	7,989.27	25.15	25.87	35.39	674.31	832.41	1,998.29	1,960.39	37.89	52.734	
8,200.00	8,089.27	8,206.09	8,089.27	25.28	26.02	35.39	674.31	832.41	1,998.29	1,960.01	38.27	52.211	
8,252.08	8,141.34	8,258.17	8,141.34	25.35	26.10	35.39	674.31	832.41	1,998.29	1,959.82	38.47	51.941	
8,291.73	8,181.00	8,276.83	8,160.00	25.40	26.13	35.39	674.31	832.41	1,998.40	1,959.82	38.58	51.797	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.41	0.72	69.95	69.96				
100.00	100.00	100.00	100.00	0.10	0.10	89.41	0.72	69.95	69.96	69.76	0.19	366.163	
200.00	200.00	200.00	200.00	0.32	0.32	89.41	0.72	69.95	69.96	69.32	0.64	109.207	
300.00	300.00	300.00	300.00	0.55	0.55	89.41	0.72	69.95	69.96	68.87	1.09	64.173	
400.00	400.00	400.00	400.00	0.77	0.77	89.41	0.72	69.95	69.96	68.42	1.54	45.436	
500.00	500.00	500.00	500.00	0.99	0.99	89.41	0.72	69.95	69.96	67.97	1.99	35.168	
600.00	600.00	600.00	600.00	1.22	1.22	89.41	0.72	69.95	69.96	67.52	2.44	28.686	
700.00	700.00	700.00	700.00	1.44	1.44	89.41	0.72	69.95	69.96	67.07	2.89	24.221	
800.00	800.00	800.00	800.00	1.67	1.67	89.41	0.72	69.95	69.96	66.62	3.34	20.959	
900.00	900.00	900.00	900.00	1.89	1.89	89.41	0.72	69.95	69.96	66.17	3.79	18.471	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.41	0.72	69.95	69.96	65.72	4.24	16.511	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.41	0.72	69.95	69.96	65.27	4.69	14.928	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.41	0.72	69.95	69.96	64.82	5.14	13.621	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.41	0.72	69.95	69.96	64.37	5.59	12.525 CC, ES	
1,400.00	1,399.98	1,398.26	1,398.25	2.99	3.01	-111.01	1.20	71.12	71.76	65.77	5.99	11.974 SF	
1,500.00	1,499.84	1,496.09	1,496.00	3.16	3.21	-115.41	2.63	74.61	77.50	71.14	6.37	12.171	
1,600.00	1,599.45	1,593.09	1,592.80	3.35	3.42	-121.34	4.98	80.35	87.93	81.18	6.75	13.029	
1,700.00	1,698.70	1,688.84	1,688.17	3.56	3.64	-127.47	8.22	88.25	103.74	96.61	7.14	14.540	
1,800.00	1,797.47	1,782.98	1,781.69	3.79	3.87	-132.91	12.28	98.17	125.28	117.76	7.52	16.649	
1,900.00	1,895.62	1,875.13	1,872.96	4.07	4.11	-137.35	17.11	109.94	152.56	144.64	7.92	19.268	
1,959.43	1,953.63	1,928.84	1,926.00	4.25	4.25	-139.51	20.30	117.74	171.42	163.26	8.15	21.024	
2,000.00	1,993.12	1,965.08	1,961.73	4.38	4.36	-140.94	22.62	123.40	185.18	176.85	8.33	22.232	
2,100.00	2,090.48	2,053.44	2,048.56	4.73	4.63	-143.59	28.80	138.49	220.96	212.19	8.77	25.185	
2,200.00	2,187.85	2,140.32	2,133.56	5.11	4.92	-145.38	35.62	155.14	259.11	249.88	9.23	28.071	
2,300.00	2,285.21	2,225.69	2,216.66	5.50	5.23	-146.59	43.04	173.24	299.42	289.72	9.70	30.869	
2,400.00	2,382.57	2,309.50	2,297.78	5.91	5.56	-147.40	51.00	192.67	341.73	331.55	10.18	33.573	
2,500.00	2,479.93	2,391.70	2,376.90	6.33	5.92	-147.94	59.47	213.33	385.95	375.28	10.67	36.177	
2,600.00	2,577.30	2,474.72	2,456.31	6.75	6.32	-148.30	68.64	235.72	431.91	420.74	11.17	38.657	
2,700.00	2,674.66	2,563.26	2,540.88	7.19	6.76	-148.58	78.59	260.00	478.35	466.64	11.70	40.872	
2,800.00	2,772.02	2,651.81	2,625.44	7.63	7.21	-148.82	88.54	284.29	524.79	512.54	12.24	42.867	
2,900.00	2,869.38	2,740.35	2,710.01	8.08	7.68	-149.02	98.49	308.57	571.23	558.44	12.79	44.665	
3,000.00	2,966.75	2,828.89	2,794.57	8.54	8.16	-149.19	108.44	332.86	617.68	604.34	13.34	46.291	
3,100.00	3,064.11	2,917.44	2,879.13	8.99	8.64	-149.33	118.39	357.15	664.14	650.23	13.90	47.766	
3,200.00	3,161.47	3,005.98	2,963.70	9.46	9.13	-149.46	128.34	381.43	710.59	696.12	14.47	49.107	
3,300.00	3,258.83	3,094.52	3,048.26	9.92	9.63	-149.57	138.29	405.72	757.05	742.01	15.04	50.329	
3,400.00	3,356.20	3,183.07	3,132.83	10.39	10.13	-149.67	148.25	430.01	803.52	787.90	15.62	51.446	
3,500.00	3,453.56	3,271.61	3,217.39	10.85	10.64	-149.75	158.20	454.29	849.98	833.78	16.20	52.472	
3,600.00	3,550.92	3,360.15	3,301.96	11.32	11.15	-149.83	168.15	478.58	896.44	879.66	16.78	53.415	
3,700.00	3,648.28	3,448.70	3,386.52	11.80	11.66	-149.90	178.10	502.86	942.91	925.54	17.37	54.284	
3,800.00	3,745.65	3,537.24	3,471.08	12.27	12.18	-149.97	188.05	527.15	989.38	971.42	17.96	55.088	
3,900.00	3,843.01	3,625.78	3,555.65	12.74	12.70	-150.02	198.00	551.44	1,035.84	1,017.29	18.55	55.833	
4,000.00	3,940.37	3,714.33	3,640.21	13.22	13.22	-150.08	207.95	575.72	1,082.31	1,063.16	19.15	56.525	
4,100.00	4,037.73	3,802.87	3,724.78	13.70	13.74	-150.13	217.90	600.01	1,128.78	1,109.04	19.74	57.169	
4,200.00	4,135.09	3,891.41	3,809.34	14.18	14.26	-150.17	227.85	624.30	1,175.25	1,154.91	20.34	57.768	
4,300.00	4,232.46	3,979.96	3,893.90	14.65	14.79	-150.21	237.80	648.58	1,221.72	1,200.77	20.95	58.329	
4,400.00	4,329.82	4,068.50	3,978.47	15.13	15.31	-150.25	247.75	672.87	1,268.19	1,246.64	21.55	58.853	
4,500.00	4,427.18	4,157.04	4,063.03	15.62	15.84	-150.29	257.70	697.15	1,314.66	1,292.51	22.15	59.345	
4,600.00	4,524.54	4,245.59	4,147.60	16.10	16.37	-150.32	267.66	721.44	1,361.13	1,338.37	22.76	59.807	
4,700.00	4,621.91	4,334.13	4,232.16	16.58	16.90	-150.35	277.61	745.73	1,407.60	1,384.24	23.37	60.242	
4,800.00	4,719.27	4,422.67	4,316.73	17.06	17.43	-150.38	287.56	770.01	1,454.08	1,430.10	23.97	60.652	
4,900.00	4,816.63	4,511.22	4,401.29	17.54	17.96	-150.41	297.51	794.30	1,500.55	1,475.97	24.58	61.039	
5,000.00	4,913.99	4,599.76	4,485.85	18.03	18.50	-150.43	307.46	818.59	1,547.02	1,521.83	25.19	61.404	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 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
5,100.00	5,011.36	4,688.31	4,570.42	18.51	19.03	-150.46	317.41	842.87	1,593.49	1,567.69	25.81	61.750	
5,200.00	5,108.72	4,776.85	4,654.98	18.99	19.56	-150.48	327.36	867.16	1,639.97	1,613.55	26.42	62.078	
5,300.00	5,206.08	4,865.39	4,739.55	19.48	20.10	-150.50	337.31	891.44	1,686.44	1,659.41	27.03	62.388	
5,400.00	5,303.44	4,953.94	4,824.11	19.96	20.63	-150.52	347.26	915.73	1,732.91	1,705.27	27.65	62.684	
5,500.00	5,400.81	5,042.48	4,908.67	20.45	21.17	-150.54	357.21	940.02	1,779.39	1,751.13	28.26	62.965	
5,600.00	5,498.17	5,131.02	4,993.24	20.93	21.70	-150.56	367.16	964.30	1,825.86	1,796.98	28.88	63.232	
5,700.00	5,595.53	5,206.16	5,065.00	21.42	22.16	-150.57	375.61	984.91	1,872.38	1,842.93	29.45	63.580	
5,717.30	5,612.37	5,206.16	5,065.00	21.50	22.16	-150.57	375.61	984.91	1,880.59	1,851.09	29.51	63.733	
5,800.00	5,693.15	5,206.16	5,065.00	21.84	22.16	-151.02	375.61	984.91	1,920.62	1,890.71	29.90	64.229	
5,900.00	5,791.46	5,206.16	5,065.00	22.14	22.16	-151.57	375.61	984.91	1,970.19	1,939.88	30.31	65.002	
6,000.00	5,890.35	5,206.16	5,065.00	22.40	22.16	-152.12	375.61	984.91	2,020.90	1,990.23	30.67	65.885	
6,100.00	5,989.70	5,206.16	5,065.00	22.63	22.16	-152.68	375.61	984.91	2,072.61	2,041.62	30.99	66.876	
6,200.00	6,089.38	5,206.16	5,065.00	22.83	22.16	-153.25	375.61	984.91	2,125.19	2,093.93	31.26	67.975	
6,300.00	6,189.28	5,206.16	5,065.00	22.98	22.16	-153.81	375.61	984.91	2,178.52	2,147.03	31.49	69.181	
6,376.73	6,266.00	5,206.16	5,065.00	23.08	22.16	44.55	375.61	984.91	2,219.86	2,188.22	31.64	70.161	
6,400.00	6,289.27	5,206.16	5,065.00	23.11	22.16	44.55	375.61	984.91	2,232.54	2,200.86	31.68	70.478	
6,500.00	6,389.27	5,206.16	5,065.00	23.22	22.16	44.55	375.61	984.91	2,288.90	2,257.08	31.83	71.917	
6,600.00	6,489.27	5,206.16	5,065.00	23.33	22.16	44.55	375.61	984.91	2,348.18	2,316.20	31.98	73.430	
6,700.00	6,589.27	5,206.16	5,065.00	23.44	22.16	44.55	375.61	984.91	2,410.14	2,378.01	32.13	75.009	
6,800.00	6,689.27	5,206.16	5,065.00	23.55	22.16	44.55	375.61	984.91	2,474.60	2,442.31	32.29	76.646	
6,900.00	6,789.27	5,206.16	5,065.00	23.66	22.16	44.55	375.61	984.91	2,541.36	2,508.91	32.44	78.335	
7,000.00	6,889.27	5,206.16	5,065.00	23.78	22.16	44.55	375.61	984.91	2,610.24	2,577.64	32.60	80.070	
7,100.00	6,989.27	5,206.16	5,065.00	23.90	22.16	44.55	375.61	984.91	2,681.08	2,648.32	32.76	81.843	
7,200.00	7,089.27	5,206.16	5,065.00	24.01	22.16	44.55	375.61	984.91	2,753.73	2,720.82	32.92	83.652	
7,300.00	7,189.27	5,206.16	5,065.00	24.13	22.16	44.55	375.61	984.91	2,828.06	2,794.98	33.08	85.489	
7,400.00	7,289.27	5,206.16	5,065.00	24.26	22.16	44.55	375.61	984.91	2,903.92	2,870.68	33.24	87.352	
7,500.00	7,389.27	5,206.16	5,065.00	24.38	22.16	44.55	375.61	984.91	2,981.21	2,947.80	33.41	89.235	
7,600.00	7,489.27	5,206.16	5,065.00	24.50	22.16	44.55	375.61	984.91	3,059.81	3,026.24	33.57	91.136	
7,700.00	7,589.27	5,206.16	5,065.00	24.63	22.16	44.55	375.61	984.91	3,139.64	3,105.90	33.74	93.051	
7,800.00	7,689.27	5,206.16	5,065.00	24.76	22.16	44.55	375.61	984.91	3,220.59	3,186.68	33.91	94.977	
7,900.00	7,789.27	5,206.16	5,065.00	24.89	22.16	44.55	375.61	984.91	3,302.58	3,268.50	34.08	96.912	
8,000.00	7,889.27	5,206.16	5,065.00	25.02	22.16	44.55	375.61	984.91	3,385.54	3,351.29	34.25	98.852	
8,100.00	7,989.27	5,206.16	5,065.00	25.15	22.16	44.55	375.61	984.91	3,469.40	3,434.98	34.42	100.796	
8,200.00	8,089.27	5,206.16	5,065.00	25.28	22.16	44.55	375.61	984.91	3,554.09	3,519.50	34.59	102.741	
8,291.73	8,181.00	5,206.16	5,065.00	25.40	22.16	44.55	375.61	984.91	3,632.47	3,597.72	34.75	104.526	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.47	0.37	40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	89.47	0.37	40.01	40.01	39.82	0.19	209.443	
200.00	200.00	200.00	200.00	0.32	0.32	89.47	0.37	40.01	40.01	39.37	0.64	62.465	
300.00	300.00	300.00	300.00	0.55	0.55	89.47	0.37	40.01	40.01	38.92	1.09	36.707	
400.00	400.00	400.00	400.00	0.77	0.77	89.47	0.37	40.01	40.01	38.47	1.54	25.989	
500.00	500.00	500.00	500.00	0.99	0.99	89.47	0.37	40.01	40.01	38.03	1.99	20.116	
600.00	600.00	600.00	600.00	1.22	1.22	89.47	0.37	40.01	40.01	37.58	2.44	16.408	
700.00	700.00	700.00	700.00	1.44	1.44	89.47	0.37	40.01	40.01	37.13	2.89	13.854	
800.00	800.00	800.00	800.00	1.67	1.67	89.47	0.37	40.01	40.01	36.68	3.34	11.988	
900.00	900.00	900.00	900.00	1.89	1.89	89.47	0.37	40.01	40.01	36.23	3.79	10.565	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.47	0.37	40.01	40.01	35.78	4.24	9.444	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.47	0.37	40.01	40.01	35.33	4.69	8.538	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.47	0.37	40.01	40.01	34.88	5.14	7.791	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.47	0.37	40.01	40.01	34.43	5.59	7.164	
1,400.00	1,399.98	1,400.77	1,400.75	2.99	3.02	-113.75	1.76	38.91	39.63	33.62	6.00	6.600	
1,445.77	1,445.70	1,446.73	1,446.67	3.07	3.12	-118.77	3.31	37.67	39.47	33.29	6.18	6.384 CC, ES	
1,500.00	1,499.84	1,500.97	1,500.81	3.16	3.24	-127.05	5.88	35.63	39.89	33.50	6.39	6.239 SF	
1,600.00	1,599.45	1,600.05	1,599.50	3.35	3.47	-146.59	12.66	30.24	44.75	37.97	6.78	6.596	
1,700.00	1,698.70	1,697.46	1,696.19	3.56	3.70	-165.16	21.92	22.88	57.93	50.75	7.17	8.075	
1,800.00	1,797.47	1,792.74	1,790.31	3.79	3.95	-178.37	33.46	13.71	79.96	72.40	7.56	10.574	
1,900.00	1,895.62	1,886.45	1,882.42	4.07	4.23	-173.18	46.94	2.98	109.50	101.55	7.96	13.764	
1,959.43	1,953.63	1,942.08	1,937.06	4.25	4.40	169.97	55.16	-3.55	129.45	121.26	8.19	15.797	
2,000.00	1,993.12	1,979.93	1,974.22	4.38	4.52	168.36	60.75	-7.99	143.61	135.23	8.38	17.130	
2,100.00	2,090.48	2,073.22	2,065.84	4.73	4.82	165.48	74.52	-18.95	178.83	169.96	8.86	20.180	
2,200.00	2,187.85	2,166.50	2,157.45	5.11	5.14	163.54	88.30	-29.90	214.31	204.95	9.35	22.910	
2,300.00	2,285.21	2,259.79	2,249.06	5.50	5.46	162.15	102.08	-40.85	249.95	240.09	9.86	25.350	
2,400.00	2,382.57	2,353.08	2,340.67	5.91	5.80	161.11	115.85	-51.80	285.68	275.30	10.38	27.533	
2,500.00	2,479.93	2,446.37	2,432.29	6.33	6.14	160.30	129.63	-62.76	321.47	310.57	10.90	29.490	
2,600.00	2,577.30	2,539.65	2,523.90	6.75	6.48	159.65	143.40	-73.71	357.32	345.88	11.43	31.248	
2,700.00	2,674.66	2,632.94	2,615.51	7.19	6.83	159.12	157.18	-84.66	393.19	381.22	11.98	32.834	
2,800.00	2,772.02	2,726.23	2,707.12	7.63	7.19	158.68	170.95	-95.61	429.09	416.57	12.52	34.267	
2,900.00	2,869.38	2,819.52	2,798.74	8.08	7.55	158.31	184.73	-106.57	465.01	451.93	13.07	35.568	
3,000.00	2,966.75	2,912.80	2,890.35	8.54	7.91	157.99	198.50	-117.52	500.94	487.31	13.63	36.752	
3,100.00	3,064.11	3,006.09	2,981.96	8.99	8.27	157.71	212.28	-128.47	536.88	522.69	14.19	37.832	
3,200.00	3,161.47	3,099.38	3,073.57	9.46	8.64	157.47	226.06	-139.42	572.84	558.08	14.76	38.822	
3,300.00	3,258.83	3,192.67	3,165.18	9.92	9.01	157.26	239.83	-150.38	608.80	593.48	15.32	39.731	
3,400.00	3,356.20	3,285.95	3,256.80	10.39	9.38	157.07	253.61	-161.33	644.77	628.87	15.89	40.567	
3,500.00	3,453.56	3,379.24	3,348.41	10.85	9.75	156.90	267.38	-172.28	680.74	664.27	16.47	41.340	
3,600.00	3,550.92	3,472.53	3,440.02	11.32	10.13	156.74	281.16	-183.23	716.72	699.68	17.04	42.055	
3,700.00	3,648.28	3,565.81	3,531.63	11.80	10.50	156.61	294.93	-194.19	752.70	735.08	17.62	42.719	
3,800.00	3,745.65	3,659.10	3,623.25	12.27	10.88	156.48	308.71	-205.14	788.69	770.49	18.20	43.336	
3,900.00	3,843.01	3,752.39	3,714.86	12.74	11.25	156.37	322.49	-216.09	824.67	805.89	18.78	43.911	
4,000.00	3,940.37	3,845.68	3,806.47	13.22	11.63	156.26	336.26	-227.04	860.67	841.30	19.36	44.449	
4,100.00	4,037.73	3,938.96	3,898.08	13.70	12.01	156.16	350.04	-238.00	896.66	876.71	19.95	44.952	
4,200.00	4,135.09	4,032.25	3,989.70	14.18	12.39	156.08	363.81	-248.95	932.66	912.12	20.53	45.423	
4,300.00	4,232.46	4,125.54	4,081.31	14.65	12.77	155.99	377.59	-259.90	968.65	947.53	21.12	45.866	
4,400.00	4,329.82	4,218.83	4,172.92	15.13	13.15	155.92	391.36	-270.85	1,004.65	982.95	21.71	46.283	
4,500.00	4,427.18	4,312.11	4,264.53	15.62	13.53	155.84	405.14	-281.81	1,040.65	1,018.36	22.30	46.676	
4,600.00	4,524.54	4,405.40	4,356.15	16.10	13.91	155.78	418.91	-292.76	1,076.65	1,053.77	22.88	47.046	
4,700.00	4,621.91	4,498.69	4,447.76	16.58	14.30	155.72	432.69	-303.71	1,112.66	1,089.18	23.48	47.397	
4,800.00	4,719.27	4,591.98	4,539.37	17.06	14.68	155.66	446.47	-314.66	1,148.66	1,124.60	24.07	47.729	
4,900.00	4,816.63	4,685.26	4,630.98	17.54	15.06	155.60	460.24	-325.62	1,184.67	1,160.01	24.66	48.043	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,913.99	4,778.55	4,722.59	18.03	15.45	155.55	474.02	-336.57	1,220.67	1,195.42	25.25	48.341	
5,100.00	5,011.36	4,871.84	4,814.21	18.51	15.83	155.50	487.79	-347.52	1,256.68	1,230.84	25.84	48.625	
5,200.00	5,108.72	4,965.13	4,905.82	18.99	16.21	155.46	501.57	-358.47	1,292.69	1,266.25	26.44	48.895	
5,300.00	5,206.08	5,058.41	4,997.43	19.48	16.60	155.41	515.34	-369.43	1,328.70	1,301.66	27.03	49.152	
5,400.00	5,303.44	5,151.70	5,089.04	19.96	16.98	155.37	529.12	-380.38	1,364.70	1,337.08	27.63	49.397	
5,500.00	5,400.81	5,244.99	5,180.66	20.45	17.37	155.33	542.89	-391.33	1,400.71	1,372.49	28.22	49.630	
5,600.00	5,498.17	5,338.28	5,272.27	20.93	17.75	155.30	556.67	-402.28	1,436.72	1,407.91	28.82	49.854	
5,700.00	5,595.53	5,431.56	5,363.88	21.42	18.14	155.26	570.45	-413.24	1,472.73	1,443.32	29.42	50.067	
5,717.30	5,612.37	5,447.70	5,379.73	21.50	18.21	155.26	572.83	-415.13	1,478.96	1,449.45	29.52	50.103	
5,800.00	5,693.15	5,525.23	5,455.86	21.84	18.53	155.46	584.28	-424.23	1,507.73	1,477.62	30.11	50.076	
5,900.00	5,791.46	5,619.91	5,548.84	22.14	18.92	155.64	598.26	-435.35	1,539.78	1,509.01	30.77	50.046	
6,000.00	5,890.35	5,715.51	5,642.72	22.40	19.31	155.73	612.38	-446.57	1,568.81	1,537.42	31.39	49.977	
6,100.00	5,989.70	5,830.49	5,755.69	22.63	19.75	155.70	629.14	-459.90	1,594.68	1,562.67	32.01	49.825	
6,200.00	6,089.38	6,015.52	5,938.79	22.83	20.26	155.56	649.86	-476.38	1,613.83	1,581.18	32.65	49.432	
6,300.00	6,189.28	6,204.90	6,127.56	22.98	20.65	155.48	661.45	-485.59	1,624.41	1,591.23	33.19	48.946	
6,376.73	6,266.00	6,343.39	6,266.00	23.08	20.84	-5.73	663.74	-487.41	1,626.64	1,593.11	33.52	48.522	
6,400.00	6,289.27	6,366.66	6,289.27	23.11	20.87	-5.73	663.74	-487.41	1,626.64	1,593.04	33.60	48.414	
6,500.00	6,389.27	6,466.66	6,389.27	23.22	21.01	-5.73	663.74	-487.41	1,626.64	1,592.71	33.93	47.946	
6,600.00	6,489.27	6,566.66	6,489.27	23.33	21.16	-5.73	663.74	-487.41	1,626.64	1,592.37	34.26	47.475	
6,700.00	6,589.27	6,666.66	6,589.27	23.44	21.31	-5.73	663.74	-487.41	1,626.64	1,592.03	34.60	47.010	
6,800.00	6,689.27	6,766.66	6,689.27	23.55	21.46	-5.73	663.74	-487.41	1,626.64	1,591.69	34.94	46.550	
6,900.00	6,789.27	6,866.66	6,789.27	23.66	21.61	-5.73	663.74	-487.41	1,626.64	1,591.35	35.29	46.096	
7,000.00	6,889.27	6,966.66	6,889.27	23.78	21.76	-5.73	663.74	-487.41	1,626.64	1,591.00	35.63	45.648	
7,100.00	6,989.27	7,066.66	6,989.27	23.90	21.91	-5.73	663.74	-487.41	1,626.64	1,590.65	35.98	45.206	
7,200.00	7,089.27	7,166.66	7,089.27	24.01	22.07	-5.73	663.74	-487.41	1,626.64	1,590.30	36.33	44.769	
7,300.00	7,189.27	7,266.66	7,189.27	24.13	22.22	-5.73	663.74	-487.41	1,626.64	1,589.95	36.69	44.339	
7,400.00	7,289.27	7,366.66	7,289.27	24.26	22.38	-5.73	663.74	-487.41	1,626.64	1,589.59	37.04	43.914	
7,500.00	7,389.27	7,466.66	7,389.27	24.38	22.54	-5.73	663.74	-487.41	1,626.64	1,589.24	37.40	43.494	
7,600.00	7,489.27	7,566.66	7,489.27	24.50	22.70	-5.73	663.74	-487.41	1,626.64	1,588.88	37.76	43.081	
7,700.00	7,589.27	7,666.66	7,589.27	24.63	22.86	-5.73	663.74	-487.41	1,626.64	1,588.52	38.12	42.673	
7,800.00	7,689.27	7,766.66	7,689.27	24.76	23.02	-5.73	663.74	-487.41	1,626.64	1,588.15	38.48	42.270	
7,900.00	7,789.27	7,866.66	7,789.27	24.89	23.18	-5.73	663.74	-487.41	1,626.64	1,587.79	38.85	41.873	
8,000.00	7,889.27	7,966.66	7,889.27	25.02	23.34	-5.73	663.74	-487.41	1,626.64	1,587.42	39.21	41.482	
8,100.00	7,989.27	8,066.66	7,989.27	25.15	23.51	-5.73	663.74	-487.41	1,626.64	1,587.05	39.58	41.096	
8,200.00	8,089.27	8,166.66	8,089.27	25.28	23.67	-5.73	663.74	-487.41	1,626.64	1,586.69	39.95	40.716	
8,291.73	8,181.00	8,258.39	8,181.00	25.40	23.82	-5.73	663.74	-487.41	1,626.64	1,586.34	40.29	40.372	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-89.98	0.00	-10.07	10.07				
100.00	100.00	100.00	100.00	0.10	0.10	-89.98	0.00	-10.07	10.07	9.88	0.19	52.725	
200.00	200.00	200.00	200.00	0.32	0.32	-89.98	0.00	-10.07	10.07	9.43	0.64	15.725	
300.00	300.00	300.00	300.00	0.55	0.55	-89.98	0.00	-10.07	10.07	8.98	1.09	9.240	
400.00	400.00	400.00	400.00	0.77	0.77	-89.98	0.00	-10.07	10.07	8.53	1.54	6.542	
500.00	500.00	500.00	500.00	0.99	0.99	-89.98	0.00	-10.07	10.07	8.08	1.99	5.064	
600.00	600.00	600.00	600.00	1.22	1.22	-89.98	0.00	-10.07	10.07	7.63	2.44	4.131	
700.00	700.00	700.00	700.00	1.44	1.44	-89.98	0.00	-10.07	10.07	7.18	2.89	3.488	
800.00	800.00	800.00	800.00	1.67	1.67	-89.98	0.00	-10.07	10.07	6.74	3.34	3.018	
900.00	900.00	900.00	900.00	1.89	1.89	-89.98	0.00	-10.07	10.07	6.29	3.79	2.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.98	0.00	-10.07	10.07	5.84	4.24	2.378	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-89.98	0.00	-10.07	10.07	5.39	4.69	2.149	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-89.98	0.00	-10.07	10.07	4.94	5.14	1.961	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-89.98	0.00	-10.07	10.07	4.49	5.59	1.803 CC	
1,400.00	1,399.98	1,399.87	1,399.86	2.99	2.99	74.16	-1.13	-10.73	10.18	4.20	5.98	1.703 ES	
1,500.00	1,499.84	1,499.75	1,499.66	3.16	3.17	82.48	-4.52	-12.69	10.65	4.32	6.33	1.682 SF	
1,600.00	1,599.45	1,599.65	1,599.34	3.35	3.35	94.42	-10.17	-15.95	11.86	5.16	6.70	1.770	
1,700.00	1,698.70	1,699.58	1,698.85	3.56	3.55	106.92	-18.07	-20.52	14.23	7.12	7.10	2.003	
1,800.00	1,797.47	1,799.55	1,798.13	3.79	3.77	117.51	-28.24	-26.40	17.94	10.40	7.53	2.381	
1,900.00	1,895.62	1,899.57	1,897.11	4.07	4.01	125.48	-40.65	-33.57	22.98	15.00	7.98	2.879	
1,959.43	1,953.63	1,959.04	1,955.78	4.25	4.17	129.12	-49.10	-38.45	26.59	18.32	8.27	3.216	
2,000.00	1,993.12	1,999.67	1,995.76	4.38	4.28	130.84	-55.32	-42.05	29.11	20.64	8.48	3.435	
2,100.00	2,090.48	2,099.95	2,094.11	4.73	4.59	131.43	-72.26	-51.83	34.44	25.39	9.05	3.805	
2,200.00	2,187.85	2,200.31	2,192.00	5.11	4.93	128.49	-91.44	-62.92	38.49	28.77	9.73	3.957	
2,300.00	2,285.21	2,300.63	2,289.22	5.50	5.32	122.83	-112.82	-75.28	41.58	31.05	10.53	3.947	
2,400.00	2,382.57	2,400.66	2,385.53	5.91	5.75	114.96	-136.21	-88.80	44.35	32.88	11.47	3.866	
2,500.00	2,479.93	2,500.42	2,481.44	6.33	6.21	107.49	-160.00	-102.55	47.78	35.33	12.45	3.838	
2,600.00	2,577.30	2,600.18	2,577.34	6.75	6.69	101.11	-183.79	-116.30	51.92	38.50	13.42	3.869	
2,700.00	2,674.66	2,699.94	2,673.24	7.19	7.18	95.72	-207.59	-130.05	56.60	42.23	14.37	3.939	
2,800.00	2,772.02	2,799.70	2,769.14	7.63	7.68	91.18	-231.38	-143.80	61.70	46.40	15.30	4.034	
2,900.00	2,869.38	2,899.46	2,865.04	8.08	8.19	87.36	-255.17	-157.55	67.13	50.92	16.20	4.143	
3,000.00	2,966.75	2,999.22	2,960.94	8.54	8.71	84.12	-278.96	-171.30	72.81	55.71	17.10	4.259	
3,100.00	3,064.11	3,098.98	3,056.84	8.99	9.23	81.35	-302.75	-185.05	78.69	60.72	17.98	4.378	
3,200.00	3,161.47	3,198.74	3,152.74	9.46	9.76	78.98	-326.54	-198.80	84.73	65.89	18.84	4.496	
3,300.00	3,258.83	3,298.50	3,248.65	9.92	10.30	76.92	-350.33	-212.55	90.89	71.19	19.71	4.612	
3,400.00	3,356.20	3,398.26	3,344.55	10.39	10.84	75.13	-374.12	-226.30	97.16	76.60	20.56	4.725	
3,500.00	3,453.56	3,498.02	3,440.45	10.85	11.38	73.55	-397.91	-240.04	103.51	82.09	21.42	4.833	
3,600.00	3,550.92	3,597.78	3,536.35	11.32	11.93	72.16	-421.70	-253.79	109.93	87.66	22.26	4.937	
3,700.00	3,648.28	3,697.54	3,632.25	11.80	12.47	70.92	-445.49	-267.54	116.40	93.29	23.11	5.037	
3,800.00	3,745.65	3,797.30	3,728.15	12.27	13.02	69.81	-469.28	-281.29	122.93	98.97	23.96	5.131	
3,900.00	3,843.01	3,897.06	3,824.05	12.74	13.58	68.82	-493.07	-295.04	129.49	104.69	24.80	5.221	
4,000.00	3,940.37	3,996.82	3,919.96	13.22	14.13	67.92	-516.86	-308.79	136.10	110.45	25.65	5.307	
4,100.00	4,037.73	4,096.58	4,015.86	13.70	14.69	67.10	-540.65	-322.54	142.73	116.24	26.49	5.388	
4,200.00	4,135.09	4,196.34	4,111.76	14.18	15.24	66.36	-564.44	-336.29	149.38	122.05	27.33	5.466	
4,300.00	4,232.46	4,296.10	4,207.66	14.65	15.80	65.68	-588.23	-350.04	156.06	127.89	28.17	5.539	
4,400.00	4,329.82	4,395.86	4,303.56	15.13	16.36	65.06	-612.02	-363.79	162.76	133.75	29.02	5.610	
4,500.00	4,427.18	4,495.62	4,399.46	15.62	16.92	64.48	-635.81	-377.54	169.48	139.62	29.86	5.676	
4,600.00	4,524.54	4,595.38	4,495.36	16.10	17.48	63.95	-659.60	-391.29	176.22	145.52	30.70	5.740	
4,700.00	4,621.91	4,695.14	4,591.27	16.58	18.04	63.46	-683.39	-405.04	182.96	151.42	31.54	5.801	
4,800.00	4,719.27	4,794.90	4,687.17	17.06	18.61	63.00	-707.18	-418.79	189.72	157.34	32.38	5.859	
4,900.00	4,816.63	4,894.66	4,783.07	17.54	19.17	62.58	-730.97	-432.54	196.49	163.27	33.23	5.914	
5,000.00	4,913.99	4,994.42	4,878.97	18.03	19.73	62.18	-754.76	-446.29	203.28	169.21	34.07	5.967	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 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
5,100.00	5,011.36	5,094.18	4,974.87	18.51	20.30	61.81	-778.55	-460.04	210.07	175.16	34.91	6.017	
5,200.00	5,108.72	5,193.95	5,070.77	18.99	20.86	61.46	-802.34	-473.79	216.86	181.11	35.75	6.066	
5,300.00	5,206.08	5,209.79	5,086.00	19.48	20.95	61.41	-806.12	-475.97	238.90	202.64	36.26	6.589	
5,400.00	5,303.44	5,209.79	5,086.00	19.96	20.95	61.41	-806.12	-475.97	294.72	258.02	36.70	8.031	
5,500.00	5,400.81	5,209.79	5,086.00	20.45	20.95	61.41	-806.12	-475.97	369.66	332.52	37.14	9.954	
5,600.00	5,498.17	5,209.79	5,086.00	20.93	20.95	61.41	-806.12	-475.97	454.36	416.78	37.58	12.090	
5,700.00	5,595.53	5,209.79	5,086.00	21.42	20.95	61.41	-806.12	-475.97	544.27	506.25	38.02	14.315	
5,717.30	5,612.37	5,209.79	5,086.00	21.50	20.95	61.41	-806.12	-475.97	560.17	522.08	38.10	14.704	
5,800.00	5,693.15	5,209.79	5,086.00	21.84	20.95	65.27	-806.12	-475.97	637.38	598.10	39.28	16.226	
5,900.00	5,791.46	5,209.79	5,086.00	22.14	20.95	71.17	-806.12	-475.97	732.72	691.97	40.75	17.979	
6,000.00	5,890.35	5,209.79	5,086.00	22.40	20.95	78.53	-806.12	-475.97	829.44	787.25	42.18	19.662	
6,100.00	5,989.70	5,209.79	5,086.00	22.63	20.95	87.35	-806.12	-475.97	926.99	883.69	43.30	21.409	
6,200.00	6,089.38	5,209.79	5,086.00	22.83	20.95	97.33	-806.12	-475.97	1,025.05	981.29	43.75	23.429	
6,300.00	6,189.28	5,209.79	5,086.00	22.98	20.95	107.84	-806.12	-475.97	1,123.37	1,080.07	43.29	25.949	
6,376.73	6,266.00	5,209.79	5,086.00	23.08	20.95	-45.47	-806.12	-475.97	1,198.88	1,156.54	42.35	28.311	
6,400.00	6,289.27	5,209.79	5,086.00	23.11	20.95	-45.47	-806.12	-475.97	1,221.79	1,179.41	42.38	28.832	
6,500.00	6,389.27	5,209.79	5,086.00	23.22	20.95	-45.47	-806.12	-475.97	1,320.39	1,277.90	42.49	31.074	
6,600.00	6,489.27	5,209.79	5,086.00	23.33	20.95	-45.47	-806.12	-475.97	1,419.18	1,376.57	42.61	33.307	
6,700.00	6,589.27	5,209.79	5,086.00	23.44	20.95	-45.47	-806.12	-475.97	1,518.13	1,475.41	42.73	35.530	
6,800.00	6,689.27	5,209.79	5,086.00	23.55	20.95	-45.47	-806.12	-475.97	1,617.22	1,574.37	42.85	37.742	
6,900.00	6,789.27	5,209.79	5,086.00	23.66	20.95	-45.47	-806.12	-475.97	1,716.40	1,673.43	42.97	39.943	
7,000.00	6,889.27	5,209.79	5,086.00	23.78	20.95	-45.47	-806.12	-475.97	1,815.68	1,772.58	43.09	42.132	
7,100.00	6,989.27	5,209.79	5,086.00	23.90	20.95	-45.47	-806.12	-475.97	1,915.03	1,871.81	43.22	44.309	
7,200.00	7,089.27	5,209.79	5,086.00	24.01	20.95	-45.47	-806.12	-475.97	2,014.45	1,971.10	43.35	46.472	
7,300.00	7,189.27	5,209.79	5,086.00	24.13	20.95	-45.47	-806.12	-475.97	2,113.92	2,070.44	43.48	48.623	
7,400.00	7,289.27	5,209.79	5,086.00	24.26	20.95	-45.47	-806.12	-475.97	2,213.44	2,169.83	43.61	50.760	
7,500.00	7,389.27	5,209.79	5,086.00	24.38	20.95	-45.47	-806.12	-475.97	2,313.00	2,269.26	43.74	52.884	
7,600.00	7,489.27	5,209.79	5,086.00	24.50	20.95	-45.47	-806.12	-475.97	2,412.59	2,368.72	43.87	54.994	
7,700.00	7,589.27	5,209.79	5,086.00	24.63	20.95	-45.47	-806.12	-475.97	2,512.22	2,468.22	44.00	57.091	
7,800.00	7,689.27	5,209.79	5,086.00	24.76	20.95	-45.47	-806.12	-475.97	2,611.88	2,567.74	44.14	59.173	
7,900.00	7,789.27	5,209.79	5,086.00	24.89	20.95	-45.47	-806.12	-475.97	2,711.56	2,667.29	44.28	61.242	
8,000.00	7,889.27	5,209.79	5,086.00	25.02	20.95	-45.47	-806.12	-475.97	2,811.27	2,766.85	44.41	63.296	
8,100.00	7,989.27	5,209.79	5,086.00	25.15	20.95	-45.47	-806.12	-475.97	2,910.99	2,866.44	44.55	65.336	
8,200.00	8,089.27	5,209.79	5,086.00	25.28	20.95	-45.47	-806.12	-475.97	3,010.74	2,966.04	44.70	67.362	
8,291.73	8,181.00	5,209.79	5,086.00	25.40	20.95	-45.47	-806.12	-475.97	3,102.25	3,057.42	44.83	69.207	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	88.94	0.37	19.87	19.87				
100.00	100.00	100.00	100.00	0.10	0.10	88.94	0.37	19.87	19.87	19.68	0.19	104.003	
200.00	200.00	200.00	200.00	0.32	0.32	88.94	0.37	19.87	19.87	19.23	0.64	31.018	
300.00	300.00	300.00	300.00	0.55	0.55	88.94	0.37	19.87	19.87	18.78	1.09	18.227	
400.00	400.00	400.00	400.00	0.77	0.77	88.94	0.37	19.87	19.87	18.33	1.54	12.905	
500.00	500.00	500.00	500.00	0.99	0.99	88.94	0.37	19.87	19.87	17.88	1.99	9.989	
600.00	600.00	600.00	600.00	1.22	1.22	88.94	0.37	19.87	19.87	17.43	2.44	8.148	
700.00	700.00	700.00	700.00	1.44	1.44	88.94	0.37	19.87	19.87	16.98	2.89	6.880	
800.00	800.00	800.00	800.00	1.67	1.67	88.94	0.37	19.87	19.87	16.53	3.34	5.953	
900.00	900.00	900.00	900.00	1.89	1.89	88.94	0.37	19.87	19.87	16.08	3.79	5.246	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	88.94	0.37	19.87	19.87	15.63	4.24	4.690	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	88.94	0.37	19.87	19.87	15.18	4.69	4.240	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	88.94	0.37	19.87	19.87	14.73	5.14	3.869	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	88.94	0.37	19.87	19.87	14.28	5.59	3.557	CC, ES, SF
1,400.00	1,399.98	1,399.43	1,399.41	2.99	2.99	-111.24	-0.70	21.22	21.81	15.83	5.98	3.647	
1,500.00	1,499.84	1,498.61	1,498.45	3.16	3.18	-114.21	-3.88	25.28	27.70	21.36	6.33	4.373	
1,600.00	1,599.45	1,597.32	1,596.78	3.35	3.38	-117.04	-9.15	31.99	37.58	30.88	6.70	5.605	
1,700.00	1,698.70	1,695.32	1,694.06	3.56	3.59	-119.11	-16.44	41.29	51.45	44.36	7.10	7.248	
1,800.00	1,797.47	1,792.39	1,789.97	3.79	3.83	-120.48	-25.69	53.07	69.27	61.74	7.53	9.197	
1,900.00	1,895.62	1,888.32	1,884.19	4.07	4.11	-121.34	-36.80	67.22	90.95	82.94	8.01	11.349	
1,959.43	1,953.63	1,944.72	1,939.29	4.25	4.29	-121.67	-44.23	76.70	105.64	97.31	8.33	12.681	
2,000.00	1,993.12	1,982.96	1,976.51	4.38	4.42	-121.91	-49.65	83.61	116.27	107.71	8.56	13.581	
2,100.00	2,090.48	2,079.25	2,070.05	4.73	4.77	-122.10	-63.76	101.58	142.96	133.77	9.18	15.571	
2,200.00	2,187.85	2,175.63	2,163.67	5.11	5.15	-122.24	-77.88	119.57	169.64	159.80	9.84	17.245	
2,300.00	2,285.21	2,272.00	2,257.29	5.50	5.55	-122.34	-92.00	137.56	196.32	185.80	10.52	18.655	
2,400.00	2,382.57	2,368.37	2,350.91	5.91	5.96	-122.41	-106.12	155.55	223.01	211.77	11.23	19.850	
2,500.00	2,479.93	2,464.75	2,444.54	6.33	6.38	-122.47	-120.24	173.54	249.69	237.73	11.97	20.867	
2,600.00	2,577.30	2,561.12	2,538.16	6.75	6.82	-122.51	-134.36	191.54	276.38	263.66	12.71	21.738	
2,700.00	2,674.66	2,657.50	2,631.78	7.19	7.26	-122.55	-148.48	209.53	303.06	289.59	13.48	22.490	
2,800.00	2,772.02	2,753.87	2,725.40	7.63	7.71	-122.58	-162.59	227.52	329.75	315.50	14.25	23.143	
2,900.00	2,869.38	2,850.24	2,819.02	8.08	8.16	-122.61	-176.71	245.51	356.43	341.40	15.03	23.713	
3,000.00	2,966.75	2,946.62	2,912.64	8.54	8.62	-122.64	-190.83	263.50	383.12	367.29	15.82	24.214	
3,100.00	3,064.11	3,042.99	3,006.26	8.99	9.09	-122.66	-204.95	281.49	409.80	393.18	16.62	24.658	
3,200.00	3,161.47	3,139.36	3,099.88	9.46	9.55	-122.67	-219.07	299.48	436.49	419.06	17.42	25.053	
3,300.00	3,258.83	3,235.74	3,193.50	9.92	10.02	-122.69	-233.19	317.47	463.17	444.94	18.23	25.406	
3,400.00	3,356.20	3,332.11	3,287.12	10.39	10.50	-122.70	-247.31	335.47	489.86	470.81	19.04	25.723	
3,500.00	3,453.56	3,428.48	3,380.74	10.85	10.97	-122.72	-261.43	353.46	516.54	496.68	19.86	26.009	
3,600.00	3,550.92	3,524.86	3,474.36	11.32	11.45	-122.73	-275.55	371.45	543.23	522.55	20.68	26.269	
3,700.00	3,648.28	3,621.23	3,567.98	11.80	11.93	-122.74	-289.67	389.44	569.91	548.41	21.50	26.506	
3,800.00	3,745.65	3,717.61	3,661.61	12.27	12.41	-122.75	-303.79	407.43	596.60	574.27	22.33	26.723	
3,900.00	3,843.01	3,813.98	3,755.23	12.74	12.89	-122.76	-317.91	425.42	623.28	600.13	23.15	26.922	
4,000.00	3,940.37	3,910.35	3,848.85	13.22	13.37	-122.77	-332.03	443.41	649.97	625.99	23.98	27.105	
4,100.00	4,037.73	4,006.73	3,942.47	13.70	13.85	-122.77	-346.15	461.40	676.65	651.84	24.81	27.274	
4,200.00	4,135.09	4,103.10	4,036.09	14.18	14.34	-122.78	-360.27	479.40	703.34	677.70	25.64	27.431	
4,300.00	4,232.46	4,199.47	4,129.71	14.65	14.82	-122.79	-374.38	497.39	730.02	703.55	26.47	27.577	
4,400.00	4,329.82	4,295.85	4,223.33	15.13	15.31	-122.79	-388.50	515.38	756.71	729.40	27.31	27.713	
4,500.00	4,427.18	4,392.22	4,316.95	15.62	15.79	-122.80	-402.62	533.37	783.40	755.26	28.14	27.840	
4,600.00	4,524.54	4,488.60	4,410.57	16.10	16.28	-122.80	-416.74	551.36	810.08	781.11	28.97	27.960	
4,700.00	4,621.91	4,584.97	4,504.19	16.58	16.77	-122.81	-430.86	569.35	836.77	806.96	29.81	28.072	
4,800.00	4,719.27	4,681.34	4,597.81	17.06	17.26	-122.81	-444.98	587.34	863.45	832.81	30.64	28.177	
4,900.00	4,816.63	4,777.72	4,691.43	17.54	17.75	-122.82	-459.10	605.33	890.14	858.66	31.48	28.277	
5,000.00	4,913.99	4,874.09	4,785.05	18.03	18.24	-122.82	-473.22	623.33	916.82	884.51	32.32	28.371	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_JESSER 18-2 PAD - P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,011.36	4,970.46	4,878.67	18.51	18.73	-122.82	-487.34	641.32	943.51	910.36	33.15	28.461	
5,200.00	5,108.72	5,066.84	4,972.30	18.99	19.22	-122.83	-501.46	659.31	970.19	936.21	33.99	28.545	
5,300.00	5,206.08	5,163.21	5,065.92	19.48	19.71	-122.83	-515.58	677.30	996.88	962.05	34.82	28.626	
5,400.00	5,303.44	5,259.58	5,159.54	19.96	20.20	-122.83	-529.70	695.29	1,023.56	987.90	35.66	28.703	
5,500.00	5,400.81	5,355.96	5,253.16	20.45	20.69	-122.84	-543.82	713.28	1,050.25	1,013.75	36.50	28.776	
5,600.00	5,498.17	5,452.33	5,346.78	20.93	21.18	-122.84	-557.94	731.27	1,076.93	1,039.60	37.33	28.846	
5,700.00	5,595.53	5,548.71	5,440.40	21.42	21.67	-122.84	-572.06	749.26	1,103.62	1,065.45	38.17	28.913	
5,717.30	5,612.37	5,565.38	5,456.60	21.50	21.76	-122.84	-574.50	752.38	1,108.24	1,069.92	38.31	28.925	
5,800.00	5,693.15	5,645.24	5,534.18	21.84	22.17	-123.16	-586.20	767.29	1,129.68	1,090.65	39.03	28.943	
5,900.00	5,791.46	5,753.93	5,639.86	22.14	22.68	-123.37	-601.87	787.26	1,153.73	1,113.91	39.82	28.972	
6,000.00	5,890.35	5,883.16	5,766.50	22.40	23.14	-123.48	-617.71	807.44	1,173.82	1,133.27	40.55	28.950	
6,100.00	5,989.70	6,014.31	5,896.08	22.63	23.51	-123.56	-630.17	823.32	1,189.35	1,148.19	41.15	28.900	
6,200.00	6,089.38	6,146.91	6,027.89	22.83	23.81	-123.61	-639.03	834.61	1,200.23	1,158.57	41.66	28.810	
6,300.00	6,189.28	6,280.47	6,161.18	22.98	24.04	-123.63	-644.14	841.12	1,206.41	1,164.34	42.07	28.678	
6,376.73	6,266.00	6,383.27	6,263.96	23.08	24.18	75.16	-645.46	842.80	1,207.94	1,165.61	42.33	28.537	
6,400.00	6,289.27	6,408.58	6,289.27	23.11	24.21	75.16	-645.47	842.81	1,207.94	1,165.55	42.39	28.495	
6,500.00	6,389.27	6,508.58	6,389.27	23.22	24.32	75.16	-645.47	842.81	1,207.94	1,165.31	42.63	28.334	
6,600.00	6,489.27	6,608.58	6,489.27	23.33	24.44	75.16	-645.47	842.81	1,207.94	1,165.07	42.88	28.173	
6,700.00	6,589.27	6,708.58	6,589.27	23.44	24.55	75.16	-645.47	842.81	1,207.94	1,164.82	43.12	28.011	
6,800.00	6,689.27	6,808.58	6,689.27	23.55	24.67	75.16	-645.47	842.81	1,207.94	1,164.57	43.37	27.849	
6,900.00	6,789.27	6,908.58	6,789.27	23.66	24.79	75.16	-645.47	842.81	1,207.94	1,164.31	43.63	27.687	
7,000.00	6,889.27	7,008.58	6,889.27	23.78	24.91	75.16	-645.47	842.81	1,207.94	1,164.06	43.89	27.525	
7,100.00	6,989.27	7,108.58	6,989.27	23.90	25.03	75.16	-645.47	842.81	1,207.94	1,163.80	44.15	27.362	
7,200.00	7,089.27	7,208.58	7,089.27	24.01	25.16	75.16	-645.47	842.81	1,207.94	1,163.53	44.41	27.200	
7,300.00	7,189.27	7,308.58	7,189.27	24.13	25.28	75.16	-645.47	842.81	1,207.94	1,163.27	44.68	27.038	
7,400.00	7,289.27	7,408.58	7,289.27	24.26	25.41	75.16	-645.47	842.81	1,207.94	1,163.00	44.95	26.876	
7,500.00	7,389.27	7,508.58	7,389.27	24.38	25.53	75.16	-645.47	842.81	1,207.94	1,162.73	45.22	26.714	
7,600.00	7,489.27	7,608.58	7,489.27	24.50	25.66	75.16	-645.47	842.81	1,207.94	1,162.45	45.49	26.553	
7,700.00	7,589.27	7,708.58	7,589.27	24.63	25.79	75.16	-645.47	842.81	1,207.94	1,162.17	45.77	26.392	
7,800.00	7,689.27	7,808.58	7,689.27	24.76	25.92	75.16	-645.47	842.81	1,207.94	1,161.89	46.05	26.231	
7,900.00	7,789.27	7,908.58	7,789.27	24.89	26.06	75.16	-645.47	842.81	1,207.94	1,161.61	46.33	26.071	
8,000.00	7,889.27	8,008.58	7,889.27	25.02	26.19	75.16	-645.47	842.81	1,207.94	1,161.32	46.62	25.911	
8,100.00	7,989.27	8,108.58	7,989.27	25.15	26.33	75.16	-645.47	842.81	1,207.94	1,161.04	46.91	25.752	
8,200.00	8,089.27	8,208.58	8,089.27	25.28	26.46	75.16	-645.47	842.81	1,207.94	1,160.75	47.20	25.593	
8,291.73	8,181.00	8,300.32	8,181.00	25.40	26.59	75.16	-645.47	842.81	1,207.94	1,160.48	47.47	25.448	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 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	87.91	0.37	10.07	10.08				
100.00	100.00	100.00	100.00	0.10	0.10	87.91	0.37	10.07	10.08	9.89	0.19	52.760	
200.00	200.00	200.00	200.00	0.32	0.32	87.91	0.37	10.07	10.08	9.44	0.64	15.735	
300.00	300.00	300.00	300.00	0.55	0.55	87.91	0.37	10.07	10.08	8.99	1.09	9.247	
400.00	400.00	400.00	400.00	0.77	0.77	87.91	0.37	10.07	10.08	8.54	1.54	6.547	
500.00	500.00	500.00	500.00	0.99	0.99	87.91	0.37	10.07	10.08	8.09	1.99	5.067	
600.00	600.00	600.00	600.00	1.22	1.22	87.91	0.37	10.07	10.08	7.64	2.44	4.133	
700.00	700.00	700.00	700.00	1.44	1.44	87.91	0.37	10.07	10.08	7.19	2.89	3.490	
800.00	800.00	800.00	800.00	1.67	1.67	87.91	0.37	10.07	10.08	6.74	3.34	3.020	
900.00	900.00	900.00	900.00	1.89	1.89	87.91	0.37	10.07	10.08	6.29	3.79	2.661	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	87.91	0.37	10.07	10.08	5.84	4.24	2.379	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	87.91	0.37	10.07	10.08	5.39	4.69	2.151	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	87.91	0.37	10.07	10.08	4.94	5.14	1.963	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	87.91	0.37	10.07	10.08	4.49	5.59	1.805 CC, ES, SF	
1,400.00	1,399.98	1,399.82	1,399.80	2.99	2.99	-113.88	-0.62	10.92	11.53	5.55	5.98	1.929	
1,500.00	1,499.84	1,499.51	1,499.42	3.16	3.17	-119.53	-3.58	13.47	16.01	9.68	6.33	2.529	
1,600.00	1,599.45	1,598.97	1,598.67	3.35	3.36	-124.08	-8.51	17.69	23.63	16.93	6.69	3.530	
1,700.00	1,698.70	1,698.08	1,697.36	3.56	3.57	-127.00	-15.36	23.57	34.40	27.32	7.08	4.858	
1,800.00	1,797.47	1,796.72	1,795.32	3.79	3.79	-128.78	-24.11	31.07	48.27	40.78	7.50	6.441	
1,900.00	1,895.62	1,894.78	1,892.38	4.07	4.03	-129.86	-34.70	40.17	65.22	57.27	7.95	8.203	
1,959.43	1,953.63	1,952.75	1,949.57	4.25	4.18	-130.29	-41.86	46.30	76.73	68.48	8.25	9.302	
2,000.00	1,993.12	1,992.20	1,988.42	4.38	4.29	-130.50	-47.10	50.80	85.02	76.55	8.47	10.038	
2,100.00	2,090.48	2,089.22	2,083.62	4.73	4.59	-129.95	-61.29	62.98	105.98	96.92	9.06	11.697	
2,200.00	2,187.85	2,185.81	2,177.89	5.11	4.93	-128.53	-77.23	76.66	127.77	118.05	9.71	13.156	
2,300.00	2,285.21	2,281.84	2,271.06	5.50	5.30	-126.63	-94.87	91.79	150.50	140.08	10.42	14.443	
2,400.00	2,382.57	2,377.21	2,362.99	5.91	5.71	-124.49	-114.14	108.33	174.32	163.14	11.18	15.588	
2,500.00	2,479.93	2,471.80	2,453.50	6.33	6.17	-122.24	-134.97	126.20	199.36	187.37	11.99	16.623	
2,600.00	2,577.30	2,566.79	2,543.79	6.75	6.66	-120.00	-157.39	145.43	225.62	212.78	12.84	17.566	
2,700.00	2,674.66	2,662.88	2,635.02	7.19	7.19	-118.14	-180.27	165.07	252.30	238.57	13.72	18.387	
2,800.00	2,772.02	2,758.96	2,726.25	7.63	7.73	-116.64	-203.16	184.71	279.17	264.56	14.61	19.108	
2,900.00	2,869.38	2,855.05	2,817.48	8.08	8.29	-115.39	-226.04	204.35	306.19	290.68	15.51	19.744	
3,000.00	2,966.75	2,951.13	2,908.71	8.54	8.86	-114.35	-248.93	223.98	333.33	316.91	16.41	20.306	
3,100.00	3,064.11	3,047.22	2,999.94	8.99	9.43	-113.47	-271.82	243.62	360.55	343.22	17.33	20.807	
3,200.00	3,161.47	3,143.30	3,091.17	9.46	10.02	-112.71	-294.70	263.26	387.84	369.59	18.25	21.254	
3,300.00	3,258.83	3,239.39	3,182.40	9.92	10.60	-112.05	-317.59	282.90	415.19	396.01	19.17	21.656	
3,400.00	3,356.20	3,335.48	3,273.63	10.39	11.20	-111.47	-340.48	302.54	442.58	422.48	20.10	22.019	
3,500.00	3,453.56	3,431.56	3,364.86	10.85	11.80	-110.96	-363.36	322.17	470.00	448.97	21.03	22.347	
3,600.00	3,550.92	3,527.65	3,456.09	11.32	12.40	-110.51	-386.25	341.81	497.46	475.49	21.97	22.646	
3,700.00	3,648.28	3,623.73	3,547.32	11.80	13.00	-110.10	-409.14	361.45	524.94	502.04	22.90	22.919	
3,800.00	3,745.65	3,719.82	3,638.55	12.27	13.61	-109.73	-432.02	381.09	552.45	528.61	23.84	23.169	
3,900.00	3,843.01	3,815.90	3,729.79	12.74	14.22	-109.40	-454.91	400.72	579.97	555.19	24.79	23.399	
4,000.00	3,940.37	3,911.99	3,821.02	13.22	14.83	-109.10	-477.80	420.36	607.52	581.79	25.73	23.611	
4,100.00	4,037.73	4,008.07	3,912.25	13.70	15.44	-108.82	-500.68	440.00	635.07	608.40	26.67	23.808	
4,200.00	4,135.09	4,104.16	4,003.48	14.18	16.06	-108.57	-523.57	459.64	662.64	635.02	27.62	23.990	
4,300.00	4,232.46	4,200.25	4,094.71	14.65	16.67	-108.34	-546.46	479.28	690.22	661.65	28.57	24.161	
4,400.00	4,329.82	4,296.33	4,185.94	15.13	17.29	-108.12	-569.34	498.91	717.81	688.29	29.52	24.319	
4,500.00	4,427.18	4,392.42	4,277.17	15.62	17.91	-107.92	-592.23	518.55	745.40	714.94	30.46	24.468	
4,600.00	4,524.54	4,488.50	4,368.40	16.10	18.53	-107.74	-615.12	538.19	773.01	741.60	31.41	24.607	
4,700.00	4,621.91	4,584.59	4,459.63	16.58	19.15	-107.56	-638.00	557.83	800.62	768.26	32.36	24.738	
4,800.00	4,719.27	4,680.67	4,550.86	17.06	19.77	-107.40	-660.89	577.46	828.24	794.93	33.31	24.861	
4,900.00	4,816.63	4,776.76	4,642.09	17.54	20.39	-107.25	-683.78	597.10	855.86	821.60	34.26	24.978	
5,000.00	4,913.99	4,872.84	4,733.32	18.03	21.02	-107.11	-706.66	616.74	883.49	848.28	35.22	25.088	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 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	
5,100.00	5,011.36	4,968.93	4,824.55	18.51	21.64	-106.98	-729.55	636.38	911.13	874.96	36.17	25.193	
5,200.00	5,108.72	5,065.01	4,915.78	18.99	22.26	-106.86	-752.44	656.02	938.76	901.65	37.12	25.292	
5,300.00	5,206.08	5,161.10	5,007.01	19.48	22.89	-106.74	-775.32	675.65	966.41	928.34	38.07	25.386	
5,400.00	5,303.44	5,250.61	5,092.00	19.96	23.47	-106.64	-796.65	693.95	994.07	955.09	38.99	25.497	
5,500.00	5,400.81	5,250.61	5,092.00	20.45	23.47	-106.64	-796.65	693.95	1,026.84	987.38	39.46	26.020	
5,600.00	5,498.17	5,250.61	5,092.00	20.93	23.47	-106.64	-796.65	693.95	1,068.01	1,028.07	39.94	26.740	
5,700.00	5,595.53	5,250.61	5,092.00	21.42	23.47	-106.64	-796.65	693.95	1,116.63	1,076.21	40.42	27.628	
5,717.30	5,612.37	5,250.61	5,092.00	21.50	23.47	-106.64	-796.65	693.95	1,125.73	1,085.23	40.50	27.796	
5,800.00	5,693.15	5,250.61	5,092.00	21.84	23.47	-107.69	-796.65	693.95	1,171.51	1,130.53	40.98	28.588	
5,900.00	5,791.46	5,250.61	5,092.00	22.14	23.47	-109.10	-796.65	693.95	1,231.25	1,189.79	41.46	29.696	
6,000.00	5,890.35	5,250.61	5,092.00	22.40	23.47	-110.66	-796.65	693.95	1,295.12	1,253.21	41.91	30.904	
6,100.00	5,989.70	5,250.61	5,092.00	22.63	23.47	-112.36	-796.65	693.95	1,362.45	1,320.14	42.30	32.205	
6,200.00	6,089.38	5,250.61	5,092.00	22.83	23.47	-114.17	-796.65	693.95	1,432.68	1,390.04	42.65	33.595	
6,300.00	6,189.28	5,250.61	5,092.00	22.98	23.47	-116.09	-796.65	693.95	1,505.33	1,462.41	42.92	35.072	
6,376.73	6,266.00	5,250.61	5,092.00	23.08	23.47	81.18	-796.65	693.95	1,562.45	1,519.36	43.09	36.257	
6,400.00	6,289.27	5,250.61	5,092.00	23.11	23.47	81.18	-796.65	693.95	1,580.01	1,536.89	43.12	36.640	
6,500.00	6,389.27	5,250.61	5,092.00	23.22	23.47	81.18	-796.65	693.95	1,657.07	1,613.84	43.24	38.325	
6,600.00	6,489.27	5,250.61	5,092.00	23.33	23.47	81.18	-796.65	693.95	1,736.47	1,693.12	43.35	40.054	
6,700.00	6,589.27	5,250.61	5,092.00	23.44	23.47	81.18	-796.65	693.95	1,817.91	1,774.44	43.47	41.819	
6,800.00	6,689.27	5,250.61	5,092.00	23.55	23.47	81.18	-796.65	693.95	1,901.12	1,857.53	43.59	43.614	
6,900.00	6,789.27	5,250.61	5,092.00	23.66	23.47	81.18	-796.65	693.95	1,985.88	1,942.16	43.71	45.432	
7,000.00	6,889.27	5,250.61	5,092.00	23.78	23.47	81.18	-796.65	693.95	2,071.99	2,028.16	43.83	47.269	
7,100.00	6,989.27	5,250.61	5,092.00	23.90	23.47	81.18	-796.65	693.95	2,159.31	2,115.35	43.96	49.122	
7,200.00	7,089.27	5,250.61	5,092.00	24.01	23.47	81.18	-796.65	693.95	2,247.68	2,203.60	44.08	50.987	
7,300.00	7,189.27	5,250.61	5,092.00	24.13	23.47	81.18	-796.65	693.95	2,336.99	2,292.78	44.21	52.860	
7,400.00	7,289.27	5,250.61	5,092.00	24.26	23.47	81.18	-796.65	693.95	2,427.13	2,382.79	44.34	54.740	
7,500.00	7,389.27	5,250.61	5,092.00	24.38	23.47	81.18	-796.65	693.95	2,518.02	2,473.55	44.47	56.623	
7,600.00	7,489.27	5,250.61	5,092.00	24.50	23.47	81.18	-796.65	693.95	2,609.57	2,564.97	44.60	58.509	
7,700.00	7,589.27	5,250.61	5,092.00	24.63	23.47	81.18	-796.65	693.95	2,701.73	2,656.99	44.73	60.395	
7,800.00	7,689.27	5,250.61	5,092.00	24.76	23.47	81.18	-796.65	693.95	2,794.42	2,749.55	44.87	62.279	
7,900.00	7,789.27	5,250.61	5,092.00	24.89	23.47	81.18	-796.65	693.95	2,887.60	2,842.60	45.00	64.162	
8,000.00	7,889.27	5,250.61	5,092.00	25.02	23.47	81.18	-796.65	693.95	2,981.22	2,936.08	45.14	66.041	
8,100.00	7,989.27	5,250.61	5,092.00	25.15	23.47	81.18	-796.65	693.95	3,075.25	3,029.97	45.28	67.915	
8,200.00	8,089.27	5,250.61	5,092.00	25.28	23.47	81.18	-796.65	693.95	3,169.64	3,124.22	45.42	69.784	
8,291.73	8,181.00	5,250.61	5,092.00	25.40	23.47	81.18	-796.65	693.95	3,256.52	3,210.97	45.55	71.493	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 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	89.48	0.73	80.03	80.03				
100.00	100.00	100.00	100.00	0.10	0.10	89.48	0.73	80.03	80.03	79.84	0.19	418.886	
200.00	200.00	200.00	200.00	0.32	0.32	89.48	0.73	80.03	80.03	79.39	0.64	124.931	
300.00	300.00	300.00	300.00	0.55	0.55	89.48	0.73	80.03	80.03	78.94	1.09	73.413	
400.00	400.00	400.00	400.00	0.77	0.77	89.48	0.73	80.03	80.03	78.49	1.54	51.979	
500.00	500.00	500.00	500.00	0.99	0.99	89.48	0.73	80.03	80.03	78.04	1.99	40.232	
600.00	600.00	600.00	600.00	1.22	1.22	89.48	0.73	80.03	80.03	77.59	2.44	32.816	
700.00	700.00	700.00	700.00	1.44	1.44	89.48	0.73	80.03	80.03	77.14	2.89	27.708	
800.00	800.00	800.00	800.00	1.67	1.67	89.48	0.73	80.03	80.03	76.69	3.34	23.977	
900.00	900.00	900.00	900.00	1.89	1.89	89.48	0.73	80.03	80.03	76.24	3.79	21.131	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.48	0.73	80.03	80.03	75.79	4.24	18.889	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.48	0.73	80.03	80.03	75.34	4.69	17.077	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.48	0.73	80.03	80.03	74.89	5.14	15.582	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.48	0.73	80.03	80.03	74.44	5.59	14.328 CC, ES	
1,400.00	1,399.98	1,397.22	1,397.20	2.99	3.00	-110.31	0.64	81.67	82.31	76.33	5.98	13.754 SF	
1,500.00	1,499.84	1,494.00	1,493.85	3.16	3.19	-112.98	0.37	86.58	89.30	82.96	6.35	14.068	
1,600.00	1,599.45	1,589.92	1,589.43	3.35	3.40	-116.56	-0.08	94.66	101.30	94.58	6.72	15.073	
1,700.00	1,698.70	1,684.58	1,683.42	3.56	3.62	-120.27	-0.70	105.76	118.57	111.46	7.11	16.685	
1,800.00	1,797.47	1,777.58	1,775.38	3.79	3.86	-123.61	-1.48	119.68	141.21	133.71	7.51	18.807	
1,900.00	1,895.62	1,868.59	1,864.87	4.07	4.12	-126.37	-2.40	136.18	169.18	161.25	7.93	21.330	
1,959.43	1,953.63	1,921.60	1,916.73	4.25	4.29	-127.73	-3.01	147.09	188.27	180.08	8.19	22.974	
2,000.00	1,993.12	1,957.36	1,951.60	4.38	4.41	-128.72	-3.46	155.00	202.16	193.77	8.39	24.096	
2,100.00	2,090.48	2,044.35	2,036.00	4.73	4.73	-130.44	-4.63	176.03	238.38	229.49	8.89	26.818	
2,200.00	2,187.85	2,129.61	2,118.06	5.11	5.08	-131.43	-5.92	199.12	277.21	267.80	9.41	29.445	
2,300.00	2,285.21	2,213.04	2,197.66	5.50	5.47	-131.95	-7.31	224.07	318.46	308.50	9.96	31.965	
2,400.00	2,382.57	2,300.82	2,280.81	5.91	5.93	-132.21	-8.88	252.15	361.47	350.92	10.55	34.258	
2,500.00	2,479.93	2,391.03	2,366.23	6.33	6.42	-132.41	-10.50	281.13	404.60	393.43	11.17	36.226	
2,600.00	2,577.30	2,481.25	2,451.65	6.75	6.93	-132.57	-12.12	310.10	447.72	435.92	11.80	37.933	
2,700.00	2,674.66	2,571.47	2,537.08	7.19	7.46	-132.71	-13.74	339.07	490.85	478.40	12.45	39.413	
2,800.00	2,772.02	2,661.68	2,622.50	7.63	8.00	-132.82	-15.36	368.04	533.98	520.86	13.12	40.708	
2,900.00	2,869.38	2,751.90	2,707.92	8.08	8.55	-132.92	-16.98	397.01	577.11	563.32	13.79	41.848	
3,000.00	2,966.75	2,842.12	2,793.35	8.54	9.10	-133.00	-18.60	425.98	620.24	605.77	14.47	42.856	
3,100.00	3,064.11	2,932.33	2,878.77	8.99	9.67	-133.07	-20.21	454.95	663.37	648.21	15.16	43.753	
3,200.00	3,161.47	3,022.55	2,964.19	9.46	10.23	-133.13	-21.83	483.92	706.51	690.65	15.86	44.555	
3,300.00	3,258.83	3,112.77	3,049.62	9.92	10.81	-133.19	-23.45	512.89	749.64	733.08	16.56	45.268	
3,400.00	3,356.20	3,202.98	3,135.04	10.39	11.38	-133.24	-25.07	541.86	792.78	775.51	17.27	45.907	
3,500.00	3,453.56	3,293.20	3,220.46	10.85	11.96	-133.28	-26.69	570.83	835.91	817.93	17.98	46.483	
3,600.00	3,550.92	3,383.42	3,305.89	11.32	12.54	-133.32	-28.31	599.81	879.05	860.35	18.70	47.005	
3,700.00	3,648.28	3,473.63	3,391.31	11.80	13.13	-133.36	-29.93	628.78	922.18	902.76	19.42	47.479	
3,800.00	3,745.65	3,563.85	3,476.73	12.27	13.72	-133.39	-31.54	657.75	965.32	945.17	20.15	47.910	
3,900.00	3,843.01	3,654.06	3,562.15	12.74	14.30	-133.42	-33.16	686.72	1,008.46	987.58	20.88	48.305	
4,000.00	3,940.37	3,744.28	3,647.58	13.22	14.89	-133.45	-34.78	715.69	1,051.59	1,029.98	21.61	48.667	
4,100.00	4,037.73	3,834.50	3,733.00	13.70	15.49	-133.48	-36.40	744.66	1,094.73	1,072.39	22.34	49.001	
4,200.00	4,135.09	3,924.71	3,818.42	14.18	16.08	-133.50	-38.02	773.63	1,137.87	1,114.79	23.08	49.308	
4,300.00	4,232.46	4,014.93	3,903.85	14.65	16.67	-133.52	-39.64	802.60	1,181.00	1,157.19	23.81	49.592	
4,400.00	4,329.82	4,105.15	3,989.27	15.13	17.27	-133.54	-41.26	831.57	1,224.14	1,199.59	24.55	49.855	
4,500.00	4,427.18	4,195.36	4,074.69	15.62	17.87	-133.56	-42.87	860.54	1,267.28	1,241.98	25.30	50.100	
4,600.00	4,524.54	4,285.58	4,160.12	16.10	18.46	-133.58	-44.49	889.51	1,310.42	1,284.38	26.04	50.327	
4,700.00	4,621.91	4,375.80	4,245.54	16.58	19.06	-133.60	-46.11	918.48	1,353.55	1,326.77	26.78	50.540	
4,800.00	4,719.27	4,466.01	4,330.96	17.06	19.66	-133.61	-47.73	947.46	1,396.69	1,369.16	27.53	50.738	
4,900.00	4,816.63	4,556.23	4,416.39	17.54	20.26	-133.63	-49.35	976.43	1,439.83	1,411.55	28.27	50.924	
5,000.00	4,913.99	4,646.45	4,501.81	18.03	20.86	-133.64	-50.97	1,005.40	1,482.97	1,453.94	29.02	51.099	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 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
5,100.00	5,011.36	4,736.66	4,587.23	18.51	21.46	-133.65	-52.59	1,034.37	1,526.10	1,496.33	29.77	51.263	
5,200.00	5,108.72	4,826.88	4,672.65	18.99	22.06	-133.67	-54.20	1,063.34	1,569.24	1,538.72	30.52	51.417	
5,300.00	5,206.08	4,917.10	4,758.08	19.48	22.66	-133.68	-55.82	1,092.31	1,612.38	1,581.11	31.27	51.563	
5,400.00	5,303.44	5,007.31	4,843.50	19.96	23.27	-133.69	-57.44	1,121.28	1,655.52	1,623.50	32.02	51.700	
5,500.00	5,400.81	5,097.53	4,928.92	20.45	23.87	-133.70	-59.06	1,150.25	1,698.66	1,665.88	32.77	51.830	
5,600.00	5,498.17	5,187.75	5,014.35	20.93	24.47	-133.71	-60.68	1,179.22	1,741.79	1,708.27	33.53	51.953	
5,700.00	5,595.53	5,277.96	5,099.77	21.42	25.07	-133.72	-62.30	1,208.19	1,784.93	1,750.65	34.28	52.069	
5,717.30	5,612.37	5,293.57	5,114.55	21.50	25.18	-133.72	-62.58	1,213.20	1,792.39	1,757.98	34.41	52.089	
5,800.00	5,693.15	5,368.53	5,185.52	21.84	25.68	-134.25	-63.92	1,237.28	1,827.32	1,792.16	35.16	51.975	
5,900.00	5,791.46	5,460.03	5,272.17	22.14	26.29	-134.77	-65.56	1,266.66	1,867.53	1,831.55	35.98	51.903	
6,000.00	5,890.35	5,552.38	5,359.61	22.40	26.91	-135.18	-67.22	1,296.32	1,905.48	1,868.72	36.76	51.830	
6,100.00	5,989.70	5,777.95	5,575.82	22.63	28.00	-135.21	-70.79	1,360.28	1,937.98	1,900.17	37.80	51.264	
6,200.00	6,089.38	6,015.37	5,808.09	22.83	28.85	-135.20	-73.52	1,409.05	1,961.39	1,922.69	38.69	50.692	
6,300.00	6,189.28	6,261.18	6,051.98	22.98	29.44	-135.19	-75.20	1,439.14	1,975.18	1,935.77	39.41	50.120	
6,376.73	6,266.00	6,452.87	6,243.42	23.08	29.72	63.63	-75.70	1,448.05	1,979.01	1,939.17	39.84	49.670	
6,400.00	6,289.27	6,498.71	6,289.27	23.11	29.76	63.63	-75.71	1,448.29	1,979.10	1,939.16	39.94	49.558	
6,500.00	6,389.27	6,598.71	6,389.27	23.22	29.86	63.63	-75.71	1,448.29	1,979.10	1,938.90	40.20	49.232	
6,600.00	6,489.27	6,698.71	6,489.27	23.33	29.96	63.63	-75.71	1,448.29	1,979.10	1,938.63	40.47	48.907	
6,700.00	6,589.27	6,798.71	6,589.27	23.44	30.07	63.63	-75.71	1,448.29	1,979.10	1,938.36	40.74	48.582	
6,800.00	6,689.27	6,898.71	6,689.27	23.55	30.17	63.63	-75.71	1,448.29	1,979.10	1,938.09	41.01	48.258	
6,900.00	6,789.27	6,998.71	6,789.27	23.66	30.28	63.63	-75.71	1,448.29	1,979.10	1,937.81	41.29	47.934	
7,000.00	6,889.27	7,098.71	6,889.27	23.78	30.38	63.63	-75.71	1,448.29	1,979.10	1,937.53	41.57	47.612	
7,100.00	6,989.27	7,198.71	6,989.27	23.90	30.49	63.63	-75.71	1,448.29	1,979.10	1,937.25	41.85	47.290	
7,200.00	7,089.27	7,298.71	7,089.27	24.01	30.60	63.63	-75.71	1,448.29	1,979.10	1,936.96	42.14	46.969	
7,300.00	7,189.27	7,398.71	7,189.27	24.13	30.71	63.63	-75.71	1,448.29	1,979.10	1,936.67	42.42	46.650	
7,400.00	7,289.27	7,498.71	7,289.27	24.26	30.82	63.63	-75.71	1,448.29	1,979.10	1,936.38	42.72	46.332	
7,500.00	7,389.27	7,598.71	7,389.27	24.38	30.94	63.63	-75.71	1,448.29	1,979.10	1,936.09	43.01	46.015	
7,600.00	7,489.27	7,698.71	7,489.27	24.50	31.05	63.63	-75.71	1,448.29	1,979.10	1,935.79	43.31	45.700	
7,700.00	7,589.27	7,798.71	7,589.27	24.63	31.17	63.63	-75.71	1,448.29	1,979.10	1,935.49	43.61	45.386	
7,800.00	7,689.27	7,898.71	7,689.27	24.76	31.28	63.63	-75.71	1,448.29	1,979.10	1,935.19	43.91	45.074	
7,900.00	7,789.27	7,998.71	7,789.27	24.89	31.40	63.63	-75.71	1,448.29	1,979.10	1,934.89	44.21	44.763	
8,000.00	7,889.27	8,098.71	7,889.27	25.02	31.52	63.63	-75.71	1,448.29	1,979.10	1,934.58	44.52	44.455	
8,100.00	7,989.27	8,198.71	7,989.27	25.15	31.64	63.63	-75.71	1,448.29	1,979.10	1,934.27	44.83	44.148	
8,200.00	8,089.27	8,298.71	8,089.27	25.28	31.76	63.63	-75.71	1,448.29	1,979.10	1,933.96	45.14	43.843	
8,291.73	8,181.00	8,390.45	8,181.00	25.40	31.87	63.63	-75.71	1,448.29	1,979.10	1,933.67	45.43	43.565	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 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	89.31	0.72	59.88	59.88				
100.00	100.00	100.00	100.00	0.10	0.10	89.31	0.72	59.88	59.88	59.69	0.19	313.441	
200.00	200.00	200.00	200.00	0.32	0.32	89.31	0.72	59.88	59.88	59.24	0.64	93.483	
300.00	300.00	300.00	300.00	0.55	0.55	89.31	0.72	59.88	59.88	58.79	1.09	54.933	
400.00	400.00	400.00	400.00	0.77	0.77	89.31	0.72	59.88	59.88	58.34	1.54	38.894	
500.00	500.00	500.00	500.00	0.99	0.99	89.31	0.72	59.88	59.88	57.89	1.99	30.105	
600.00	600.00	600.00	600.00	1.22	1.22	89.31	0.72	59.88	59.88	57.44	2.44	24.555	
700.00	700.00	700.00	700.00	1.44	1.44	89.31	0.72	59.88	59.88	57.00	2.89	20.734	
800.00	800.00	800.00	800.00	1.67	1.67	89.31	0.72	59.88	59.88	56.55	3.34	17.941	
900.00	900.00	900.00	900.00	1.89	1.89	89.31	0.72	59.88	59.88	56.10	3.79	15.812	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.31	0.72	59.88	59.88	55.65	4.24	14.134	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.31	0.72	59.88	59.88	55.20	4.69	12.778	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.31	0.72	59.88	59.88	54.75	5.14	11.660	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.31	0.72	59.88	59.88	54.30	5.59	10.721 CC, ES	
1,400.00	1,399.98	1,398.29	1,398.27	2.99	3.01	-111.92	1.79	61.18	61.86	55.86	6.00	10.317 SF	
1,500.00	1,499.84	1,495.93	1,495.78	3.16	3.22	-118.30	4.98	65.04	68.40	62.03	6.38	10.728	
1,600.00	1,599.45	1,592.29	1,591.78	3.35	3.44	-126.34	10.21	71.37	80.79	74.03	6.76	11.955	
1,700.00	1,698.70	1,686.78	1,685.60	3.56	3.67	-133.92	17.32	79.98	99.98	92.84	7.14	14.006	
1,800.00	1,797.47	1,778.84	1,776.61	3.79	3.90	-140.04	26.14	90.66	126.21	118.69	7.52	16.794	
1,900.00	1,895.62	1,867.99	1,864.27	4.07	4.16	-144.62	36.45	103.15	159.23	151.34	7.89	20.189	
1,959.43	1,953.63	1,919.42	1,914.60	4.25	4.32	-146.73	43.19	111.31	181.90	173.79	8.11	22.441	
2,000.00	1,993.12	1,953.92	1,948.26	4.38	4.43	-148.10	48.03	117.18	198.40	190.13	8.27	23.983	
2,100.00	2,090.48	2,037.37	2,029.25	4.73	4.73	-150.65	60.81	132.65	241.29	232.60	8.69	27.768	
2,200.00	2,187.85	2,118.51	2,107.42	5.11	5.05	-152.37	74.67	149.43	287.04	277.93	9.11	31.497	
2,300.00	2,285.21	2,200.00	2,185.27	5.50	5.41	-153.61	90.00	168.00	335.42	325.87	9.55	35.128	
2,400.00	2,382.57	2,273.76	2,255.12	5.91	5.78	-154.42	105.08	186.27	386.20	376.22	9.98	38.691	
2,500.00	2,479.93	2,347.86	2,324.65	6.33	6.19	-155.02	121.39	206.01	439.27	428.85	10.42	42.144	
2,600.00	2,577.30	2,419.62	2,391.33	6.75	6.61	-155.45	138.26	226.44	494.49	483.62	10.87	45.507	
2,700.00	2,674.66	2,489.05	2,455.21	7.19	7.06	-155.76	155.60	247.44	551.74	540.42	11.31	48.774	
2,800.00	2,772.02	2,560.50	2,520.27	7.63	7.55	-156.00	174.40	270.21	610.82	599.05	11.77	51.892	
2,900.00	2,869.38	2,640.82	2,593.23	8.08	8.12	-156.21	195.78	296.10	670.35	658.09	12.26	54.676	
3,000.00	2,966.75	2,721.15	2,666.19	8.54	8.71	-156.39	217.17	322.00	729.90	717.14	12.75	57.225	
3,100.00	3,064.11	2,801.47	2,739.16	8.99	9.32	-156.54	238.55	347.90	789.44	776.19	13.26	59.557	
3,200.00	3,161.47	2,881.79	2,812.12	9.46	9.93	-156.67	259.94	373.79	848.99	835.22	13.76	61.681	
3,300.00	3,258.83	2,962.12	2,885.09	9.92	10.55	-156.78	281.32	399.69	908.54	894.26	14.28	63.634	
3,400.00	3,356.20	3,042.44	2,958.05	10.39	11.18	-156.88	302.70	425.59	968.09	953.30	14.80	65.432	
3,500.00	3,453.56	3,122.76	3,031.02	10.85	11.81	-156.97	324.09	451.49	1,027.65	1,012.33	15.32	67.092	
3,600.00	3,550.92	3,203.09	3,103.98	11.32	12.45	-157.04	345.47	477.38	1,087.20	1,071.36	15.84	68.627	
3,700.00	3,648.28	3,283.41	3,176.95	11.80	13.09	-157.11	366.86	503.28	1,146.76	1,130.39	16.37	70.044	
3,800.00	3,745.65	3,363.73	3,249.91	12.27	13.73	-157.17	388.24	529.18	1,206.32	1,189.41	16.90	71.359	
3,900.00	3,843.01	3,444.05	3,322.88	12.74	14.38	-157.23	409.63	555.07	1,265.88	1,248.43	17.44	72.583	
4,000.00	3,940.37	3,524.38	3,395.84	13.22	15.03	-157.28	431.01	580.97	1,325.43	1,307.46	17.98	73.725	
4,100.00	4,037.73	3,604.70	3,468.81	13.70	15.68	-157.33	452.39	606.87	1,384.99	1,366.48	18.52	74.791	
4,200.00	4,135.09	3,685.02	3,541.77	14.18	16.34	-157.37	473.78	632.76	1,444.55	1,425.49	19.06	75.785	
4,300.00	4,232.46	3,765.35	3,614.74	14.65	17.00	-157.41	495.16	658.66	1,504.12	1,484.51	19.61	76.717	
4,400.00	4,329.82	3,845.67	3,687.70	15.13	17.65	-157.45	516.55	684.56	1,563.68	1,543.52	20.15	77.592	
4,500.00	4,427.18	3,925.99	3,760.67	15.62	18.31	-157.48	537.93	710.45	1,623.24	1,602.54	20.70	78.415	
4,600.00	4,524.54	4,006.32	3,833.63	16.10	18.97	-157.52	559.32	736.35	1,682.80	1,661.55	21.25	79.189	
4,700.00	4,621.91	4,086.64	3,906.60	16.58	19.64	-157.55	580.70	762.25	1,742.36	1,720.56	21.80	79.919	
4,800.00	4,719.27	4,166.96	3,979.56	17.06	20.30	-157.57	602.08	788.14	1,801.93	1,779.57	22.35	80.607	
4,900.00	4,816.63	4,247.29	4,052.53	17.54	20.96	-157.60	623.47	814.04	1,861.49	1,838.58	22.91	81.258	
5,000.00	4,913.99	4,327.61	4,125.49	18.03	21.63	-157.62	644.85	839.94	1,921.05	1,897.59	23.46	81.874	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 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
5,100.00	5,011.36	4,407.93	4,198.46	18.51	22.29	-157.65	666.24	865.84	1,980.62	1,956.60	24.02	82.459	
5,200.00	5,108.72	4,488.26	4,271.42	18.99	22.96	-157.67	687.62	891.73	2,040.18	2,015.60	24.58	83.013	
5,300.00	5,206.08	4,568.58	4,344.39	19.48	23.63	-157.69	709.01	917.63	2,099.74	2,074.61	25.13	83.539	
5,400.00	5,303.44	4,648.90	4,417.35	19.96	24.30	-157.71	730.39	943.53	2,159.31	2,133.61	25.69	84.040	
5,500.00	5,400.81	4,729.22	4,490.32	20.45	24.96	-157.73	751.77	969.42	2,218.87	2,192.62	26.25	84.517	
5,600.00	5,498.17	4,809.55	4,563.28	20.93	25.63	-157.74	773.16	995.32	2,278.44	2,251.62	26.81	84.971	
5,700.00	5,595.53	4,889.87	4,636.25	21.42	26.30	-157.76	794.54	1,021.22	2,338.00	2,310.63	27.38	85.405	
5,717.30	5,612.37	4,903.77	4,648.87	21.50	26.42	-157.76	798.24	1,025.70	2,348.31	2,320.83	27.47	85.478	
5,800.00	5,693.15	4,970.85	4,709.80	21.84	26.98	-158.21	816.10	1,047.32	2,396.67	2,368.55	28.12	85.238	
5,900.00	5,791.46	5,053.64	4,785.01	22.14	27.67	-158.67	838.14	1,074.02	2,452.73	2,423.87	28.86	85.001	
6,000.00	5,890.35	5,138.19	4,861.82	22.40	28.37	-159.06	860.65	1,101.28	2,506.06	2,476.49	29.57	84.749	
6,100.00	5,989.70	5,224.38	4,940.11	22.63	29.09	-159.38	883.60	1,129.07	2,556.62	2,526.36	30.26	84.492	
6,200.00	6,089.38	5,312.12	5,019.81	22.83	29.83	-159.63	906.96	1,157.35	2,604.33	2,573.42	30.92	84.239	
6,300.00	6,189.28	5,401.29	5,100.82	22.98	30.57	-159.83	930.70	1,186.10	2,649.16	2,617.62	31.54	83.994	
6,376.73	6,266.00	5,470.62	5,163.80	23.08	31.15	-38.85	949.16	1,208.46	2,681.57	2,649.57	32.00	83.793	
6,400.00	6,289.27	5,491.76	5,182.99	23.11	31.33	38.89	954.78	1,215.27	2,691.13	2,659.02	32.12	83.795	
6,500.00	6,389.27	5,593.17	5,612.38	23.22	34.18	39.62	1,061.55	1,344.57	2,730.58	2,696.95	33.63	81.198	
6,600.00	6,489.27	6,842.07	6,489.27	23.33	36.55	40.11	1,139.52	1,438.99	2,738.10	2,702.59	35.51	77.099	
6,700.00	6,589.27	6,942.07	6,589.27	23.44	36.63	40.11	1,139.52	1,438.99	2,738.10	2,702.28	35.83	76.427	
6,800.00	6,689.27	7,042.07	6,689.27	23.55	36.71	40.11	1,139.52	1,438.99	2,738.10	2,701.96	36.14	75.760	
6,900.00	6,789.27	7,142.07	6,789.27	23.66	36.80	40.11	1,139.52	1,438.99	2,738.10	2,701.64	36.46	75.099	
7,000.00	6,889.27	7,242.07	6,889.27	23.78	36.89	40.11	1,139.52	1,438.99	2,738.10	2,701.32	36.78	74.443	
7,100.00	6,989.27	7,342.07	6,989.27	23.90	36.97	40.11	1,139.52	1,438.99	2,738.10	2,701.00	37.10	73.794	
7,200.00	7,089.27	7,442.07	7,089.27	24.01	37.06	40.11	1,139.52	1,438.99	2,738.10	2,700.67	37.43	73.151	
7,300.00	7,189.27	7,542.07	7,189.27	24.13	37.15	40.11	1,139.52	1,438.99	2,738.10	2,700.34	37.76	72.514	
7,400.00	7,289.27	7,642.07	7,289.27	24.26	37.25	40.11	1,139.52	1,438.99	2,738.10	2,700.01	38.09	71.884	
7,500.00	7,389.27	7,742.07	7,389.27	24.38	37.34	40.11	1,139.52	1,438.99	2,738.10	2,699.68	38.42	71.260	
7,600.00	7,489.27	7,842.07	7,489.27	24.50	37.43	40.11	1,139.52	1,438.99	2,738.10	2,699.34	38.76	70.642	
7,700.00	7,589.27	7,942.07	7,589.27	24.63	37.53	40.11	1,139.52	1,438.99	2,738.10	2,699.00	39.10	70.031	
7,800.00	7,689.27	8,042.07	7,689.27	24.76	37.62	40.11	1,139.52	1,438.99	2,738.10	2,698.66	39.44	69.426	
7,900.00	7,789.27	8,142.07	7,789.27	24.89	37.72	40.11	1,139.52	1,438.99	2,738.10	2,698.32	39.78	68.828	
8,000.00	7,889.27	8,242.07	7,889.27	25.02	37.82	40.11	1,139.52	1,438.99	2,738.10	2,697.98	40.13	68.237	
8,100.00	7,989.27	8,342.07	7,989.27	25.15	37.92	40.11	1,139.52	1,438.99	2,738.10	2,697.63	40.47	67.652	
8,200.00	8,089.27	8,442.07	8,089.27	25.28	38.02	40.11	1,139.52	1,438.99	2,738.10	2,697.28	40.82	67.074	
8,249.70	8,138.97	8,491.77	8,138.97	25.35	38.07	40.11	1,139.52	1,438.99	2,738.10	2,697.11	41.00	66.789	
8,291.73	8,181.00	8,508.80	8,156.00	25.40	38.08	40.11	1,139.52	1,438.99	2,738.22	2,697.12	41.10	66.623	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 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	-89.99	0.00	-20.15	20.15				
100.00	100.00	100.00	100.00	0.10	0.10	-89.99	0.00	-20.15	20.15	19.96	0.19	105.449	
200.00	200.00	200.00	200.00	0.32	0.32	-89.99	0.00	-20.15	20.15	19.51	0.64	31.450	
300.00	300.00	300.00	300.00	0.55	0.55	-89.99	0.00	-20.15	20.15	19.06	1.09	18.481	
400.00	400.00	400.00	400.00	0.77	0.77	-89.99	0.00	-20.15	20.15	18.61	1.54	13.085	
500.00	500.00	500.00	500.00	0.99	0.99	-89.99	0.00	-20.15	20.15	18.16	1.99	10.128	
600.00	600.00	600.00	600.00	1.22	1.22	-89.99	0.00	-20.15	20.15	17.71	2.44	8.261	
700.00	700.00	700.00	700.00	1.44	1.44	-89.99	0.00	-20.15	20.15	17.26	2.89	6.975	
800.00	800.00	800.00	800.00	1.67	1.67	-89.99	0.00	-20.15	20.15	16.81	3.34	6.036	
900.00	900.00	900.00	900.00	1.89	1.89	-89.99	0.00	-20.15	20.15	16.36	3.79	5.319	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.99	0.00	-20.15	20.15	15.91	4.24	4.755	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-89.99	0.00	-20.15	20.15	15.46	4.69	4.299	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-89.99	0.00	-20.15	20.15	15.01	5.14	3.923	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-89.99	0.00	-20.15	20.15	14.56	5.59	3.607 CC, ES	
1,400.00	1,399.98	1,399.27	1,399.25	2.99	3.00	75.19	-0.15	-21.86	21.36	15.37	5.99	3.567 SF	
1,500.00	1,499.84	1,498.33	1,498.17	3.16	3.20	84.59	-0.61	-26.98	25.50	19.15	6.36	4.011	
1,600.00	1,599.45	1,596.96	1,596.43	3.35	3.41	94.56	-1.37	-35.46	33.40	26.65	6.75	4.951	
1,700.00	1,698.70	1,694.96	1,693.71	3.56	3.64	102.30	-2.43	-47.22	45.41	38.24	7.16	6.340	
1,800.00	1,797.47	1,792.15	1,789.73	3.79	3.89	107.61	-3.76	-62.15	61.46	53.85	7.61	8.072	
1,900.00	1,895.62	1,888.32	1,884.19	4.07	4.18	111.13	-5.38	-80.10	81.41	73.29	8.11	10.032	
1,959.43	1,953.63	1,944.93	1,939.49	4.25	4.37	112.63	-6.46	-92.14	95.04	86.60	8.44	11.258	
2,000.00	1,993.12	1,983.34	1,976.88	4.38	4.50	113.50	-7.24	-100.94	104.97	96.29	8.68	12.096	
2,100.00	2,090.48	2,079.44	2,070.09	4.73	4.86	114.65	-9.33	-124.23	130.40	121.09	9.31	14.006	
2,200.00	2,187.85	2,176.12	2,163.84	5.11	5.25	115.39	-11.45	-147.75	155.92	145.93	9.98	15.615	
2,300.00	2,285.21	2,272.79	2,257.58	5.50	5.66	115.93	-13.56	-171.28	181.46	170.77	10.69	16.973	
2,400.00	2,382.57	2,369.46	2,351.32	5.91	6.09	116.33	-15.67	-194.80	207.01	195.59	11.42	18.124	
2,500.00	2,479.93	2,466.13	2,445.06	6.33	6.53	116.65	-17.78	-218.33	232.57	220.39	12.17	19.105	
2,600.00	2,577.30	2,562.80	2,538.80	6.75	6.97	116.90	-19.89	-241.85	258.13	245.19	12.94	19.945	
2,700.00	2,674.66	2,659.48	2,632.55	7.19	7.43	117.11	-22.00	-265.38	283.70	269.97	13.72	20.672	
2,800.00	2,772.02	2,756.15	2,726.29	7.63	7.89	117.28	-24.11	-288.90	309.27	294.75	14.52	21.303	
2,900.00	2,869.38	2,852.82	2,820.03	8.08	8.36	117.42	-26.22	-312.43	334.84	319.52	15.32	21.855	
3,000.00	2,966.75	2,949.49	2,913.77	8.54	8.83	117.55	-28.33	-335.95	360.41	344.28	16.13	22.341	
3,100.00	3,064.11	3,046.16	3,007.51	8.99	9.31	117.66	-30.44	-359.48	385.99	369.04	16.95	22.771	
3,200.00	3,161.47	3,142.83	3,101.26	9.46	9.79	117.75	-32.55	-383.00	411.56	393.79	17.78	23.154	
3,300.00	3,258.83	3,239.51	3,195.00	9.92	10.27	117.84	-34.66	-406.52	437.14	418.54	18.60	23.497	
3,400.00	3,356.20	3,336.18	3,288.74	10.39	10.76	117.91	-36.77	-430.05	462.72	443.28	19.44	23.805	
3,500.00	3,453.56	3,432.85	3,382.48	10.85	11.24	117.98	-38.88	-453.57	488.30	468.02	20.27	24.084	
3,600.00	3,550.92	3,529.52	3,476.22	11.32	11.73	118.04	-41.00	-477.10	513.88	492.76	21.11	24.338	
3,700.00	3,648.28	3,626.19	3,569.97	11.80	12.23	118.10	-43.11	-500.62	539.46	517.50	21.96	24.569	
3,800.00	3,745.65	3,722.87	3,663.71	12.27	12.72	118.15	-45.22	-524.15	565.04	542.23	22.80	24.780	
3,900.00	3,843.01	3,819.54	3,757.45	12.74	13.21	118.19	-47.33	-547.67	590.62	566.97	23.65	24.974	
4,000.00	3,940.37	3,916.21	3,851.19	13.22	13.71	118.23	-49.44	-571.20	616.20	591.70	24.50	25.153	
4,100.00	4,037.73	4,012.88	3,944.93	13.70	14.20	118.27	-51.55	-594.72	641.78	616.43	25.35	25.318	
4,200.00	4,135.09	4,109.55	4,038.68	14.18	14.70	118.31	-53.66	-618.25	667.36	641.16	26.20	25.472	
4,300.00	4,232.46	4,206.22	4,132.42	14.65	15.20	118.34	-55.77	-641.77	692.94	665.89	27.05	25.615	
4,400.00	4,329.82	4,302.90	4,226.16	15.13	15.70	118.37	-57.88	-665.30	718.52	690.62	27.91	25.748	
4,500.00	4,427.18	4,399.57	4,319.90	15.62	16.20	118.40	-59.99	-688.82	744.11	715.35	28.76	25.872	
4,600.00	4,524.54	4,496.24	4,413.64	16.10	16.70	118.42	-62.10	-712.35	769.69	740.07	29.62	25.984	
4,700.00	4,621.91	4,592.91	4,507.39	16.58	17.20	118.45	-64.21	-735.87	795.27	764.79	30.49	26.087	
4,800.00	4,719.27	4,689.58	4,601.13	17.06	17.70	118.47	-66.32	-759.40	820.85	789.50	31.35	26.183	
4,900.00	4,816.63	4,786.26	4,694.87	17.54	18.20	118.49	-68.44	-782.92	846.44	814.22	32.22	26.273	
5,000.00	4,913.99	4,882.93	4,788.61	18.03	18.70	118.52	-70.55	-806.45	872.02	838.93	33.08	26.358	

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_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 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
5,100.00	5,011.36	4,979.60	4,882.35	18.51	19.21	118.53	-72.66	-829.97	897.60	863.65	33.95	26.437	
5,200.00	5,108.72	5,076.27	4,976.10	18.99	19.71	118.55	-74.77	-853.50	923.18	888.36	34.82	26.512	
5,300.00	5,206.08	5,172.94	5,069.84	19.48	20.21	118.57	-76.88	-877.02	948.77	913.08	35.69	26.583	
5,400.00	5,303.44	5,269.61	5,163.58	19.96	20.72	118.59	-78.99	-900.55	974.35	937.79	36.56	26.650	
5,500.00	5,400.81	5,366.29	5,257.32	20.45	21.22	118.60	-81.10	-924.07	999.93	962.50	37.43	26.714	
5,600.00	5,498.17	5,462.96	5,351.06	20.93	21.72	118.62	-83.21	-947.60	1,025.52	987.21	38.30	26.774	
5,700.00	5,595.53	5,559.63	5,444.81	21.42	22.23	118.63	-85.32	-971.12	1,051.10	1,011.93	39.17	26.831	
5,717.30	5,612.37	5,576.35	5,461.02	21.50	22.32	118.63	-85.69	-975.19	1,055.53	1,016.20	39.33	26.841	
5,800.00	5,693.15	5,656.44	5,538.68	21.84	22.73	118.96	-87.43	-994.68	1,076.13	1,036.06	40.06	26.861	
5,900.00	5,791.46	5,769.52	5,648.54	22.14	23.26	119.17	-89.83	-1,021.36	1,099.15	1,058.27	40.88	26.888	
6,000.00	5,890.35	5,896.74	5,773.21	22.40	23.71	119.30	-92.09	-1,046.54	1,118.22	1,076.64	41.59	26.888	
6,100.00	5,989.70	6,025.65	5,900.56	22.63	24.07	119.39	-93.87	-1,066.40	1,133.01	1,090.83	42.18	26.859	
6,200.00	6,089.38	6,155.85	6,029.96	22.83	24.37	119.44	-95.15	-1,080.65	1,143.45	1,100.76	42.68	26.788	
6,300.00	6,189.28	6,286.92	6,160.74	22.98	24.60	119.46	-95.90	-1,089.06	1,149.46	1,106.38	43.09	26.678	
6,376.73	6,266.00	6,387.79	6,261.59	23.08	24.73	-41.76	-96.12	-1,091.48	1,151.07	1,107.73	43.34	26.561	
6,400.00	6,289.27	6,415.47	6,289.27	23.11	24.76	-41.76	-96.13	-1,091.54	1,151.10	1,107.69	43.40	26.522	
6,500.00	6,389.27	6,515.47	6,389.27	23.22	24.87	-41.76	-96.13	-1,091.54	1,151.10	1,107.45	43.64	26.374	
6,600.00	6,489.27	6,615.47	6,489.27	23.33	24.99	-41.76	-96.13	-1,091.54	1,151.10	1,107.20	43.90	26.224	
6,700.00	6,589.27	6,715.47	6,589.27	23.44	25.11	-41.76	-96.13	-1,091.54	1,151.10	1,106.95	44.15	26.073	
6,800.00	6,689.27	6,815.47	6,689.27	23.55	25.24	-41.76	-96.13	-1,091.54	1,151.10	1,106.69	44.41	25.922	
6,900.00	6,789.27	6,915.47	6,789.27	23.66	25.36	-41.76	-96.13	-1,091.54	1,151.10	1,106.43	44.67	25.771	
7,000.00	6,889.27	7,015.47	6,889.27	23.78	25.49	-41.76	-96.13	-1,091.54	1,151.10	1,106.17	44.93	25.620	
7,100.00	6,989.27	7,115.47	6,989.27	23.90	25.61	-41.76	-96.13	-1,091.54	1,151.10	1,105.90	45.20	25.469	
7,200.00	7,089.27	7,215.47	7,089.27	24.01	25.74	-41.76	-96.13	-1,091.54	1,151.10	1,105.63	45.46	25.319	
7,300.00	7,189.27	7,315.47	7,189.27	24.13	25.87	-41.76	-96.13	-1,091.54	1,151.10	1,105.36	45.74	25.168	
7,400.00	7,289.27	7,415.47	7,289.27	24.26	26.00	-41.76	-96.13	-1,091.54	1,151.10	1,105.09	46.01	25.018	
7,500.00	7,389.27	7,515.47	7,389.27	24.38	26.14	-41.76	-96.13	-1,091.54	1,151.10	1,104.81	46.29	24.868	
7,600.00	7,489.27	7,615.47	7,489.27	24.50	26.27	-41.76	-96.13	-1,091.54	1,151.10	1,104.53	46.57	24.719	
7,700.00	7,589.27	7,715.47	7,589.27	24.63	26.40	-41.76	-96.13	-1,091.54	1,151.10	1,104.25	46.85	24.570	
7,800.00	7,689.27	7,815.47	7,689.27	24.76	26.54	-41.76	-96.13	-1,091.54	1,151.10	1,103.96	47.13	24.421	
7,900.00	7,789.27	7,915.47	7,789.27	24.89	26.68	-41.76	-96.13	-1,091.54	1,151.10	1,103.67	47.42	24.273	
8,000.00	7,889.27	8,015.47	7,889.27	25.02	26.82	-41.76	-96.13	-1,091.54	1,151.10	1,103.38	47.71	24.126	
8,100.00	7,989.27	8,115.47	7,989.27	25.15	26.96	-41.76	-96.13	-1,091.54	1,151.10	1,103.09	48.01	23.979	
8,200.00	8,089.27	8,215.47	8,089.27	25.28	27.10	-41.76	-96.13	-1,091.54	1,151.10	1,102.80	48.30	23.832	
8,291.73	8,181.00	8,307.21	8,181.00	25.40	27.23	-41.76	-96.13	-1,091.54	1,151.10	1,102.52	48.57	23.698	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 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	89.29	0.37	29.94	29.94				
100.00	100.00	100.00	100.00	0.10	0.10	89.29	0.37	29.94	29.94	29.75	0.19	156.721	
200.00	200.00	200.00	200.00	0.32	0.32	89.29	0.37	29.94	29.94	29.30	0.64	46.741	
300.00	300.00	300.00	300.00	0.55	0.55	89.29	0.37	29.94	29.94	28.85	1.09	27.467	
400.00	400.00	400.00	400.00	0.77	0.77	89.29	0.37	29.94	29.94	28.40	1.54	19.447	
500.00	500.00	500.00	500.00	0.99	0.99	89.29	0.37	29.94	29.94	27.95	1.99	15.052	
600.00	600.00	600.00	600.00	1.22	1.22	89.29	0.37	29.94	29.94	27.50	2.44	12.278	
700.00	700.00	700.00	700.00	1.44	1.44	89.29	0.37	29.94	29.94	27.05	2.89	10.367	
800.00	800.00	800.00	800.00	1.67	1.67	89.29	0.37	29.94	29.94	26.60	3.34	8.971	
900.00	900.00	900.00	900.00	1.89	1.89	89.29	0.37	29.94	29.94	26.15	3.79	7.906	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.29	0.37	29.94	29.94	25.70	4.24	7.067	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.29	0.37	29.94	29.94	25.26	4.69	6.389	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.29	0.37	29.94	29.94	24.81	5.14	5.830	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.29	0.37	29.94	29.94	24.36	5.59	5.361	
1,400.00	1,399.98	1,400.64	1,400.63	2.99	3.01	-113.99	1.00	28.78	29.46	23.46	6.00	4.911	
1,474.23	1,474.12	1,475.16	1,475.10	3.12	3.17	-123.40	2.29	26.41	29.07	22.79	6.28	4.626 CC	
1,500.00	1,499.84	1,500.96	1,500.87	3.16	3.23	-127.87	2.90	25.30	29.16	22.78	6.38	4.569 ES, SF	
1,600.00	1,599.45	1,600.68	1,600.37	3.35	3.45	-149.06	6.03	19.55	32.29	25.53	6.76	4.774	
1,700.00	1,698.70	1,699.48	1,698.75	3.56	3.68	-169.43	10.36	11.61	42.13	34.98	7.15	5.895	
1,800.00	1,797.47	1,797.09	1,795.69	3.79	3.91	176.43	15.83	1.58	59.15	51.61	7.54	7.846	
1,900.00	1,895.62	1,893.23	1,890.85	4.07	4.17	167.60	22.37	-10.43	82.35	74.40	7.95	10.360	
1,959.43	1,953.63	1,949.57	1,946.44	4.25	4.33	163.98	26.74	-18.44	98.71	90.50	8.20	12.031	
2,000.00	1,993.12	1,987.72	1,984.01	4.38	4.44	162.01	29.92	-24.27	110.63	102.23	8.40	13.165	
2,100.00	2,090.48	2,081.03	2,075.60	4.73	4.73	158.02	38.45	-39.93	141.23	132.31	8.92	15.834	
2,200.00	2,187.85	2,173.84	2,166.25	5.11	5.05	154.80	47.96	-57.38	173.49	164.02	9.47	18.328	
2,300.00	2,285.21	2,267.95	2,258.04	5.50	5.40	152.41	57.89	-75.60	206.46	196.42	10.04	20.561	
2,400.00	2,382.57	2,362.05	2,349.84	5.91	5.76	150.68	67.82	-93.82	239.67	229.04	10.63	22.539	
2,500.00	2,479.93	2,456.16	2,441.63	6.33	6.14	149.37	77.75	-112.04	273.03	261.79	11.24	24.291	
2,600.00	2,577.30	2,550.27	2,533.42	6.75	6.52	148.34	87.68	-130.26	306.49	294.63	11.86	25.846	
2,700.00	2,674.66	2,644.38	2,625.22	7.19	6.91	147.52	97.61	-148.48	340.02	327.53	12.49	27.228	
2,800.00	2,772.02	2,738.49	2,717.01	7.63	7.31	146.84	107.54	-166.70	373.60	360.47	13.13	28.463	
2,900.00	2,869.38	2,832.60	2,808.80	8.08	7.71	146.28	117.47	-184.92	407.22	393.44	13.77	29.568	
3,000.00	2,966.75	2,926.71	2,900.60	8.54	8.12	145.80	127.40	-203.14	440.86	426.44	14.43	30.562	
3,100.00	3,064.11	3,020.82	2,992.39	8.99	8.53	145.39	137.33	-221.36	474.54	459.45	15.08	31.460	
3,200.00	3,161.47	3,114.93	3,084.19	9.46	8.94	145.03	147.26	-239.58	508.23	492.48	15.75	32.272	
3,300.00	3,258.83	3,209.04	3,175.98	9.92	9.36	144.72	157.19	-257.81	541.93	525.52	16.42	33.011	
3,400.00	3,356.20	3,303.15	3,267.77	10.39	9.78	144.44	167.12	-276.03	575.65	558.56	17.09	33.684	
3,500.00	3,453.56	3,397.26	3,359.57	10.85	10.21	144.20	177.05	-294.25	609.38	591.61	17.77	34.300	
3,600.00	3,550.92	3,491.37	3,451.36	11.32	10.63	143.98	186.98	-312.47	643.12	624.67	18.45	34.866	
3,700.00	3,648.28	3,585.48	3,543.15	11.80	11.06	143.78	196.91	-330.69	676.86	657.74	19.13	35.386	
3,800.00	3,745.65	3,679.59	3,634.95	12.27	11.49	143.60	206.84	-348.91	710.62	690.80	19.81	35.866	
3,900.00	3,843.01	3,773.70	3,726.74	12.74	11.92	143.44	216.77	-367.13	744.37	723.87	20.50	36.310	
4,000.00	3,940.37	3,867.81	3,818.53	13.22	12.35	143.29	226.71	-385.35	778.13	756.95	21.19	36.722	
4,100.00	4,037.73	3,961.92	3,910.33	13.70	12.79	143.15	236.64	-403.57	811.90	790.02	21.88	37.105	
4,200.00	4,135.09	4,056.03	4,002.12	14.18	13.22	143.03	246.57	-421.79	845.67	823.10	22.57	37.462	
4,300.00	4,232.46	4,150.14	4,093.91	14.65	13.66	142.91	256.50	-440.01	879.45	856.18	23.27	37.796	
4,400.00	4,329.82	4,244.25	4,185.71	15.13	14.09	142.80	266.43	-458.24	913.22	889.26	23.96	38.108	
4,500.00	4,427.18	4,338.36	4,277.50	15.62	14.53	142.70	276.36	-476.46	947.00	922.34	24.66	38.400	
4,600.00	4,524.54	4,432.47	4,369.29	16.10	14.97	142.61	286.29	-494.68	980.78	955.42	25.36	38.674	
4,700.00	4,621.91	4,526.58	4,461.09	16.58	15.40	142.53	296.22	-512.90	1,014.57	988.51	26.06	38.933	
4,800.00	4,719.27	4,620.69	4,552.88	17.06	15.84	142.44	306.15	-531.12	1,048.35	1,021.59	26.76	39.176	
4,900.00	4,816.63	4,714.80	4,644.67	17.54	16.28	142.37	316.08	-549.34	1,082.14	1,054.68	27.46	39.406	

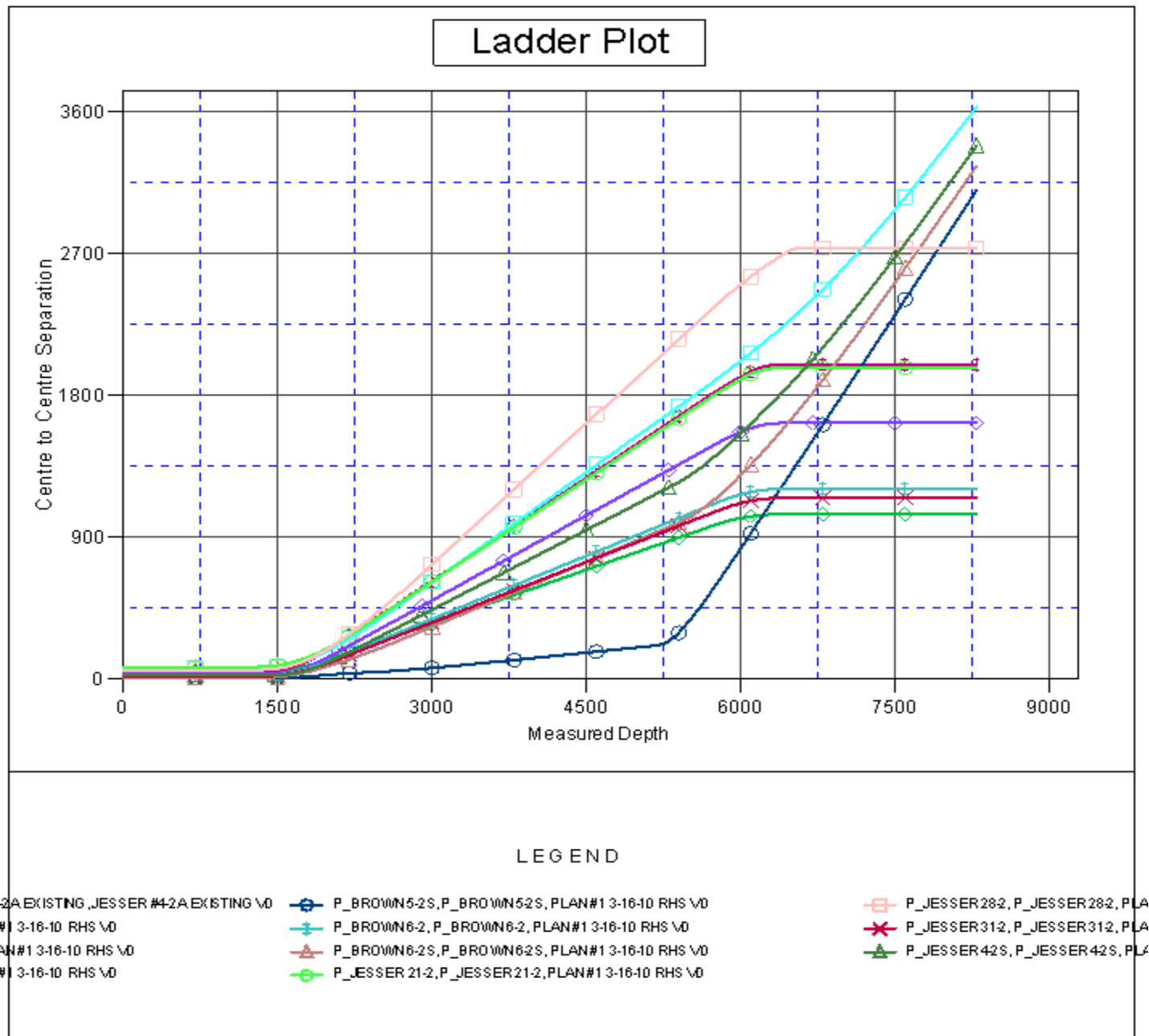
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 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	4,913.99	4,808.91	4,736.47	18.03	16.72	142.30	326.01	-567.56	1,115.93	1,087.76	28.16	39.623	
5,100.00	5,011.36	4,903.02	4,828.26	18.51	17.16	142.23	335.94	-585.78	1,149.72	1,120.85	28.87	39.828	
5,200.00	5,108.72	4,997.13	4,920.05	18.99	17.60	142.17	345.87	-604.00	1,183.51	1,153.94	29.57	40.023	
5,300.00	5,206.08	5,091.24	5,011.85	19.48	18.05	142.11	355.80	-622.22	1,217.30	1,187.03	30.28	40.208	
5,400.00	5,303.44	5,158.04	5,077.00	19.96	18.36	142.07	362.85	-635.16	1,251.40	1,220.51	30.88	40.522	
5,500.00	5,400.81	5,158.04	5,077.00	20.45	18.36	142.07	362.85	-635.16	1,290.62	1,259.37	31.25	41.303	
5,600.00	5,498.17	5,158.04	5,077.00	20.93	18.36	142.07	362.85	-635.16	1,336.19	1,304.57	31.61	42.266	
5,700.00	5,595.53	5,158.04	5,077.00	21.42	18.36	142.07	362.85	-635.16	1,387.48	1,355.50	31.98	43.386	
5,717.30	5,612.37	5,158.04	5,077.00	21.50	18.36	142.07	362.85	-635.16	1,396.89	1,364.84	32.04	43.594	
5,800.00	5,693.15	5,158.04	5,077.00	21.84	18.36	142.75	362.85	-635.16	1,443.11	1,410.72	32.39	44.555	
5,900.00	5,791.46	5,158.04	5,077.00	22.14	18.36	143.60	362.85	-635.16	1,501.19	1,468.46	32.73	45.869	
6,000.00	5,890.35	5,158.04	5,077.00	22.40	18.36	144.49	362.85	-635.16	1,561.33	1,528.31	33.02	47.285	
6,100.00	5,989.70	5,158.04	5,077.00	22.63	18.36	145.39	362.85	-635.16	1,623.24	1,589.97	33.26	48.799	
6,200.00	6,089.38	5,158.04	5,077.00	22.83	18.36	146.31	362.85	-635.16	1,686.65	1,653.19	33.46	50.410	
6,300.00	6,189.28	5,158.04	5,077.00	22.98	18.36	147.24	362.85	-635.16	1,751.33	1,717.73	33.60	52.116	
6,376.73	6,266.00	5,158.04	5,077.00	23.08	18.36	-13.25	362.85	-635.16	1,801.69	1,768.00	33.69	53.478	
6,400.00	6,289.27	5,158.04	5,077.00	23.11	18.36	-13.25	362.85	-635.16	1,817.13	1,783.40	33.73	53.879	
6,500.00	6,389.27	5,158.04	5,077.00	23.22	18.36	-13.25	362.85	-635.16	1,885.31	1,851.44	33.87	55.661	
6,600.00	6,489.27	5,158.04	5,077.00	23.33	18.36	-13.25	362.85	-635.16	1,956.24	1,922.22	34.02	57.505	
6,700.00	6,589.27	5,158.04	5,077.00	23.44	18.36	-13.25	362.85	-635.16	2,029.61	1,995.44	34.17	59.402	
6,800.00	6,689.27	5,158.04	5,077.00	23.55	18.36	-13.25	362.85	-635.16	2,105.18	2,070.86	34.32	61.344	
6,900.00	6,789.27	5,158.04	5,077.00	23.66	18.36	-13.25	362.85	-635.16	2,182.71	2,148.24	34.47	63.323	
7,000.00	6,889.27	5,158.04	5,077.00	23.78	18.36	-13.25	362.85	-635.16	2,262.01	2,227.38	34.62	65.332	
7,100.00	6,989.27	5,158.04	5,077.00	23.90	18.36	-13.25	362.85	-635.16	2,342.89	2,308.11	34.78	67.367	
7,200.00	7,089.27	5,158.04	5,077.00	24.01	18.36	-13.25	362.85	-635.16	2,425.20	2,390.26	34.93	69.422	
7,300.00	7,189.27	5,158.04	5,077.00	24.13	18.36	-13.25	362.85	-635.16	2,508.79	2,473.70	35.09	71.493	
7,400.00	7,289.27	5,158.04	5,077.00	24.26	18.36	-13.25	362.85	-635.16	2,593.55	2,558.30	35.25	73.575	
7,500.00	7,389.27	5,158.04	5,077.00	24.38	18.36	-13.25	362.85	-635.16	2,679.35	2,643.94	35.41	75.665	
7,600.00	7,489.27	5,158.04	5,077.00	24.50	18.36	-13.25	362.85	-635.16	2,766.11	2,730.54	35.57	77.760	
7,700.00	7,589.27	5,158.04	5,077.00	24.63	18.36	-13.25	362.85	-635.16	2,853.74	2,818.01	35.74	79.858	
7,800.00	7,689.27	5,158.04	5,077.00	24.76	18.36	-13.25	362.85	-635.16	2,942.16	2,906.26	35.90	81.956	
7,900.00	7,789.27	5,158.04	5,077.00	24.89	18.36	-13.25	362.85	-635.16	3,031.29	2,995.23	36.06	84.053	
8,000.00	7,889.27	5,158.04	5,077.00	25.02	18.36	-13.25	362.85	-635.16	3,121.09	3,084.86	36.23	86.145	
8,100.00	7,989.27	5,158.04	5,077.00	25.15	18.36	-13.25	362.85	-635.16	3,211.49	3,175.09	36.40	88.233	
8,200.00	8,089.27	5,158.04	5,077.00	25.28	18.36	-13.25	362.85	-635.16	3,302.44	3,265.87	36.57	90.313	
8,291.73	8,181.00	5,158.04	5,077.00	25.40	18.36	-13.25	362.85	-635.16	3,386.32	3,349.60	36.72	92.215	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5158.00ft (Original Well Elev) Coordinates are relative to: P_BROWN 5-2
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: 0.48°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 5-2
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5158.00ft (Original Well Elev)
Reference Site:	WELD_JESSER 18-2 PAD	MD Reference:	WELL @ 5158.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_BROWN 5-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 5-2	Database:	EDM 2003.21 Single User Db
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