



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_JESSER 18-2 PAD

P_BROWN 4-2

P_BROWN 4-2

Plan: PLAN #1 3-16-10 RHS

Standard Planning Report

16 March, 2010

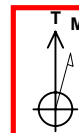




Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_JESSER 18-2 PAD
 Well: P_BROWN 4-2
 Wellbore: P_BROWN 4-2
 Section: SECTION 2 T1N R66W
 SHL: 1178 FNL 1182 FWL
 Design: PLAN #1 3-16-10 RHS
 Latitude: 40° 5' 2.659 N
 Longitude: 104° 44' 58.096 W
 GL: 5143.00
 KB: WELL @ 5158.00ft (Original Well Elev)



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
4287.00	4334.99	PARKMAN
4777.00	4833.95	SUSSEX
7257.00	7334.39	NIO A
7577.00	7654.39	CODELL
8037.00	8114.39	JSAND
8217.00	8294.39	DAKOTA

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
1843.71	10.87	321.51	1840.45	40.27	-32.01	2.00	321.51	51.44	Start 3946.97 hold at 1843.71 MD
5790.68	10.87	321.51	5716.55	623.11	-495.41	0.00	0.00	796.05	Start Drop -2.00
6334.39	0.00	0.00	6257.00	663.37	-527.43	2.00	180.00	847.49	Start 2160.00 hold at 6334.39 MD
8494.39	0.00	0.00	8417.00	663.37	-527.43	0.00	0.00	847.49	TD at 8494.39

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

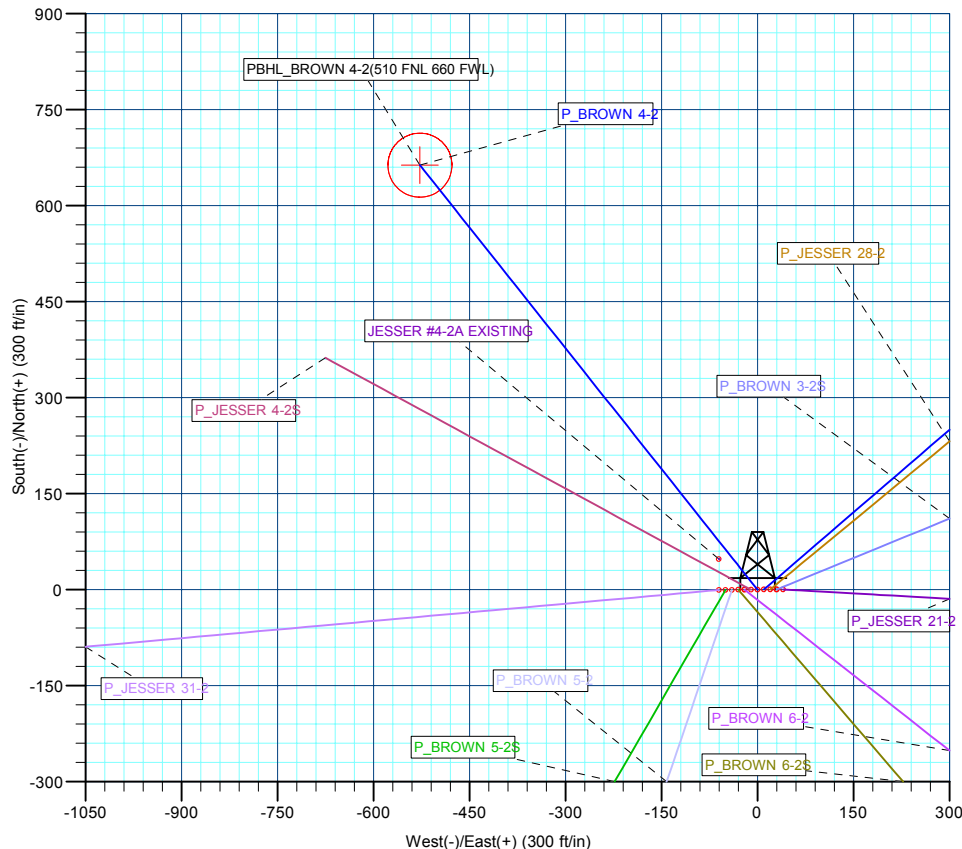
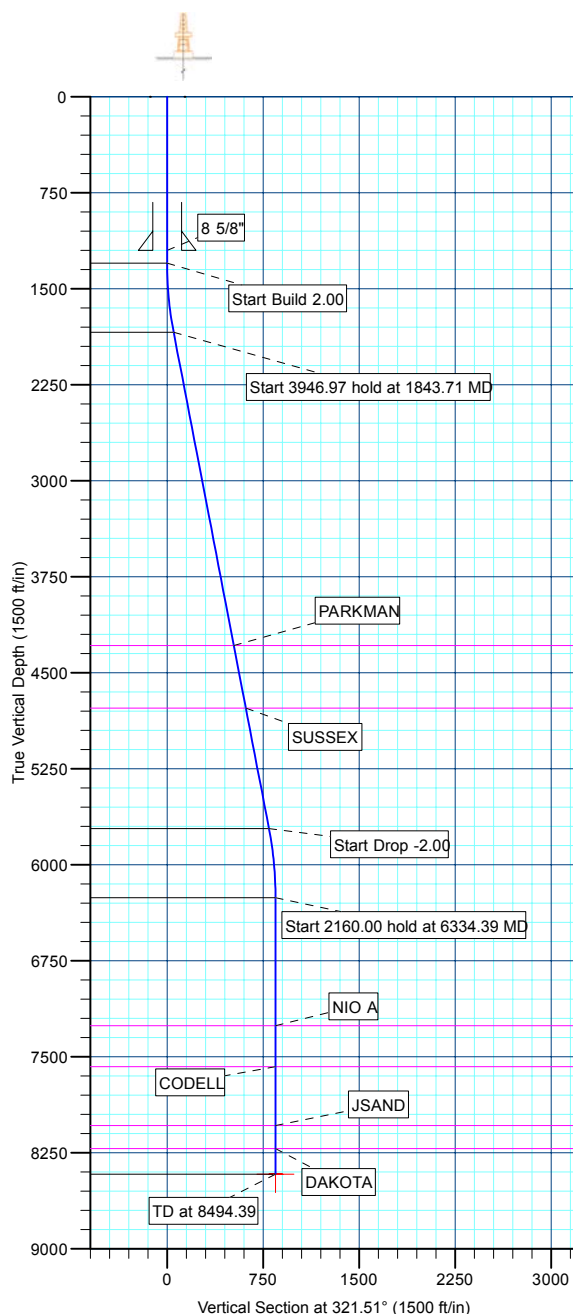
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8417.00	663.37	-527.43	40° 5' 9.215 N	104° 45' 4.882 W	Circle (Radius: 50.00)

WELL DETAILS: P_BROWN 4-2

+N/-S	+E/-W	Northing	Ground Level: Easting	5143.00 Latitude	Longitude	Slot
0.00	0.00	1274360.90	3210001.68	40° 5' 2.659 N	104° 44' 58.096 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 5-2, P_BROWN 5-2, 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



Plan: PLAN #1 3-16-10 RHS (P_BROWN 4-2/P_BROWN 4-2)

Created By: Robert H. Scott Date: 15:23, March 16 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 4-2		
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 4-2					
Well Position	+N/-S	-0.38 ft	Northing:	1,274,360.90 ft	Latitude:	40° 5' 2.659 N
	+E/-W	-10.07 ft	Easting:	3,210,001.68 ft	Longitude:	104° 44' 58.096 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,143.00 ft

Wellbore	P_BROWN 4-2				
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	321.51

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	
1,843.71	10.87	321.51	1,840.45	40.27	-32.01	2.00	2.00	0.00	321.51	
5,790.68	10.87	321.51	5,716.55	623.11	-495.41	0.00	0.00	0.00	0.00	
6,334.39	0.00	0.00	6,257.00	663.37	-527.43	2.00	-2.00	0.00	180.00	
8,494.39	0.00	0.00	8,417.00	663.37	-527.43	0.00	0.00	0.00	0.00	PBHL_BROWN 4-2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 4-2		
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	321.51	1,399.98	1.37	-1.09	1.75	2.00	2.00	0.00
1,500.00	4.00	321.51	1,499.84	5.46	-4.34	6.98	2.00	2.00	0.00
1,600.00	6.00	321.51	1,599.45	12.28	-9.77	15.69	2.00	2.00	0.00
1,700.00	8.00	321.51	1,698.70	21.82	-17.35	27.88	2.00	2.00	0.00
1,800.00	10.00	321.51	1,797.47	34.07	-27.09	43.52	2.00	2.00	0.00
Start 3946.97 hold at 1843.71 MD									
1,843.71	10.87	321.51	1,840.45	40.27	-32.01	51.44	2.00	2.00	0.00
1,900.00	10.87	321.51	1,895.73	48.58	-38.62	62.06	0.00	0.00	0.00
2,000.00	10.87	321.51	1,993.94	63.34	-50.36	80.93	0.00	0.00	0.00
2,100.00	10.87	321.51	2,092.14	78.11	-62.10	99.79	0.00	0.00	0.00
2,200.00	10.87	321.51	2,190.34	92.88	-73.84	118.66	0.00	0.00	0.00
2,300.00	10.87	321.51	2,288.55	107.64	-85.58	137.52	0.00	0.00	0.00
2,400.00	10.87	321.51	2,386.75	122.41	-97.33	156.39	0.00	0.00	0.00
2,500.00	10.87	321.51	2,484.96	137.18	-109.07	175.25	0.00	0.00	0.00
2,600.00	10.87	321.51	2,583.16	151.95	-120.81	194.12	0.00	0.00	0.00
2,700.00	10.87	321.51	2,681.37	166.71	-132.55	212.98	0.00	0.00	0.00
2,800.00	10.87	321.51	2,779.57	181.48	-144.29	231.85	0.00	0.00	0.00
2,900.00	10.87	321.51	2,877.77	196.25	-156.03	250.71	0.00	0.00	0.00
3,000.00	10.87	321.51	2,975.98	211.01	-167.77	269.58	0.00	0.00	0.00
3,100.00	10.87	321.51	3,074.18	225.78	-179.51	288.44	0.00	0.00	0.00
3,200.00	10.87	321.51	3,172.39	240.55	-191.25	307.31	0.00	0.00	0.00
3,300.00	10.87	321.51	3,270.59	255.31	-202.99	326.17	0.00	0.00	0.00
3,400.00	10.87	321.51	3,368.80	270.08	-214.73	345.04	0.00	0.00	0.00
3,500.00	10.87	321.51	3,467.00	284.85	-226.47	363.91	0.00	0.00	0.00
3,600.00	10.87	321.51	3,565.21	299.61	-238.21	382.77	0.00	0.00	0.00
3,700.00	10.87	321.51	3,663.41	314.38	-249.95	401.64	0.00	0.00	0.00
3,800.00	10.87	321.51	3,761.61	329.15	-261.69	420.50	0.00	0.00	0.00
3,900.00	10.87	321.51	3,859.82	343.91	-273.43	439.37	0.00	0.00	0.00
4,000.00	10.87	321.51	3,958.02	358.68	-285.18	458.23	0.00	0.00	0.00
4,100.00	10.87	321.51	4,056.23	373.45	-296.92	477.10	0.00	0.00	0.00
4,200.00	10.87	321.51	4,154.43	388.21	-308.66	495.96	0.00	0.00	0.00
4,300.00	10.87	321.51	4,252.64	402.98	-320.40	514.83	0.00	0.00	0.00
PARKMAN									
4,334.99	10.87	321.51	4,287.00	408.15	-324.51	521.43	0.00	0.00	0.00
4,400.00	10.87	321.51	4,350.84	417.75	-332.14	533.69	0.00	0.00	0.00
4,500.00	10.87	321.51	4,449.04	432.51	-343.88	552.56	0.00	0.00	0.00
4,600.00	10.87	321.51	4,547.25	447.28	-355.62	571.42	0.00	0.00	0.00
4,700.00	10.87	321.51	4,645.45	462.05	-367.36	590.29	0.00	0.00	0.00
4,800.00	10.87	321.51	4,743.66	476.82	-379.10	609.16	0.00	0.00	0.00
SUSSEX									
4,833.95	10.87	321.51	4,777.00	481.83	-383.09	615.56	0.00	0.00	0.00
4,900.00	10.87	321.51	4,841.86	491.58	-390.84	628.02	0.00	0.00	0.00
5,000.00	10.87	321.51	4,940.07	506.35	-402.58	646.89	0.00	0.00	0.00
5,100.00	10.87	321.51	5,038.27	521.12	-414.32	665.75	0.00	0.00	0.00
5,200.00	10.87	321.51	5,136.48	535.88	-426.06	684.62	0.00	0.00	0.00
5,300.00	10.87	321.51	5,234.68	550.65	-437.80	703.48	0.00	0.00	0.00
5,400.00	10.87	321.51	5,332.88	565.42	-449.54	722.35	0.00	0.00	0.00
5,500.00	10.87	321.51	5,431.09	580.18	-461.28	741.21	0.00	0.00	0.00
5,600.00	10.87	321.51	5,529.29	594.95	-473.02	760.08	0.00	0.00	0.00
5,700.00	10.87	321.51	5,627.50	609.72	-484.77	778.94	0.00	0.00	0.00
Start Drop -2.00									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 4-2		
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)
5,790.68	10.87	321.51	5,716.55	623.11	-495.41	796.05	0.00	0.00	0.00
5,800.00	10.69	321.51	5,725.70	624.47	-496.50	797.79	2.00	-2.00	0.00
5,900.00	8.69	321.51	5,824.27	637.64	-506.97	814.62	2.00	-2.00	0.00
6,000.00	6.69	321.51	5,923.37	648.11	-515.29	828.00	2.00	-2.00	0.00
6,100.00	4.69	321.51	6,022.87	655.87	-521.46	837.91	2.00	-2.00	0.00
6,200.00	2.69	321.51	6,122.66	660.91	-525.46	844.34	2.00	-2.00	0.00
6,300.00	0.69	321.51	6,222.61	663.21	-527.30	847.28	2.00	-2.00	0.00
Start 2160.00 hold at 6334.39 MD									
6,334.39	0.00	0.00	6,257.00	663.37	-527.43	847.49	2.00	-2.00	111.92
6,400.00	0.00	0.00	6,322.61	663.37	-527.43	847.49	0.00	0.00	0.00
6,500.00	0.00	0.00	6,422.61	663.37	-527.43	847.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,522.61	663.37	-527.43	847.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,622.61	663.37	-527.43	847.49	0.00	0.00	0.00
6,800.00	0.00	0.00	6,722.61	663.37	-527.43	847.49	0.00	0.00	0.00
6,900.00	0.00	0.00	6,822.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,922.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,100.00	0.00	0.00	7,022.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,200.00	0.00	0.00	7,122.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,300.00	0.00	0.00	7,222.61	663.37	-527.43	847.49	0.00	0.00	0.00
NIO A									
7,334.39	0.00	0.00	7,257.00	663.37	-527.43	847.49	0.00	0.00	0.00
7,400.00	0.00	0.00	7,322.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,500.00	0.00	0.00	7,422.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,600.00	0.00	0.00	7,522.61	663.37	-527.43	847.49	0.00	0.00	0.00
CODELL									
7,654.39	0.00	0.00	7,577.00	663.37	-527.43	847.49	0.00	0.00	0.00
7,700.00	0.00	0.00	7,622.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,800.00	0.00	0.00	7,722.61	663.37	-527.43	847.49	0.00	0.00	0.00
7,900.00	0.00	0.00	7,822.61	663.37	-527.43	847.49	0.00	0.00	0.00
8,000.00	0.00	0.00	7,922.61	663.37	-527.43	847.49	0.00	0.00	0.00
8,100.00	0.00	0.00	8,022.61	663.37	-527.43	847.49	0.00	0.00	0.00
JSAND									
8,114.39	0.00	0.00	8,037.00	663.37	-527.43	847.49	0.00	0.00	0.00
8,200.00	0.00	0.00	8,122.61	663.37	-527.43	847.49	0.00	0.00	0.00
DAKOTA									
8,294.39	0.00	0.00	8,217.00	663.37	-527.43	847.49	0.00	0.00	0.00
8,300.00	0.00	0.00	8,222.61	663.37	-527.43	847.49	0.00	0.00	0.00
8,400.00	0.00	0.00	8,322.61	663.37	-527.43	847.49	0.00	0.00	0.00
PBHL_BROWN 4-2(510 FNL 660 FWL)									
8,494.39	0.00	0.00	8,417.00	663.37	-527.43	847.49	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 4-2(5	0.00	0.00	8,417.00	663.37	-527.43	1,275,019.78	3,209,468.66	40° 5' 9.215 N	104° 45' 4.882 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 4-2		
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 (°)	
4,334.99	4,287.00	PARKMAN				
4,833.95	4,777.00	SUSSEX				
7,334.39	7,257.00	NIO A				
7,654.39	7,577.00	CODELL				
8,114.39	8,037.00	JSAND				
8,294.39	8,217.00	DAKOTA				

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	
1,843.71	1,840.45	40.27	-32.01	Start 3946.97 hold at 1843.71 MD	
5,790.68	5,716.55	623.11	-495.41	Start Drop -2.00	
6,334.39	6,257.00	663.37	-527.43	Start 2160.00 hold at 6334.39 MD	
8,494.39	8,417.00	663.37	-527.43	TD at 8494.39	

US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_JESSER 18-2 PAD
P_BROWN 4-2**

**P_BROWN 4-2
PLAN #1 3-16-10 RHS**

Anticollision Report

16 March, 2010

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	8,494.39	PLAN #1 3-16-10 RHS (P_BROWN 4-2)	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 -	1,968.36	1,941.86	17.62	-62.59	0.220	Level 1, CC, SF
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	2,000.00	1,972.94	18.60	-62.81	0.228	Level 1, ES
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,300.00	1,300.00	10.08	4.49	1.805	CC, ES, SF
P_BROWN 3-2S - P_BROWN 3-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	29.94	24.36	5.361	CC, ES
P_BROWN 3-2S - P_BROWN 3-2S - PLAN #1 3-16-10 F	1,400.00	1,399.22	32.23	26.21	5.355	SF
P_BROWN 5-2 - P_BROWN 5-2 - PLAN #1 3-16-10 RHS	1,446.73	1,445.77	39.47	33.29	6.383	CC, ES
P_BROWN 5-2 - P_BROWN 5-2 - PLAN #1 3-16-10 RHS	1,500.00	1,498.34	39.87	33.48	6.237	SF
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,481.59	1,480.04	49.39	43.07	7.813	CC
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,500.00	1,498.21	49.43	43.03	7.730	ES
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,600.00	1,596.43	51.42	44.62	7.558	SF
P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS	1,503.01	1,503.13	14.20	7.77	2.207	CC, ES, SF
P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 F	1,549.53	1,549.43	23.13	16.52	3.495	CC, ES, SF
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	40.01	34.43	7.164	CC, ES
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,400.00	1,398.53	42.83	36.82	7.125	SF
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	19.87	14.28	3.557	CC, ES, SF
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	60.16	54.57	10.771	CC, ES
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,500.00	1,495.69	62.95	56.53	9.807	SF
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	10.07	4.49	1.803	CC
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,400.00	1,399.77	10.16	4.14	1.687	ES
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,500.00	1,499.53	10.73	4.28	1.663	SF

WELD_JESSER 18-2 PAD - JESSER #4-2A EXISTING - JESSER #4-2A EXISTING - JESSER #4-2A E										Offset Site Error:		0.00 ft	
Survey Program: 0-UNKNOWN										Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	-51.71	47.71	-60.44	79.81				
100.00	100.00	79.00	79.00	0.10	1.58	-51.71	47.71	-60.44	77.00	75.32	1.68	45.954	
200.00	200.00	179.00	179.00	0.32	5.16	-51.71	47.71	-60.44	77.00	71.52	5.48	14.050	
300.00	300.00	279.00	279.00	0.55	9.16	-51.71	47.71	-60.44	77.00	67.29	9.71	7.934	
400.00	400.00	379.00	379.00	0.77	13.16	-51.71	47.71	-60.44	77.00	63.07	13.93	5.528	
500.00	500.00	479.00	479.00	0.99	17.16	-51.71	47.71	-60.44	77.00	58.84	18.15	4.241	
600.00	600.00	579.00	579.00	1.22	21.16	-51.71	47.71	-60.44	77.00	54.62	22.38	3.441	
700.00	700.00	679.00	679.00	1.44	25.16	-51.71	47.71	-60.44	77.00	50.40	26.60	2.894	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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						
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
800.00	800.00	779.00	779.00	1.67	29.16	-51.71	47.71	-60.44	77.00	46.17	30.83	2.498	
900.00	900.00	879.00	879.00	1.89	33.16	-51.71	47.71	-60.44	77.00	41.95	35.05	2.197	
1,000.00	1,000.00	979.00	979.00	2.12	37.16	-51.71	47.71	-60.44	77.00	37.72	39.28	1.960	
1,100.00	1,100.00	1,079.00	1,079.00	2.34	41.16	-51.71	47.71	-60.44	77.00	33.50	43.50	1.770	
1,200.00	1,200.00	1,179.00	1,179.00	2.57	45.16	-51.71	47.71	-60.44	77.00	29.27	47.73	1.613	
1,300.00	1,300.00	1,279.00	1,279.00	2.79	49.16	-51.71	47.71	-60.44	77.00	25.05	51.95	1.482 Level 3	
1,400.00	1,399.98	1,378.98	1,378.98	3.01	53.16	-13.54	47.71	-60.44	75.30	19.16	56.14	1.341 Level 3	
1,500.00	1,499.84	1,478.84	1,478.84	3.24	57.15	-14.56	47.71	-60.44	70.22	9.97	60.25	1.166 Level 2	
1,600.00	1,599.45	1,578.45	1,578.45	3.47	61.14	-16.64	47.71	-60.44	61.83	-2.44	64.27	0.962 Level 1	
1,700.00	1,698.70	1,677.70	1,677.70	3.71	65.11	-20.70	47.71	-60.44	50.27	-17.94	68.20	0.737 Level 1	
1,800.00	1,797.47	1,776.47	1,776.47	3.97	69.06	-29.64	47.71	-60.44	36.03	-36.11	72.14	0.500 Level 1	
1,843.71	1,840.45	1,819.45	1,819.45	4.10	70.78	-37.34	47.71	-60.44	29.38	-44.58	73.96	0.397 Level 1	
1,900.00	1,895.73	1,874.73	1,874.73	4.27	72.99	-54.29	47.71	-60.44	21.83	-54.89	76.73	0.285 Level 1	
1,968.36	1,962.86	1,941.86	1,941.86	4.48	75.67	-90.00	47.71	-60.44	17.62	-62.59	80.20	0.220 Level 1, CC, SF	
2,000.00	1,993.94	1,972.94	1,972.94	4.58	76.92	-108.40	47.71	-60.44	18.60	-62.81	81.42	0.228 Level 1, ES	
2,100.00	2,092.14	2,071.14	2,071.14	4.91	80.85	-144.16	47.71	-60.44	30.45	-54.24	84.69	0.360 Level 1	
2,200.00	2,190.34	2,169.34	2,169.34	5.25	84.77	-157.68	47.71	-60.44	47.12	-41.33	88.45	0.533 Level 1	
2,300.00	2,288.55	2,267.55	2,267.55	5.61	88.70	-164.00	47.71	-60.44	65.00	-27.42	92.42	0.703 Level 1	
2,400.00	2,386.75	2,365.75	2,365.75	5.97	92.63	-167.58	47.71	-60.44	83.31	-13.14	96.46	0.864 Level 1	
2,500.00	2,484.96	2,463.96	2,463.96	6.34	96.56	-169.86	47.71	-60.44	101.83	1.30	100.53	1.013 Level 2	
2,600.00	2,583.16	2,562.16	2,562.16	6.71	100.49	-171.44	47.71	-60.44	120.46	15.84	104.61	1.151 Level 2	
2,700.00	2,681.37	2,660.37	2,660.37	7.09	104.41	-172.59	47.71	-60.44	139.15	30.44	108.70	1.280 Level 3	
2,800.00	2,779.57	2,758.57	2,758.57	7.47	108.34	-173.48	47.71	-60.44	157.88	45.08	112.80	1.400 Level 3	
2,900.00	2,877.77	2,856.77	2,856.77	7.86	112.27	-174.17	47.71	-60.44	176.64	59.74	116.90	1.511	
3,000.00	2,975.98	2,954.98	2,954.98	8.25	116.20	-174.73	47.71	-60.44	195.42	74.41	121.00	1.615	
3,100.00	3,074.18	3,053.18	3,053.18	8.64	120.13	-175.20	47.71	-60.44	214.21	89.10	125.11	1.712	
3,200.00	3,172.39	3,151.39	3,151.39	9.04	124.06	-175.58	47.71	-60.44	233.02	103.80	129.22	1.803	
3,300.00	3,270.59	3,249.59	3,249.59	9.44	127.98	-175.92	47.71	-60.44	251.84	118.51	133.32	1.889	
3,400.00	3,368.80	3,347.80	3,347.80	9.84	131.91	-176.20	47.71	-60.44	270.66	133.23	137.43	1.969	
3,500.00	3,467.00	3,446.00	3,446.00	10.24	135.84	-176.45	47.71	-60.44	289.49	147.94	141.54	2.045	
3,600.00	3,565.21	3,544.21	3,544.21	10.64	139.77	-176.66	47.71	-60.44	308.32	162.67	145.65	2.117	
3,700.00	3,663.41	3,642.41	3,642.41	11.04	143.70	-176.86	47.71	-60.44	327.15	177.39	149.76	2.184	
3,800.00	3,761.61	3,740.61	3,740.61	11.45	147.62	-177.03	47.71	-60.44	345.99	192.12	153.88	2.249	
3,900.00	3,859.82	3,838.82	3,838.82	11.85	151.55	-177.18	47.71	-60.44	364.84	206.85	157.99	2.309	
4,000.00	3,958.02	3,937.02	3,937.02	12.26	155.48	-177.32	47.71	-60.44	383.68	221.58	162.10	2.367	
4,100.00	4,056.23	4,035.23	4,035.23	12.67	159.41	-177.45	47.71	-60.44	402.53	236.31	166.21	2.422	
4,200.00	4,154.43	4,133.43	4,133.43	13.07	163.34	-177.56	47.71	-60.44	421.37	251.05	170.33	2.474	
4,300.00	4,252.64	4,231.64	4,231.64	13.48	167.27	-177.66	47.71	-60.44	440.22	265.78	174.44	2.524	
4,400.00	4,350.84	4,329.84	4,329.84	13.89	171.19	-177.76	47.71	-60.44	459.08	280.52	178.56	2.571	
4,500.00	4,449.04	4,428.04	4,428.04	14.30	175.12	-177.85	47.71	-60.44	477.93	295.26	182.67	2.616	
4,600.00	4,547.25	4,526.25	4,526.25	14.71	179.05	-177.93	47.71	-60.44	496.78	310.00	186.79	2.660	
4,700.00	4,645.45	4,624.45	4,624.45	15.12	182.98	-178.01	47.71	-60.44	515.63	324.73	190.90	2.701	
4,800.00	4,743.66	4,722.66	4,722.66	15.53	186.91	-178.08	47.71	-60.44	534.49	339.47	195.02	2.741	
4,900.00	4,841.86	4,820.86	4,820.86	15.94	190.83	-178.14	47.71	-60.44	553.34	354.21	199.13	2.779	
5,000.00	4,940.07	4,919.07	4,919.07	16.36	194.76	-178.20	47.71	-60.44	572.20	368.95	203.25	2.815	
5,100.00	5,038.27	5,017.27	5,017.27	16.77	198.69	-178.26	47.71	-60.44	591.06	383.69	207.36	2.850	
5,200.00	5,136.48	5,115.48	5,115.48	17.18	202.62	-178.31	47.71	-60.44	609.91	398.44	211.48	2.884	
5,300.00	5,234.68	5,213.68	5,213.68	17.59	206.55	-178.37	47.71	-60.44	628.77	413.18	215.59	2.916	
5,400.00	5,332.88	5,311.88	5,311.88	18.01	210.48	-178.41	47.71	-60.44	647.63	427.92	219.71	2.948	
5,500.00	5,431.09	5,410.09	5,410.09	18.42	214.40	-178.46	47.71	-60.44	666.49	442.66	223.83	2.978	
5,600.00	5,529.29	5,508.29	5,508.29	18.84	218.33	-178.50	47.71	-60.44	685.35	457.40	227.94	3.007	
5,700.00	5,627.50	5,606.50	5,606.50	19.25	222.26	-178.54	47.71	-60.44	704.21	472.15	232.06	3.035	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 - JESSER #4-2A EXISTING - JESSER #4-2A EXISTING - JESSER #4-2A E												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,790.68	5,716.55	5,695.55	5,695.55	19.62	225.82	-178.57	47.71	-60.44	721.31	485.52	235.79	3.059	
5,800.00	5,725.70	5,704.70	5,704.70	19.66	226.19	-178.58	47.71	-60.44	723.05	486.75	236.30	3.060	
5,900.00	5,824.27	5,803.27	5,803.27	19.96	230.13	-178.62	47.71	-60.44	739.87	498.20	241.67	3.061	
6,000.00	5,923.37	5,902.37	5,902.37	20.22	234.09	-178.65	47.71	-60.44	753.25	506.38	246.87	3.051	
6,100.00	6,022.87	6,001.87	6,001.87	20.45	238.07	-178.67	47.71	-60.44	763.15	511.34	251.81	3.031	
6,200.00	6,122.66	6,101.66	6,101.66	20.64	242.07	-178.69	47.71	-60.44	769.58	513.12	256.47	3.001	
6,300.00	6,222.61	6,201.61	6,201.61	20.79	246.06	-178.69	47.71	-60.44	772.53	511.71	260.82	2.962	
6,334.39	6,257.00	6,236.00	6,236.00	20.83	247.44	142.82	47.71	-60.44	772.74	510.49	262.25	2.947	
6,400.00	6,322.61	6,301.61	6,301.61	20.92	250.06	142.82	47.71	-60.44	772.74	507.74	264.99	2.916	
6,500.00	6,422.61	6,401.61	6,401.61	21.06	254.06	142.82	47.71	-60.44	772.74	503.54	269.19	2.871	
6,600.00	6,522.61	6,501.61	6,501.61	21.21	258.06	142.82	47.71	-60.44	772.74	499.34	273.40	2.826	
6,700.00	6,622.61	6,601.61	6,601.61	21.36	262.06	142.82	47.71	-60.44	772.74	495.14	277.60	2.784	
6,800.00	6,722.61	6,701.61	6,701.61	21.51	266.06	142.82	47.71	-60.44	772.74	490.93	281.80	2.742	
6,900.00	6,822.61	6,801.61	6,801.61	21.66	270.06	142.82	47.71	-60.44	772.74	486.73	286.00	2.702	
7,000.00	6,922.61	6,901.61	6,901.61	21.81	274.06	142.82	47.71	-60.44	772.74	482.53	290.21	2.663	
7,100.00	7,022.61	7,001.61	7,001.61	21.96	278.06	142.82	47.71	-60.44	772.74	478.32	294.41	2.625	
7,200.00	7,122.61	7,101.61	7,101.61	22.12	282.06	142.82	47.71	-60.44	772.74	474.12	298.62	2.588	
7,300.00	7,222.61	7,201.61	7,201.61	22.27	286.06	142.82	47.71	-60.44	772.74	469.91	302.82	2.552	
7,400.00	7,322.61	7,301.61	7,301.61	22.43	290.06	142.82	47.71	-60.44	772.74	465.70	307.03	2.517	
7,500.00	7,422.61	7,401.61	7,401.61	22.59	294.06	142.82	47.71	-60.44	772.74	461.50	311.24	2.483	
7,600.00	7,522.61	7,501.61	7,501.61	22.75	298.06	142.82	47.71	-60.44	772.74	457.29	315.45	2.450	
7,700.00	7,622.61	7,601.61	7,601.61	22.91	302.06	142.82	47.71	-60.44	772.74	453.08	319.65	2.417	
7,800.00	7,722.61	7,701.61	7,701.61	23.07	306.06	142.82	47.71	-60.44	772.74	448.87	323.86	2.386	
7,900.00	7,822.61	7,801.61	7,801.61	23.23	310.06	142.82	47.71	-60.44	772.74	444.67	328.07	2.355	
8,000.00	7,922.61	7,901.61	7,901.61	23.40	314.06	142.82	47.71	-60.44	772.74	440.46	332.28	2.326	
8,100.00	8,022.61	8,001.61	8,001.61	23.56	318.06	142.82	47.71	-60.44	772.74	436.25	336.49	2.296	
8,200.00	8,122.61	8,101.61	8,101.61	23.73	322.06	142.82	47.71	-60.44	772.74	432.04	340.70	2.268	
8,300.00	8,222.61	8,201.61	8,201.61	23.89	326.06	142.82	47.71	-60.44	772.74	427.83	344.91	2.240	
8,400.00	8,322.61	8,205.00	8,205.00	24.06	326.20	142.82	47.71	-60.44	778.75	433.50	345.25	2.256	
8,494.39	8,417.00	8,205.00	8,205.00	24.22	326.20	142.82	47.71	-60.44	795.99	450.54	345.45	2.304	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 3-2 - P_BROWN 3-2 - 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)	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	87.83	0.38	10.07	10.08				
100.00	100.00	100.00	100.00	0.10	0.10	87.83	0.38	10.07	10.08	9.89	0.19	52.762	
200.00	200.00	200.00	200.00	0.32	0.32	87.83	0.38	10.07	10.08	9.44	0.64	15.736	
300.00	300.00	300.00	300.00	0.55	0.55	87.83	0.38	10.07	10.08	8.99	1.09	9.247	
400.00	400.00	400.00	400.00	0.77	0.77	87.83	0.38	10.07	10.08	8.54	1.54	6.547	
500.00	500.00	500.00	500.00	0.99	0.99	87.83	0.38	10.07	10.08	8.09	1.99	5.068	
600.00	600.00	600.00	600.00	1.22	1.22	87.83	0.38	10.07	10.08	7.64	2.44	4.133	
700.00	700.00	700.00	700.00	1.44	1.44	87.83	0.38	10.07	10.08	7.19	2.89	3.490	
800.00	800.00	800.00	800.00	1.67	1.67	87.83	0.38	10.07	10.08	6.74	3.34	3.020	
900.00	900.00	900.00	900.00	1.89	1.89	87.83	0.38	10.07	10.08	6.29	3.79	2.662	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	87.83	0.38	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	87.83	0.38	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	87.83	0.38	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	87.83	0.38	10.07	10.08	4.49	5.59	1.805 CC, ES, SF	
1,400.00	1,399.98	1,399.67	1,399.65	3.01	3.01	127.76	1.51	11.39	12.48	6.45	6.02	2.072	
1,500.00	1,499.84	1,498.99	1,498.83	3.24	3.23	129.93	4.89	15.31	19.69	13.23	6.45	3.052	
1,600.00	1,599.45	1,597.62	1,597.08	3.47	3.45	131.30	10.46	21.78	31.69	24.81	6.88	4.607	
1,700.00	1,698.70	1,695.23	1,693.98	3.71	3.69	132.01	18.14	30.70	48.42	41.11	7.31	6.623	
1,800.00	1,797.47	1,791.51	1,789.11	3.97	3.94	132.32	27.82	41.95	69.82	62.06	7.76	8.998	
1,843.71	1,840.45	1,833.11	1,830.04	4.10	4.06	132.38	32.65	47.55	80.61	72.64	7.96	10.123	
1,900.00	1,895.73	1,886.27	1,882.19	4.27	4.21	132.40	39.39	55.38	95.41	87.17	8.24	11.575	
2,000.00	1,993.94	1,979.74	1,973.38	4.58	4.52	131.58	52.75	70.90	123.45	114.68	8.76	14.086	
2,100.00	2,092.14	2,075.32	2,066.28	4.91	4.86	130.62	67.44	87.96	152.65	143.33	9.32	16.377	
2,200.00	2,190.34	2,170.94	2,159.20	5.25	5.23	129.96	82.13	105.02	181.87	171.97	9.90	18.377	
2,300.00	2,288.55	2,266.56	2,252.13	5.61	5.61	129.48	96.82	122.08	211.11	200.62	10.49	20.126	
2,400.00	2,386.75	2,362.17	2,345.06	5.97	6.01	129.13	111.51	139.14	240.36	229.27	11.10	21.660	
2,500.00	2,484.96	2,457.79	2,437.99	6.34	6.41	128.84	126.20	156.21	269.62	257.90	11.72	23.011	
2,600.00	2,583.16	2,553.41	2,530.91	6.71	6.83	128.62	140.89	173.27	298.88	286.54	12.35	24.207	
2,700.00	2,681.37	2,649.02	2,623.84	7.09	7.25	128.43	155.58	190.33	328.15	315.16	12.99	25.269	
2,800.00	2,779.57	2,744.64	2,716.77	7.47	7.68	128.28	170.27	207.39	357.42	343.79	13.63	26.217	
2,900.00	2,877.77	2,840.26	2,809.70	7.86	8.11	128.14	184.96	224.46	386.69	372.40	14.29	27.067	
3,000.00	2,975.98	2,935.87	2,902.63	8.25	8.55	128.03	199.65	241.52	415.96	401.02	14.95	27.831	
3,100.00	3,074.18	3,031.49	2,995.55	8.64	8.99	127.93	214.34	258.58	445.24	429.63	15.61	28.522	
3,200.00	3,172.39	3,127.11	3,088.48	9.04	9.44	127.84	229.03	275.64	474.51	458.23	16.28	29.149	
3,300.00	3,270.59	3,222.72	3,181.41	9.44	9.88	127.77	243.72	292.71	503.79	486.84	16.95	29.719	
3,400.00	3,368.80	3,318.34	3,274.34	9.84	10.33	127.70	258.41	309.77	533.06	515.44	17.63	30.240	
3,500.00	3,467.00	3,413.96	3,367.27	10.24	10.78	127.64	273.10	326.83	562.34	544.03	18.31	30.717	
3,600.00	3,565.21	3,509.57	3,460.19	10.64	11.24	127.58	287.79	343.89	591.62	572.63	18.99	31.156	
3,700.00	3,663.41	3,605.19	3,553.12	11.04	11.69	127.54	302.48	360.96	620.90	601.22	19.67	31.560	
3,800.00	3,761.61	3,700.81	3,646.05	11.45	12.15	127.49	317.17	378.02	650.18	629.82	20.36	31.933	
3,900.00	3,859.82	3,796.42	3,738.98	11.85	12.61	127.45	331.86	395.08	679.46	658.41	21.05	32.280	
4,000.00	3,958.02	3,892.04	3,831.91	12.26	13.07	127.41	346.55	412.14	708.73	686.99	21.74	32.601	
4,100.00	4,056.23	3,987.65	3,924.83	12.67	13.53	127.38	361.24	429.21	738.01	715.58	22.43	32.900	
4,200.00	4,154.43	4,083.27	4,017.76	13.07	13.99	127.34	375.93	446.27	767.29	744.17	23.13	33.180	
4,300.00	4,252.64	4,178.89	4,110.69	13.48	14.45	127.31	390.62	463.33	796.57	772.75	23.82	33.441	
4,400.00	4,350.84	4,274.50	4,203.62	13.89	14.92	127.29	405.31	480.39	825.85	801.34	24.52	33.685	
4,500.00	4,449.04	4,370.12	4,296.55	14.30	15.38	127.26	420.01	497.46	855.13	829.92	25.21	33.915	
4,600.00	4,547.25	4,465.74	4,389.47	14.71	15.85	127.24	434.70	514.52	884.41	858.50	25.91	34.130	
4,700.00	4,645.45	4,561.35	4,482.40	15.12	16.31	127.21	449.39	531.58	913.69	887.08	26.61	34.334	
4,800.00	4,743.66	4,656.97	4,575.33	15.53	16.78	127.19	464.08	548.64	942.98	915.66	27.31	34.525	
4,900.00	4,841.86	4,752.59	4,668.26	15.94	17.24	127.17	478.77	565.70	972.26	944.24	28.01	34.706	
5,000.00	4,940.07	4,848.20	4,761.18	16.36	17.71	127.15	493.46	582.77	1,001.54	972.82	28.72	34.878	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 3-2 - P_BROWN 3-2 - 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	5,038.27	4,943.82	4,854.11	16.77	18.18	127.14	508.15	599.83	1,030.82	1,001.40	29.42	35.040	
5,200.00	5,136.48	5,039.44	4,947.04	17.18	18.64	127.12	522.84	616.89	1,060.10	1,029.98	30.12	35.194	
5,300.00	5,234.68	5,135.05	5,039.97	17.59	19.11	127.10	537.53	633.95	1,089.38	1,058.55	30.83	35.340	
5,400.00	5,332.88	5,230.67	5,132.90	18.01	19.58	127.09	552.22	651.02	1,118.66	1,087.13	31.53	35.479	
5,500.00	5,431.09	5,326.29	5,225.82	18.42	20.05	127.07	566.91	668.08	1,147.94	1,115.71	32.24	35.612	
5,600.00	5,529.29	5,421.90	5,318.75	18.84	20.52	127.06	581.60	685.14	1,177.22	1,144.28	32.94	35.738	
5,700.00	5,627.50	5,517.52	5,411.68	19.25	20.99	127.05	596.29	702.20	1,206.51	1,172.86	33.65	35.858	
5,790.68	5,716.55	5,604.22	5,495.95	19.62	21.41	127.04	609.61	717.68	1,233.06	1,198.77	34.29	35.962	
5,800.00	5,725.70	5,613.14	5,504.61	19.66	21.46	127.08	610.98	719.27	1,235.78	1,201.42	34.36	35.965	
5,900.00	5,824.27	5,723.36	5,611.80	19.96	21.95	127.44	627.71	738.70	1,263.70	1,228.58	35.12	35.982	
6,000.00	5,923.37	5,870.51	5,756.09	20.22	22.45	127.67	646.52	760.55	1,286.76	1,250.90	35.86	35.881	
6,100.00	6,022.87	6,020.83	5,904.81	20.45	22.87	127.84	660.72	777.04	1,303.86	1,267.35	36.51	35.711	
6,200.00	6,122.66	6,173.43	6,056.73	20.64	23.20	127.96	669.90	787.70	1,314.85	1,277.80	37.06	35.481	
6,300.00	6,222.61	6,327.30	6,210.48	20.79	23.44	128.02	673.81	792.24	1,319.63	1,282.14	37.50	35.195	
6,334.39	6,257.00	6,373.83	6,257.00	20.83	23.49	89.54	673.94	792.40	1,319.87	1,282.25	37.61	35.090	
6,400.00	6,322.61	6,439.44	6,322.61	20.92	23.58	89.54	673.94	792.40	1,319.87	1,282.06	37.81	34.911	
6,500.00	6,422.61	6,539.44	6,422.61	21.06	23.70	89.54	673.94	792.40	1,319.87	1,281.75	38.12	34.626	
6,600.00	6,522.61	6,639.44	6,522.61	21.21	23.83	89.54	673.94	792.40	1,319.87	1,281.43	38.43	34.343	
6,700.00	6,622.61	6,739.44	6,622.61	21.36	23.96	89.54	673.94	792.40	1,319.87	1,281.12	38.75	34.063	
6,800.00	6,722.61	6,839.44	6,722.61	21.51	24.09	89.54	673.94	792.40	1,319.87	1,280.80	39.07	33.784	
6,900.00	6,822.61	6,939.44	6,822.61	21.66	24.23	89.54	673.94	792.40	1,319.87	1,280.48	39.39	33.508	
7,000.00	6,922.61	7,039.44	6,922.61	21.81	24.36	89.54	673.94	792.40	1,319.87	1,280.15	39.71	33.235	
7,100.00	7,022.61	7,139.44	7,022.61	21.96	24.50	89.54	673.94	792.40	1,319.87	1,279.83	40.04	32.964	
7,200.00	7,122.61	7,239.44	7,122.61	22.12	24.63	89.54	673.94	792.40	1,319.87	1,279.50	40.37	32.695	
7,300.00	7,222.61	7,339.44	7,222.61	22.27	24.77	89.54	673.94	792.40	1,319.87	1,279.16	40.70	32.429	
7,400.00	7,322.61	7,439.44	7,322.61	22.43	24.91	89.54	673.94	792.40	1,319.87	1,278.83	41.03	32.166	
7,500.00	7,422.61	7,539.44	7,422.61	22.59	25.05	89.54	673.94	792.40	1,319.87	1,278.50	41.37	31.905	
7,600.00	7,522.61	7,639.44	7,522.61	22.75	25.20	89.54	673.94	792.40	1,319.87	1,278.16	41.71	31.646	
7,700.00	7,622.61	7,739.44	7,622.61	22.91	25.34	89.54	673.94	792.40	1,319.87	1,277.82	42.05	31.390	
7,800.00	7,722.61	7,839.44	7,722.61	23.07	25.48	89.54	673.94	792.40	1,319.87	1,277.48	42.39	31.137	
7,900.00	7,822.61	7,939.44	7,822.61	23.23	25.63	89.54	673.94	792.40	1,319.87	1,277.13	42.73	30.886	
8,000.00	7,922.61	8,039.44	7,922.61	23.40	25.78	89.54	673.94	792.40	1,319.87	1,276.79	43.08	30.638	
8,100.00	8,022.61	8,139.44	8,022.61	23.56	25.92	89.54	673.94	792.40	1,319.87	1,276.44	43.43	30.393	
8,200.00	8,122.61	8,239.44	8,122.61	23.73	26.07	89.54	673.94	792.40	1,319.87	1,276.09	43.78	30.150	
8,210.82	8,133.43	8,250.26	8,133.43	23.74	26.09	89.54	673.94	792.40	1,319.87	1,276.05	43.81	30.124	
8,300.00	8,222.61	8,276.83	8,160.00	23.89	26.13	89.54	673.94	792.40	1,321.35	1,277.33	44.02	30.018	
8,400.00	8,322.61	8,276.83	8,160.00	24.06	26.13	89.54	673.94	792.40	1,329.84	1,285.65	44.20	30.088	
8,494.39	8,417.00	8,276.83	8,160.00	24.22	26.13	89.54	673.94	792.40	1,344.65	1,300.29	44.37	30.307	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 3-2S - P_BROWN 3-2S - 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	89.33	0.35	29.94	29.94				
100.00	100.00	100.00	100.00	0.10	0.10	89.33	0.35	29.94	29.94	29.75	0.19	156.720	
200.00	200.00	200.00	200.00	0.32	0.32	89.33	0.35	29.94	29.94	29.30	0.64	46.741	
300.00	300.00	300.00	300.00	0.55	0.55	89.33	0.35	29.94	29.94	28.85	1.09	27.466	
400.00	400.00	400.00	400.00	0.77	0.77	89.33	0.35	29.94	29.94	28.40	1.54	19.447	
500.00	500.00	500.00	500.00	0.99	0.99	89.33	0.35	29.94	29.94	27.95	1.99	15.052	
600.00	600.00	600.00	600.00	1.22	1.22	89.33	0.35	29.94	29.94	27.50	2.44	12.278	
700.00	700.00	700.00	700.00	1.44	1.44	89.33	0.35	29.94	29.94	27.05	2.89	10.367	
800.00	800.00	800.00	800.00	1.67	1.67	89.33	0.35	29.94	29.94	26.60	3.34	8.971	
900.00	900.00	900.00	900.00	1.89	1.89	89.33	0.35	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	89.33	0.35	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	89.33	0.35	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	89.33	0.35	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	89.33	0.35	29.94	29.94	24.36	5.59	5.361 CC, ES	
1,400.00	1,399.98	1,399.22	1,399.21	3.01	3.01	129.37	0.84	31.13	32.23	26.21	6.02	5.355 SF	
1,500.00	1,499.84	1,498.11	1,498.02	3.24	3.22	132.91	2.30	34.69	39.21	32.77	6.44	6.090	
1,600.00	1,599.45	1,596.35	1,596.05	3.47	3.43	136.61	4.71	40.57	51.02	44.16	6.85	7.443	
1,700.00	1,698.70	1,693.62	1,692.92	3.71	3.65	139.56	8.03	48.69	67.71	60.44	7.27	9.314	
1,800.00	1,797.47	1,789.61	1,788.27	3.97	3.88	141.66	12.23	58.94	89.22	81.54	7.69	11.606	
1,843.71	1,840.45	1,831.10	1,829.39	4.10	3.99	142.36	14.33	64.05	100.12	92.24	7.87	12.716	
1,900.00	1,895.73	1,884.17	1,881.90	4.27	4.13	143.12	17.26	71.19	115.03	106.90	8.13	14.147	
2,000.00	1,993.94	1,977.69	1,974.14	4.58	4.39	143.61	23.09	85.42	143.01	134.40	8.60	16.620	
2,100.00	2,092.14	2,070.15	2,064.94	4.91	4.68	143.44	29.69	101.54	172.81	163.72	9.10	19.000	
2,200.00	2,190.34	2,161.45	2,154.17	5.25	4.99	142.93	37.03	119.45	204.43	194.82	9.60	21.288	
2,300.00	2,288.55	2,251.52	2,241.71	5.61	5.33	142.22	45.05	139.04	237.84	227.71	10.13	23.486	
2,400.00	2,386.75	2,340.28	2,327.47	5.97	5.70	141.40	53.73	160.21	273.05	262.39	10.67	25.600	
2,500.00	2,484.96	2,427.67	2,411.36	6.34	6.09	140.54	63.01	182.85	310.06	298.84	11.22	27.638	
2,600.00	2,583.16	2,518.46	2,498.08	6.71	6.53	139.68	73.19	207.70	348.36	336.57	11.80	29.527	
2,700.00	2,681.37	2,610.69	2,586.17	7.09	7.00	138.97	83.55	233.00	386.78	374.39	12.39	31.211	
2,800.00	2,779.57	2,702.92	2,674.26	7.47	7.48	138.39	93.92	258.29	425.24	412.25	13.00	32.721	
2,900.00	2,877.77	2,795.15	2,762.34	7.86	7.97	137.91	104.28	283.59	463.73	450.13	13.61	34.080	
3,000.00	2,975.98	2,887.38	2,850.43	8.25	8.48	137.50	114.65	308.89	502.25	488.02	14.23	35.306	
3,100.00	3,074.18	2,979.61	2,938.51	8.64	8.99	137.15	125.01	334.19	540.78	525.93	14.85	36.418	
3,200.00	3,172.39	3,071.84	3,026.60	9.04	9.50	136.84	135.38	359.48	579.33	563.85	15.48	37.428	
3,300.00	3,270.59	3,164.07	3,114.68	9.44	10.02	136.57	145.74	384.78	617.89	601.78	16.11	38.349	
3,400.00	3,368.80	3,256.30	3,202.77	9.84	10.55	136.34	156.11	410.08	656.46	639.71	16.75	39.191	
3,500.00	3,467.00	3,348.53	3,290.85	10.24	11.08	136.13	166.47	435.38	695.04	677.65	17.39	39.964	
3,600.00	3,565.21	3,440.76	3,378.94	10.64	11.62	135.94	176.84	460.67	733.63	715.59	18.04	40.675	
3,700.00	3,663.41	3,532.99	3,467.02	11.04	12.15	135.77	187.20	485.97	772.22	753.54	18.68	41.331	
3,800.00	3,761.61	3,625.22	3,555.11	11.45	12.69	135.62	197.57	511.27	810.82	791.49	19.33	41.937	
3,900.00	3,859.82	3,717.45	3,643.19	11.85	13.23	135.48	207.93	536.57	849.42	829.44	19.99	42.499	
4,000.00	3,958.02	3,809.68	3,731.28	12.26	13.78	135.35	218.30	561.86	888.03	867.39	20.64	43.022	
4,100.00	4,056.23	3,901.91	3,819.36	12.67	14.32	135.24	228.66	587.16	926.64	905.34	21.30	43.508	
4,200.00	4,154.43	3,994.14	3,907.45	13.07	14.87	135.13	239.03	612.46	965.25	943.30	21.96	43.962	
4,300.00	4,252.64	4,086.37	3,995.53	13.48	15.42	135.03	249.39	637.76	1,003.87	981.25	22.62	44.386	
4,400.00	4,350.84	4,178.60	4,083.62	13.89	15.97	134.94	259.76	663.05	1,042.49	1,019.21	23.28	44.784	
4,500.00	4,449.04	4,270.83	4,171.70	14.30	16.52	134.86	270.12	688.35	1,081.10	1,057.16	23.94	45.157	
4,600.00	4,547.25	4,363.06	4,259.79	14.71	17.07	134.78	280.49	713.65	1,119.73	1,095.12	24.61	45.508	
4,700.00	4,645.45	4,455.29	4,347.87	15.12	17.63	134.70	290.85	738.95	1,158.35	1,133.08	25.27	45.838	
4,800.00	4,743.66	4,547.52	4,435.96	15.53	18.18	134.63	301.22	764.24	1,196.97	1,171.04	25.94	46.149	
4,900.00	4,841.86	4,639.75	4,524.04	15.94	18.74	134.57	311.58	789.54	1,235.60	1,209.00	26.60	46.444	
5,000.00	4,940.07	4,731.98	4,612.13	16.36	19.29	134.51	321.95	814.84	1,274.23	1,246.96	27.27	46.722	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 3-2S - P_BROWN 3-2S - 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	5,038.27	4,824.21	4,700.22	16.77	19.85	134.45	332.32	840.14	1,312.86	1,284.92	27.94	46.986	
5,200.00	5,136.48	4,916.44	4,788.30	17.18	20.40	134.40	342.68	865.43	1,351.49	1,322.88	28.61	47.236	
5,300.00	5,234.68	5,008.67	4,876.39	17.59	20.96	134.35	353.05	890.73	1,390.12	1,360.84	29.28	47.473	
5,400.00	5,332.88	5,100.90	4,964.47	18.01	21.52	134.30	363.41	916.03	1,428.75	1,398.80	29.95	47.699	
5,500.00	5,431.09	5,193.13	5,052.56	18.42	22.08	134.25	373.78	941.33	1,467.38	1,436.76	30.63	47.914	
5,600.00	5,529.29	5,206.16	5,065.00	18.84	22.16	134.25	375.24	944.90	1,508.10	1,477.08	31.01	48.625	
5,700.00	5,627.50	5,206.16	5,065.00	19.25	22.16	134.25	375.24	944.90	1,554.13	1,522.77	31.36	49.561	
5,790.68	5,716.55	5,206.16	5,065.00	19.62	22.16	134.25	375.24	944.90	1,600.14	1,568.47	31.67	50.527	
5,800.00	5,725.70	5,206.16	5,065.00	19.66	22.16	134.33	375.24	944.90	1,605.08	1,573.36	31.71	50.611	
5,900.00	5,824.27	5,206.16	5,065.00	19.96	22.16	135.25	375.24	944.90	1,659.30	1,627.16	32.14	51.622	
6,000.00	5,923.37	5,206.16	5,065.00	20.22	22.16	136.20	375.24	944.90	1,715.64	1,683.11	32.53	52.739	
6,100.00	6,022.87	5,206.16	5,065.00	20.45	22.16	137.18	375.24	944.90	1,773.83	1,740.96	32.87	53.959	
6,200.00	6,122.66	5,206.16	5,065.00	20.64	22.16	138.18	375.24	944.90	1,833.64	1,800.46	33.17	55.278	
6,300.00	6,222.61	5,206.16	5,065.00	20.79	22.16	139.21	375.24	944.90	1,894.82	1,861.40	33.42	56.695	
6,334.39	6,257.00	5,206.16	5,065.00	20.83	22.16	101.07	375.24	944.90	1,916.15	1,882.65	33.50	57.204	
6,400.00	6,322.61	5,206.16	5,065.00	20.92	22.16	101.07	375.24	944.90	1,957.64	1,924.04	33.60	58.266	
6,500.00	6,422.61	5,206.16	5,065.00	21.06	22.16	101.07	375.24	944.90	2,023.33	1,989.56	33.77	59.920	
6,600.00	6,522.61	5,206.16	5,065.00	21.21	22.16	101.07	375.24	944.90	2,091.74	2,057.81	33.94	61.635	
6,700.00	6,622.61	5,206.16	5,065.00	21.36	22.16	101.07	375.24	944.90	2,162.62	2,128.51	34.11	63.403	
6,800.00	6,722.61	5,206.16	5,065.00	21.51	22.16	101.07	375.24	944.90	2,235.72	2,201.44	34.28	65.217	
6,900.00	6,822.61	5,206.16	5,065.00	21.66	22.16	101.07	375.24	944.90	2,310.84	2,276.38	34.46	67.068	
7,000.00	6,922.61	5,206.16	5,065.00	21.81	22.16	101.07	375.24	944.90	2,387.78	2,353.15	34.63	68.952	
7,100.00	7,022.61	5,206.16	5,065.00	21.96	22.16	101.07	375.24	944.90	2,466.37	2,431.57	34.81	70.861	
7,200.00	7,122.61	5,206.16	5,065.00	22.12	22.16	101.07	375.24	944.90	2,546.47	2,511.49	34.98	72.793	
7,300.00	7,222.61	5,206.16	5,065.00	22.27	22.16	101.07	375.24	944.90	2,627.94	2,592.78	35.16	74.741	
7,400.00	7,322.61	5,206.16	5,065.00	22.43	22.16	101.07	375.24	944.90	2,710.64	2,675.30	35.34	76.704	
7,500.00	7,422.61	5,206.16	5,065.00	22.59	22.16	101.07	375.24	944.90	2,794.48	2,758.96	35.52	78.676	
7,600.00	7,522.61	5,206.16	5,065.00	22.75	22.16	101.07	375.24	944.90	2,879.34	2,843.64	35.70	80.654	
7,700.00	7,622.61	5,206.16	5,065.00	22.91	22.16	101.07	375.24	944.90	2,965.15	2,929.27	35.88	82.638	
7,800.00	7,722.61	5,206.16	5,065.00	23.07	22.16	101.07	375.24	944.90	3,051.83	3,015.76	36.06	84.623	
7,900.00	7,822.61	5,206.16	5,065.00	23.23	22.16	101.07	375.24	944.90	3,139.30	3,103.05	36.25	86.608	
8,000.00	7,922.61	5,206.16	5,065.00	23.40	22.16	101.07	375.24	944.90	3,227.49	3,191.06	36.43	88.591	
8,100.00	8,022.61	5,206.16	5,065.00	23.56	22.16	101.07	375.24	944.90	3,316.36	3,279.74	36.62	90.570	
8,200.00	8,122.61	5,206.16	5,065.00	23.73	22.16	101.07	375.24	944.90	3,405.84	3,369.04	36.80	92.545	
8,300.00	8,222.61	5,206.16	5,065.00	23.89	22.16	101.07	375.24	944.90	3,495.89	3,458.90	36.99	94.512	
8,400.00	8,322.61	5,206.16	5,065.00	24.06	22.16	101.07	375.24	944.90	3,586.47	3,549.30	37.18	96.473	
8,494.39	8,417.00	5,206.16	5,065.00	24.22	22.16	101.07	375.24	944.90	3,672.42	3,635.07	37.35	98.315	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 5-2 - P_BROWN 5-2 - 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	-90.53	-0.37	-40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	-90.53	-0.37	-40.01	40.01	39.82	0.19	209.443	
200.00	200.00	200.00	200.00	0.32	0.32	-90.53	-0.37	-40.01	40.01	39.37	0.64	62.465	
300.00	300.00	300.00	300.00	0.55	0.55	-90.53	-0.37	-40.01	40.01	38.92	1.09	36.707	
400.00	400.00	400.00	400.00	0.77	0.77	-90.53	-0.37	-40.01	40.01	38.47	1.54	25.989	
500.00	500.00	500.00	500.00	0.99	0.99	-90.53	-0.37	-40.01	40.01	38.03	1.99	20.116	
600.00	600.00	600.00	600.00	1.22	1.22	-90.53	-0.37	-40.01	40.01	37.58	2.44	16.408	
700.00	700.00	700.00	700.00	1.44	1.44	-90.53	-0.37	-40.01	40.01	37.13	2.89	13.854	
800.00	800.00	800.00	800.00	1.67	1.67	-90.53	-0.37	-40.01	40.01	36.68	3.34	11.988	
900.00	900.00	900.00	900.00	1.89	1.89	-90.53	-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	-90.53	-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	-90.53	-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	-90.53	-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	-90.53	-0.37	-40.01	40.01	34.43	5.59	7.164	
1,400.00	1,399.98	1,399.45	1,399.43	3.01	2.99	-56.38	-2.00	-40.57	39.63	33.63	6.00	6.604	
1,446.73	1,446.67	1,445.77	1,445.70	3.12	3.07	-61.43	-3.88	-41.21	39.47	33.29	6.18	6.383 CC, ES	
1,500.00	1,499.84	1,498.34	1,498.18	3.24	3.16	-69.43	-6.87	-42.22	39.87	33.48	6.39	6.237 SF	
1,600.00	1,599.45	1,596.14	1,595.61	3.47	3.34	-88.64	-14.85	-44.94	44.59	37.78	6.80	6.556	
1,700.00	1,698.70	1,692.33	1,691.10	3.71	3.54	-106.99	-25.76	-48.65	57.46	50.24	7.22	7.961	
1,800.00	1,797.47	1,786.43	1,784.10	3.97	3.76	-120.00	-39.37	-53.28	79.11	71.48	7.63	10.366	
1,843.71	1,840.45	1,826.80	1,823.84	4.10	3.87	-124.09	-46.09	-55.57	91.04	83.23	7.81	11.653	
1,900.00	1,895.73	1,878.18	1,874.26	4.27	4.01	-128.32	-55.42	-58.74	108.08	100.02	8.06	13.415	
2,000.00	1,993.94	1,968.44	1,962.39	4.58	4.28	-133.08	-73.85	-65.02	141.53	133.03	8.50	16.646	
2,100.00	2,092.14	2,061.73	2,053.22	4.91	4.60	-136.04	-94.00	-71.87	176.72	167.75	8.97	19.691	
2,200.00	2,190.34	2,155.01	2,144.05	5.25	4.94	-138.02	-114.15	-78.73	212.19	202.73	9.46	22.426	
2,300.00	2,288.55	2,248.30	2,234.87	5.61	5.30	-139.43	-134.30	-85.58	247.82	237.86	9.96	24.876	
2,400.00	2,386.75	2,341.59	2,325.70	5.97	5.67	-140.49	-154.45	-92.44	283.55	273.08	10.47	27.071	
2,500.00	2,484.96	2,434.88	2,416.53	6.34	6.05	-141.31	-174.60	-99.30	319.35	308.35	11.00	29.043	
2,600.00	2,583.16	2,528.16	2,507.36	6.71	6.45	-141.97	-194.75	-106.15	355.18	343.66	11.53	30.817	
2,700.00	2,681.37	2,621.45	2,598.18	7.09	6.85	-142.50	-214.90	-113.01	391.06	379.00	12.06	32.420	
2,800.00	2,779.57	2,714.74	2,689.01	7.47	7.26	-142.95	-235.05	-119.87	426.95	414.35	12.61	33.871	
2,900.00	2,877.77	2,808.03	2,779.84	7.86	7.67	-143.32	-255.20	-126.72	462.87	449.72	13.15	35.189	
3,000.00	2,975.98	2,901.31	2,870.66	8.25	8.09	-143.65	-275.35	-133.58	498.80	485.10	13.71	36.390	
3,100.00	3,074.18	2,994.60	2,961.49	8.64	8.51	-143.93	-295.49	-140.43	534.75	520.48	14.26	37.487	
3,200.00	3,172.39	3,087.89	3,052.32	9.04	8.94	-144.17	-315.64	-147.29	570.70	555.87	14.83	38.492	
3,300.00	3,270.59	3,181.18	3,143.14	9.44	9.37	-144.39	-335.79	-154.15	606.66	591.27	15.39	39.417	
3,400.00	3,368.80	3,274.46	3,233.97	9.84	9.80	-144.58	-355.94	-161.00	642.63	626.67	15.96	40.268	
3,500.00	3,467.00	3,367.75	3,324.80	10.24	10.23	-144.75	-376.09	-167.86	678.60	662.07	16.53	41.055	
3,600.00	3,565.21	3,461.04	3,415.62	10.64	10.67	-144.90	-396.24	-174.72	714.58	697.48	17.10	41.784	
3,700.00	3,663.41	3,554.33	3,506.45	11.04	11.11	-145.04	-416.39	-181.57	750.56	732.88	17.68	42.461	
3,800.00	3,761.61	3,647.61	3,597.28	11.45	11.55	-145.17	-436.54	-188.43	786.55	768.29	18.25	43.091	
3,900.00	3,859.82	3,740.90	3,688.10	11.85	11.99	-145.28	-456.69	-195.28	822.54	803.70	18.83	43.678	
4,000.00	3,958.02	3,834.19	3,778.93	12.26	12.43	-145.39	-476.84	-202.14	858.53	839.11	19.41	44.227	
4,100.00	4,056.23	3,927.48	3,869.76	12.67	12.88	-145.48	-496.99	-209.00	894.52	874.53	19.99	44.741	
4,200.00	4,154.43	4,020.76	3,960.59	13.07	13.32	-145.57	-517.14	-215.85	930.52	909.94	20.58	45.222	
4,300.00	4,252.64	4,114.05	4,051.41	13.48	13.76	-145.66	-537.29	-222.71	966.51	945.35	21.16	45.675	
4,400.00	4,350.84	4,207.34	4,142.24	13.89	14.21	-145.73	-557.44	-229.57	1,002.51	980.77	21.75	46.101	
4,500.00	4,449.04	4,300.63	4,233.07	14.30	14.66	-145.81	-577.59	-236.42	1,038.51	1,016.18	22.33	46.503	
4,600.00	4,547.25	4,393.91	4,323.89	14.71	15.11	-145.87	-597.74	-243.28	1,074.51	1,051.59	22.92	46.882	
4,700.00	4,645.45	4,487.20	4,414.72	15.12	15.55	-145.93	-617.89	-250.13	1,110.52	1,087.01	23.51	47.240	
4,800.00	4,743.66	4,580.49	4,505.55	15.53	16.00	-145.99	-638.04	-256.99	1,146.52	1,122.42	24.10	47.580	
4,900.00	4,841.86	4,673.78	4,596.37	15.94	16.45	-146.05	-658.19	-263.85	1,182.53	1,157.84	24.69	47.901	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 5-2 - P_BROWN 5-2 - 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
5,000.00	4,940.07	4,767.06	4,687.20	16.36	16.90	-146.10	-678.34	-270.70	1,218.53	1,193.26	25.28	48.207	
5,100.00	5,038.27	4,860.35	4,778.03	16.77	17.35	-146.15	-698.49	-277.56	1,254.54	1,228.67	25.87	48.497	
5,200.00	5,136.48	4,953.64	4,868.85	17.18	17.80	-146.19	-718.64	-284.42	1,290.55	1,264.09	26.46	48.773	
5,300.00	5,234.68	5,046.92	4,959.68	17.59	18.25	-146.24	-738.79	-291.27	1,326.56	1,299.50	27.05	49.036	
5,400.00	5,332.88	5,140.21	5,050.51	18.01	18.70	-146.28	-758.94	-298.13	1,362.56	1,334.92	27.65	49.287	
5,500.00	5,431.09	5,233.50	5,141.34	18.42	19.16	-146.32	-779.09	-304.99	1,398.57	1,370.33	28.24	49.526	
5,600.00	5,529.29	5,326.79	5,232.16	18.84	19.61	-146.36	-799.24	-311.84	1,434.58	1,405.75	28.83	49.755	
5,700.00	5,627.50	5,420.07	5,322.99	19.25	20.06	-146.39	-819.39	-318.70	1,470.59	1,441.17	29.43	49.974	
5,790.68	5,716.55	5,504.67	5,405.35	19.62	20.47	-146.42	-837.66	-324.91	1,503.25	1,473.28	29.97	50.165	
5,800.00	5,725.70	5,513.37	5,413.82	19.66	20.51	-146.46	-839.54	-325.55	1,506.59	1,476.56	30.03	50.166	
5,900.00	5,824.27	5,607.26	5,505.24	19.96	20.97	-146.85	-859.82	-332.46	1,540.99	1,510.30	30.68	50.222	
6,000.00	5,923.37	5,702.09	5,597.57	20.22	21.43	-147.13	-880.30	-339.42	1,572.62	1,541.32	31.30	50.242	
6,100.00	6,022.87	5,880.70	5,772.44	20.45	22.08	-147.22	-914.57	-351.08	1,599.38	1,567.33	32.05	49.902	
6,200.00	6,122.66	6,081.64	5,971.43	20.64	22.59	-147.25	-940.75	-359.99	1,617.26	1,584.54	32.73	49.415	
6,300.00	6,222.61	6,287.02	6,176.30	20.79	22.96	-147.25	-953.79	-364.43	1,625.84	1,592.54	33.30	48.821	
6,334.39	6,257.00	6,358.12	6,247.38	20.83	23.06	174.26	-955.06	-364.86	1,626.61	1,593.13	33.48	48.587	
6,400.00	6,322.61	6,433.34	6,322.61	20.92	23.15	174.27	-955.12	-364.88	1,626.64	1,592.93	33.70	48.263	
6,500.00	6,422.61	6,533.34	6,422.61	21.06	23.25	174.27	-955.12	-364.88	1,626.64	1,592.60	34.04	47.788	
6,600.00	6,522.61	6,633.34	6,522.61	21.21	23.36	174.27	-955.12	-364.88	1,626.64	1,592.26	34.38	47.319	
6,700.00	6,622.61	6,733.34	6,622.61	21.36	23.47	174.27	-955.12	-364.88	1,626.64	1,591.92	34.72	46.856	
6,800.00	6,722.61	6,833.34	6,722.61	21.51	23.59	174.27	-955.12	-364.88	1,626.64	1,591.58	35.06	46.398	
6,900.00	6,822.61	6,933.34	6,822.61	21.66	23.70	174.27	-955.12	-364.88	1,626.64	1,591.23	35.40	45.946	
7,000.00	6,922.61	7,033.34	6,922.61	21.81	23.82	174.27	-955.12	-364.88	1,626.64	1,590.89	35.75	45.500	
7,100.00	7,022.61	7,133.34	7,022.61	21.96	23.93	174.27	-955.12	-364.88	1,626.64	1,590.54	36.10	45.060	
7,200.00	7,122.61	7,233.34	7,122.61	22.12	24.05	174.27	-955.12	-364.88	1,626.64	1,590.18	36.45	44.625	
7,300.00	7,222.61	7,333.34	7,222.61	22.27	24.17	174.27	-955.12	-364.88	1,626.64	1,589.83	36.80	44.196	
7,400.00	7,322.61	7,433.34	7,322.61	22.43	24.30	174.27	-955.12	-364.88	1,626.64	1,589.48	37.16	43.773	
7,500.00	7,422.61	7,533.34	7,422.61	22.59	24.42	174.27	-955.12	-364.88	1,626.64	1,589.12	37.52	43.356	
7,600.00	7,522.61	7,633.34	7,522.61	22.75	24.55	174.27	-955.12	-364.88	1,626.64	1,588.76	37.88	42.944	
7,700.00	7,622.61	7,733.34	7,622.61	22.91	24.67	174.27	-955.12	-364.88	1,626.64	1,588.40	38.24	42.538	
7,800.00	7,722.61	7,833.34	7,722.61	23.07	24.80	174.27	-955.12	-364.88	1,626.64	1,588.03	38.60	42.137	
7,900.00	7,822.61	7,933.34	7,822.61	23.23	24.93	174.27	-955.12	-364.88	1,626.64	1,587.67	38.97	41.742	
8,000.00	7,922.61	8,033.34	7,922.61	23.40	25.06	174.27	-955.12	-364.88	1,626.64	1,587.30	39.34	41.353	
8,100.00	8,022.61	8,133.34	8,022.61	23.56	25.19	174.27	-955.12	-364.88	1,626.64	1,586.93	39.70	40.969	
8,200.00	8,122.61	8,233.34	8,122.61	23.73	25.32	174.27	-955.12	-364.88	1,626.64	1,586.56	40.07	40.590	
8,242.91	8,165.52	8,276.25	8,165.52	23.80	25.38	174.27	-955.12	-364.88	1,626.64	1,586.40	40.23	40.429	
8,300.00	8,222.61	8,291.73	8,181.00	23.89	25.40	174.27	-955.12	-364.88	1,627.17	1,586.80	40.37	40.304	
8,400.00	8,322.61	8,291.73	8,181.00	24.06	25.40	174.27	-955.12	-364.88	1,632.79	1,592.22	40.57	40.248	
8,494.39	8,417.00	8,291.73	8,181.00	24.22	25.40	174.27	-955.12	-364.88	1,643.67	1,602.91	40.75	40.333	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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
0.00	0.00	0.00	0.00	0.00	0.00	-90.42	-0.36	-50.09	50.09				
100.00	100.00	100.00	100.00	0.10	0.10	-90.42	-0.36	-50.09	50.09	49.90	0.19	262.166	
200.00	200.00	200.00	200.00	0.32	0.32	-90.42	-0.36	-50.09	50.09	49.45	0.64	78.190	
300.00	300.00	300.00	300.00	0.55	0.55	-90.42	-0.36	-50.09	50.09	49.00	1.09	45.947	
400.00	400.00	400.00	400.00	0.77	0.77	-90.42	-0.36	-50.09	50.09	48.55	1.54	32.532	
500.00	500.00	500.00	500.00	0.99	0.99	-90.42	-0.36	-50.09	50.09	48.10	1.99	25.180	
600.00	600.00	600.00	600.00	1.22	1.22	-90.42	-0.36	-50.09	50.09	47.65	2.44	20.538	
700.00	700.00	700.00	700.00	1.44	1.44	-90.42	-0.36	-50.09	50.09	47.20	2.89	17.342	
800.00	800.00	800.00	800.00	1.67	1.67	-90.42	-0.36	-50.09	50.09	46.75	3.34	15.006	
900.00	900.00	900.00	900.00	1.89	1.89	-90.42	-0.36	-50.09	50.09	46.30	3.79	13.225	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.42	-0.36	-50.09	50.09	45.85	4.24	11.822	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.42	-0.36	-50.09	50.09	45.40	4.69	10.688	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.42	-0.36	-50.09	50.09	44.95	5.14	9.752	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.42	-0.36	-50.09	50.09	44.50	5.59	8.967	
1,400.00	1,399.98	1,399.28	1,399.27	3.01	2.99	-54.79	-1.48	-50.73	49.73	43.73	6.00	8.286	
1,481.59	1,481.47	1,480.04	1,479.97	3.20	3.13	-61.43	-4.04	-52.21	49.39	43.07	6.32	7.813 CC	
1,500.00	1,499.84	1,498.21	1,498.12	3.24	3.16	-63.45	-4.82	-52.66	49.43	43.03	6.39	7.730 ES	
1,600.00	1,599.45	1,596.43	1,596.14	3.47	3.35	-77.33	-10.32	-55.84	51.42	44.62	6.80	7.558 SF	
1,700.00	1,698.70	1,693.62	1,692.93	3.71	3.54	-93.51	-17.91	-60.23	58.74	51.50	7.23	8.120	
1,800.00	1,797.47	1,789.45	1,788.11	3.97	3.75	-107.88	-27.48	-65.76	73.28	65.61	7.67	9.554	
1,843.71	1,840.45	1,830.82	1,829.12	4.10	3.85	-113.01	-32.25	-68.51	81.97	74.11	7.86	10.425	
1,900.00	1,895.73	1,883.73	1,881.46	4.27	3.97	-118.52	-38.91	-72.36	94.84	86.73	8.11	11.688	
2,000.00	1,993.94	1,976.91	1,973.37	4.58	4.22	-125.08	-52.16	-80.02	121.01	112.43	8.58	14.109	
2,100.00	2,092.14	2,068.94	2,063.76	4.91	4.49	-129.00	-67.15	-88.68	150.37	141.32	9.05	16.608	
2,200.00	2,190.34	2,159.76	2,152.52	5.25	4.79	-131.38	-83.79	-98.30	182.32	172.77	9.55	19.096	
2,300.00	2,288.55	2,249.29	2,239.54	5.61	5.12	-132.81	-101.97	-108.81	216.52	206.46	10.06	21.531	
2,400.00	2,386.75	2,337.45	2,324.74	5.97	5.48	-133.65	-121.60	-120.15	252.80	242.22	10.58	23.900	
2,500.00	2,484.96	2,428.23	2,412.04	6.34	5.88	-134.16	-143.16	-132.61	290.62	279.50	11.12	26.129	
2,600.00	2,583.16	2,520.73	2,500.96	6.71	6.31	-134.56	-165.22	-145.36	328.56	316.88	11.68	28.121	
2,700.00	2,681.37	2,613.23	2,589.89	7.09	6.75	-134.87	-187.28	-158.11	366.51	354.26	12.26	29.906	
2,800.00	2,779.57	2,705.74	2,678.81	7.47	7.20	-135.12	-209.34	-170.86	404.47	391.63	12.84	31.510	
2,900.00	2,877.77	2,798.24	2,767.73	7.86	7.67	-135.33	-231.40	-183.61	442.43	429.01	13.43	32.955	
3,000.00	2,975.98	2,890.74	2,856.66	8.25	8.14	-135.51	-253.46	-196.36	480.40	466.38	14.02	34.262	
3,100.00	3,074.18	2,983.24	2,945.58	8.64	8.62	-135.66	-275.51	-209.11	518.37	503.75	14.62	35.448	
3,200.00	3,172.39	3,075.75	3,034.51	9.04	9.11	-135.79	-297.57	-221.86	556.35	541.12	15.23	36.527	
3,300.00	3,270.59	3,168.25	3,123.43	9.44	9.60	-135.91	-319.63	-234.61	594.32	578.48	15.84	37.513	
3,400.00	3,368.80	3,260.75	3,212.36	9.84	10.10	-136.01	-341.69	-247.36	632.30	615.84	16.46	38.416	
3,500.00	3,467.00	3,353.25	3,301.28	10.24	10.59	-136.10	-363.75	-260.10	670.28	653.20	17.08	39.245	
3,600.00	3,565.21	3,445.75	3,390.20	10.64	11.10	-136.18	-385.81	-272.85	708.26	690.56	17.70	40.009	
3,700.00	3,663.41	3,538.26	3,479.13	11.04	11.60	-136.25	-407.87	-285.60	746.24	727.91	18.33	40.714	
3,800.00	3,761.61	3,630.76	3,568.05	11.45	12.11	-136.31	-429.93	-298.35	784.23	765.27	18.96	41.367	
3,900.00	3,859.82	3,723.26	3,656.98	11.85	12.62	-136.37	-451.99	-311.10	822.21	802.62	19.59	41.973	
4,000.00	3,958.02	3,815.76	3,745.90	12.26	13.13	-136.42	-474.05	-323.85	860.19	839.97	20.22	42.536	
4,100.00	4,056.23	3,908.27	3,834.83	12.67	13.64	-136.47	-496.11	-336.60	898.18	877.32	20.86	43.061	
4,200.00	4,154.43	4,000.77	3,923.75	13.07	14.15	-136.52	-518.17	-349.35	936.16	914.67	21.50	43.551	
4,300.00	4,252.64	4,093.27	4,012.67	13.48	14.67	-136.56	-540.23	-362.10	974.15	952.01	22.14	44.009	
4,400.00	4,350.84	4,185.77	4,101.60	13.89	15.18	-136.60	-562.29	-374.85	1,012.14	989.36	22.78	44.439	
4,500.00	4,449.04	4,278.28	4,190.52	14.30	15.70	-136.63	-584.35	-387.60	1,050.12	1,026.70	23.42	44.843	
4,600.00	4,547.25	4,370.78	4,279.45	14.71	16.22	-136.66	-606.41	-400.35	1,088.11	1,064.05	24.06	45.223	
4,700.00	4,645.45	4,463.28	4,368.37	15.12	16.74	-136.70	-628.47	-413.09	1,126.10	1,101.39	24.71	45.580	
4,800.00	4,743.66	4,555.78	4,457.30	15.53	17.26	-136.72	-650.53	-425.84	1,164.08	1,138.73	25.35	45.918	
4,900.00	4,841.86	4,648.28	4,546.22	15.94	17.78	-136.75	-672.59	-438.59	1,202.07	1,176.07	26.00	46.237	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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
5,000.00	4,940.07	4,740.79	4,635.14	16.36	18.30	-136.78	-694.65	-451.34	1,240.06	1,213.41	26.65	46.539	
5,100.00	5,038.27	4,833.29	4,724.07	16.77	18.82	-136.80	-716.71	-464.09	1,278.05	1,250.75	27.29	46.826	
5,200.00	5,136.48	4,925.79	4,812.99	17.18	19.34	-136.82	-738.76	-476.84	1,316.03	1,288.09	27.94	47.097	
5,300.00	5,234.68	5,018.29	4,901.92	17.59	19.87	-136.84	-760.82	-489.59	1,354.02	1,325.43	28.59	47.355	
5,400.00	5,332.88	5,110.80	4,990.84	18.01	20.39	-136.86	-782.88	-502.34	1,392.01	1,362.77	29.24	47.601	
5,500.00	5,431.09	5,203.30	5,079.76	18.42	20.91	-136.88	-804.94	-515.09	1,430.00	1,400.10	29.89	47.834	
5,600.00	5,529.29	5,209.79	5,086.00	18.84	20.95	-136.88	-806.49	-515.98	1,470.51	1,440.25	30.26	48.596	
5,700.00	5,627.50	5,209.79	5,086.00	19.25	20.95	-136.88	-806.49	-515.98	1,516.52	1,485.92	30.60	49.555	
5,790.68	5,716.55	5,209.79	5,086.00	19.62	20.95	-136.88	-806.49	-515.98	1,562.61	1,531.70	30.91	50.547	
5,800.00	5,725.70	5,209.79	5,086.00	19.66	20.95	-136.96	-806.49	-515.98	1,567.56	1,536.61	30.96	50.637	
5,900.00	5,824.27	5,209.79	5,086.00	19.96	20.95	-137.84	-806.49	-515.98	1,621.93	1,590.58	31.35	51.738	
6,000.00	5,923.37	5,209.79	5,086.00	20.22	20.95	-138.75	-806.49	-515.98	1,678.41	1,646.71	31.70	52.945	
6,100.00	6,022.87	5,209.79	5,086.00	20.45	20.95	-139.69	-806.49	-515.98	1,736.74	1,704.73	32.01	54.255	
6,200.00	6,122.66	5,209.79	5,086.00	20.64	20.95	-140.65	-806.49	-515.98	1,796.66	1,764.39	32.28	55.664	
6,300.00	6,222.61	5,209.79	5,086.00	20.79	20.95	-141.62	-806.49	-515.98	1,857.97	1,825.47	32.50	57.172	
6,334.39	6,257.00	5,209.79	5,086.00	20.83	20.95	179.55	-806.49	-515.98	1,879.33	1,846.76	32.56	57.713	
6,400.00	6,322.61	5,209.79	5,086.00	20.92	20.95	179.55	-806.49	-515.98	1,920.89	1,888.23	32.66	58.806	
6,500.00	6,422.61	5,209.79	5,086.00	21.06	20.95	179.55	-806.49	-515.98	1,986.74	1,953.91	32.84	60.498	
6,600.00	6,522.61	5,209.79	5,086.00	21.21	20.95	179.55	-806.49	-515.98	2,055.35	2,022.34	33.02	62.254	
6,700.00	6,622.61	5,209.79	5,086.00	21.36	20.95	179.55	-806.49	-515.98	2,126.45	2,093.26	33.19	64.064	
6,800.00	6,722.61	5,209.79	5,086.00	21.51	20.95	179.55	-806.49	-515.98	2,199.80	2,166.43	33.37	65.921	
6,900.00	6,822.61	5,209.79	5,086.00	21.66	20.95	179.55	-806.49	-515.98	2,275.18	2,241.63	33.55	67.816	
7,000.00	6,922.61	5,209.79	5,086.00	21.81	20.95	179.55	-806.49	-515.98	2,352.40	2,318.67	33.73	69.744	
7,100.00	7,022.61	5,209.79	5,086.00	21.96	20.95	179.55	-806.49	-515.98	2,431.27	2,397.36	33.91	71.697	
7,200.00	7,122.61	5,209.79	5,086.00	22.12	20.95	179.55	-806.49	-515.98	2,511.65	2,477.56	34.09	73.673	
7,300.00	7,222.61	5,209.79	5,086.00	22.27	20.95	179.55	-806.49	-515.98	2,593.40	2,559.13	34.27	75.665	
7,400.00	7,322.61	5,209.79	5,086.00	22.43	20.95	179.55	-806.49	-515.98	2,676.39	2,641.93	34.46	77.670	
7,500.00	7,422.61	5,209.79	5,086.00	22.59	20.95	179.55	-806.49	-515.98	2,760.50	2,725.86	34.64	79.684	
7,600.00	7,522.61	5,209.79	5,086.00	22.75	20.95	179.55	-806.49	-515.98	2,845.65	2,810.82	34.83	81.705	
7,700.00	7,622.61	5,209.79	5,086.00	22.91	20.95	179.55	-806.49	-515.98	2,931.73	2,896.71	35.01	83.729	
7,800.00	7,722.61	5,209.79	5,086.00	23.07	20.95	179.55	-806.49	-515.98	3,018.67	2,983.46	35.20	85.754	
7,900.00	7,822.61	5,209.79	5,086.00	23.23	20.95	179.55	-806.49	-515.98	3,106.39	3,071.00	35.39	87.778	
8,000.00	7,922.61	5,209.79	5,086.00	23.40	20.95	179.55	-806.49	-515.98	3,194.84	3,159.26	35.58	89.799	
8,100.00	8,022.61	5,209.79	5,086.00	23.56	20.95	179.55	-806.49	-515.98	3,283.95	3,248.18	35.77	91.816	
8,200.00	8,122.61	5,209.79	5,086.00	23.73	20.95	179.55	-806.49	-515.98	3,373.67	3,337.71	35.96	93.826	
8,300.00	8,222.61	5,209.79	5,086.00	23.89	20.95	179.55	-806.49	-515.98	3,463.95	3,427.80	36.15	95.829	
8,400.00	8,322.61	5,209.79	5,086.00	24.06	20.95	179.55	-806.49	-515.98	3,554.75	3,518.42	36.34	97.824	
8,494.39	8,417.00	5,209.79	5,086.00	24.22	20.95	179.55	-806.49	-515.98	3,640.90	3,604.39	36.52	99.698	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	-90.00	0.00	-20.15	20.15				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-20.15	20.15	19.96	0.19	105.449	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-20.15	20.15	19.51	0.64	31.450	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-20.15	20.15	19.06	1.09	18.481	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-20.15	20.15	18.61	1.54	13.085	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-20.15	20.15	18.16	1.99	10.128	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-20.15	20.15	17.71	2.44	8.261	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-20.15	20.15	17.26	2.89	6.975	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-20.15	20.15	16.81	3.34	6.036	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	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	-90.00	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	-90.00	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	-90.00	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	-90.00	0.00	-20.15	20.15	14.56	5.59	3.607	
1,400.00	1,399.98	1,400.43	1,400.41	3.01	3.00	-59.47	-1.09	-18.76	17.85	11.84	6.01	2.971	
1,500.00	1,499.84	1,500.15	1,499.98	3.24	3.18	-95.03	-4.31	-14.65	14.21	7.79	6.42	2.214	
1,503.01	1,502.85	1,503.13	1,502.96	3.24	3.19	-96.71	-4.44	-14.48	14.20	7.77	6.43	2.207 CC, ES, SF	
1,600.00	1,599.45	1,598.43	1,597.89	3.47	3.38	-145.93	-9.59	-7.93	22.00	15.19	6.81	3.230	
1,700.00	1,698.70	1,694.62	1,693.38	3.71	3.59	-166.85	-16.75	1.20	43.14	35.96	7.18	6.008	
1,800.00	1,797.47	1,788.13	1,785.77	3.97	3.82	-174.84	-25.61	12.49	72.56	65.02	7.54	9.621	
1,843.71	1,840.45	1,828.02	1,825.03	4.10	3.93	-176.82	-29.96	18.02	87.59	79.90	7.70	11.378	
1,900.00	1,895.73	1,878.62	1,874.69	4.27	4.08	-178.69	-35.95	25.67	108.26	100.34	7.93	13.660	
2,000.00	1,993.94	1,966.73	1,960.72	4.58	4.36	179.10	-47.68	40.61	147.33	139.00	8.33	17.680	
2,100.00	2,092.14	2,056.78	2,048.22	4.91	4.69	177.65	-60.84	57.37	188.44	179.69	8.75	21.527	
2,200.00	2,190.34	2,147.83	2,136.67	5.25	5.04	176.70	-74.17	74.37	229.68	220.50	9.18	25.013	
2,300.00	2,288.55	2,238.87	2,225.11	5.61	5.41	176.04	-87.51	91.37	270.97	261.35	9.62	28.172	
2,400.00	2,386.75	2,329.92	2,313.55	5.97	5.79	175.55	-100.85	108.36	312.27	302.21	10.06	31.040	
2,500.00	2,484.96	2,420.96	2,402.00	6.34	6.19	175.18	-114.19	125.36	353.59	343.08	10.51	33.652	
2,600.00	2,583.16	2,512.00	2,490.44	6.71	6.60	174.88	-127.53	142.35	394.91	383.95	10.96	36.037	
2,700.00	2,681.37	2,603.05	2,578.88	7.09	7.01	174.65	-140.87	159.35	436.25	424.83	11.41	38.221	
2,800.00	2,779.57	2,694.09	2,667.33	7.47	7.43	174.45	-154.21	176.35	477.59	465.71	11.87	40.224	
2,900.00	2,877.77	2,785.14	2,755.77	7.86	7.86	174.28	-167.54	193.34	518.93	506.59	12.34	42.067	
3,000.00	2,975.98	2,876.18	2,844.21	8.25	8.29	174.14	-180.88	210.34	560.28	547.48	12.80	43.768	
3,100.00	3,074.18	2,967.22	2,932.66	8.64	8.72	174.02	-194.22	227.34	601.63	588.36	13.27	45.341	
3,200.00	3,172.39	3,058.27	3,021.10	9.04	9.16	173.91	-207.56	244.33	642.98	629.24	13.74	46.800	
3,300.00	3,270.59	3,149.31	3,109.54	9.44	9.60	173.82	-220.90	261.33	684.33	670.12	14.21	48.155	
3,400.00	3,368.80	3,240.36	3,197.99	9.84	10.05	173.74	-234.24	278.32	725.68	711.00	14.68	49.418	
3,500.00	3,467.00	3,331.40	3,286.43	10.24	10.49	173.66	-247.57	295.32	767.04	751.88	15.16	50.596	
3,600.00	3,565.21	3,422.44	3,374.87	10.64	10.94	173.60	-260.91	312.32	808.39	792.76	15.64	51.697	
3,700.00	3,663.41	3,513.49	3,463.32	11.04	11.39	173.54	-274.25	329.31	849.75	833.63	16.12	52.729	
3,800.00	3,761.61	3,604.53	3,551.76	11.45	11.84	173.48	-287.59	346.31	891.11	874.51	16.60	53.697	
3,900.00	3,859.82	3,695.58	3,640.20	11.85	12.30	173.43	-300.93	363.31	932.47	915.39	17.08	54.607	
4,000.00	3,958.02	3,786.62	3,728.65	12.26	12.75	173.39	-314.27	380.30	973.82	956.27	17.56	55.464	
4,100.00	4,056.23	3,877.66	3,817.09	12.67	13.20	173.35	-327.61	397.30	1,015.18	997.14	18.04	56.272	
4,200.00	4,154.43	3,968.71	3,905.53	13.07	13.66	173.31	-340.94	414.29	1,056.54	1,038.02	18.52	57.035	
4,300.00	4,252.64	4,059.75	3,993.98	13.48	14.12	173.27	-354.28	431.29	1,097.90	1,078.89	19.01	57.757	
4,400.00	4,350.84	4,150.79	4,082.42	13.89	14.58	173.24	-367.62	448.29	1,139.26	1,119.77	19.49	58.440	
4,500.00	4,449.04	4,241.84	4,170.86	14.30	15.03	173.21	-380.96	465.28	1,180.62	1,160.64	19.98	59.089	
4,600.00	4,547.25	4,332.88	4,259.31	14.71	15.49	173.18	-394.30	482.28	1,221.98	1,201.52	20.47	59.704	
4,700.00	4,645.45	4,423.93	4,347.75	15.12	15.95	173.15	-407.64	499.28	1,263.34	1,242.39	20.95	60.289	
4,800.00	4,743.66	4,514.97	4,436.19	15.53	16.41	173.13	-420.98	516.27	1,304.70	1,283.26	21.44	60.847	
4,900.00	4,841.86	4,606.01	4,524.64	15.94	16.88	173.10	-434.31	533.27	1,346.07	1,324.13	21.93	61.377	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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						
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	4,940.07	4,697.06	4,613.08	16.36	17.34	173.08	-447.65	550.26	1,387.43	1,365.01	22.42	61.884	
5,100.00	5,038.27	4,788.10	4,701.52	16.77	17.80	173.06	-460.99	567.26	1,428.79	1,405.88	22.91	62.367	
5,200.00	5,136.48	4,879.15	4,789.97	17.18	18.26	173.04	-474.33	584.26	1,470.15	1,446.75	23.40	62.829	
5,300.00	5,234.68	4,970.19	4,878.41	17.59	18.72	173.02	-487.67	601.25	1,511.51	1,487.62	23.89	63.271	
5,400.00	5,332.88	5,061.23	4,966.85	18.01	19.19	173.01	-501.01	618.25	1,552.87	1,528.49	24.38	63.694	
5,500.00	5,431.09	5,152.28	5,055.30	18.42	19.65	172.99	-514.35	635.25	1,594.24	1,569.37	24.87	64.099	
5,600.00	5,529.29	5,243.32	5,143.74	18.84	20.11	172.97	-527.68	652.24	1,635.60	1,610.24	25.36	64.488	
5,700.00	5,627.50	5,334.37	5,232.18	19.25	20.58	172.96	-541.02	669.24	1,676.96	1,651.11	25.85	64.861	
5,790.68	5,716.55	5,416.92	5,312.38	19.62	21.00	172.95	-553.12	684.65	1,714.47	1,688.17	26.30	65.187	
5,800.00	5,725.70	5,425.42	5,320.63	19.66	21.04	172.96	-554.36	686.24	1,718.31	1,691.95	26.36	65.184	
5,900.00	5,824.27	5,517.29	5,409.88	19.96	21.51	173.04	-567.82	703.39	1,757.79	1,730.82	26.97	65.177	
6,000.00	5,923.37	5,610.46	5,500.39	20.22	21.99	173.10	-581.47	720.78	1,794.07	1,766.52	27.55	65.127	
6,100.00	6,022.87	5,704.84	5,592.07	20.45	22.47	173.13	-595.30	738.40	1,827.09	1,799.00	28.09	65.038	
6,200.00	6,122.66	5,792.06	5,684.24	20.64	23.40	173.07	-626.93	778.70	1,852.41	1,823.44	28.96	63.955	
6,300.00	6,222.61	6,251.38	6,132.12	20.79	24.00	173.04	-643.72	800.10	1,865.01	1,835.28	29.73	62.723	
6,334.39	6,257.00	6,348.78	6,229.46	20.83	24.14	134.54	-645.64	802.54	1,866.30	1,836.33	29.97	62.262	
6,400.00	6,322.61	6,441.93	6,322.61	20.92	24.25	134.54	-645.83	802.79	1,866.41	1,836.16	30.26	61.685	
6,500.00	6,422.61	6,541.93	6,422.61	21.06	24.36	134.54	-645.83	802.79	1,866.41	1,835.78	30.63	60.932	
6,600.00	6,522.61	6,641.93	6,522.61	21.21	24.48	134.54	-645.83	802.79	1,866.41	1,835.41	31.01	60.194	
6,700.00	6,622.61	6,741.93	6,622.61	21.36	24.59	134.54	-645.83	802.79	1,866.41	1,835.03	31.38	59.469	
6,800.00	6,722.61	6,841.93	6,722.61	21.51	24.71	134.54	-645.83	802.79	1,866.41	1,834.65	31.76	58.759	
6,900.00	6,822.61	6,941.93	6,822.61	21.66	24.83	134.54	-645.83	802.79	1,866.41	1,834.27	32.15	58.062	
7,000.00	6,922.61	7,041.93	6,922.61	21.81	24.95	134.54	-645.83	802.79	1,866.41	1,833.89	32.53	57.378	
7,100.00	7,022.61	7,141.93	7,022.61	21.96	25.07	134.54	-645.83	802.79	1,866.41	1,833.50	32.91	56.708	
7,200.00	7,122.61	7,241.93	7,122.61	22.12	25.20	134.54	-645.83	802.79	1,866.41	1,833.12	33.30	56.050	
7,300.00	7,222.61	7,341.93	7,222.61	22.27	25.32	134.54	-645.83	802.79	1,866.41	1,832.73	33.69	55.405	
7,400.00	7,322.61	7,441.93	7,322.61	22.43	25.45	134.54	-645.83	802.79	1,866.41	1,832.34	34.08	54.772	
7,500.00	7,422.61	7,541.93	7,422.61	22.59	25.58	134.54	-645.83	802.79	1,866.41	1,831.95	34.47	54.151	
7,600.00	7,522.61	7,641.93	7,522.61	22.75	25.71	134.54	-645.83	802.79	1,866.41	1,831.56	34.86	53.542	
7,700.00	7,622.61	7,741.93	7,622.61	22.91	25.84	134.54	-645.83	802.79	1,866.41	1,831.16	35.25	52.944	
7,800.00	7,722.61	7,841.93	7,722.61	23.07	25.97	134.54	-645.83	802.79	1,866.41	1,830.77	35.65	52.357	
7,900.00	7,822.61	7,941.93	7,822.61	23.23	26.10	134.54	-645.83	802.79	1,866.41	1,830.37	36.04	51.782	
8,000.00	7,922.61	8,041.93	7,922.61	23.40	26.24	134.54	-645.83	802.79	1,866.41	1,829.97	36.44	51.217	
8,100.00	8,022.61	8,141.93	8,022.61	23.56	26.37	134.54	-645.83	802.79	1,866.41	1,829.57	36.84	50.663	
8,200.00	8,122.61	8,241.93	8,122.61	23.73	26.51	134.54	-645.83	802.79	1,866.41	1,829.18	37.24	50.119	
8,248.23	8,170.84	8,290.16	8,170.84	23.81	26.57	134.54	-645.83	802.79	1,866.41	1,828.98	37.43	49.861	
8,300.00	8,222.61	8,306.32	8,187.00	23.89	26.60	134.54	-645.83	802.79	1,866.75	1,829.18	37.57	49.685	
8,400.00	8,322.61	8,306.32	8,187.00	24.06	26.60	134.54	-645.83	802.79	1,871.33	1,833.55	37.78	49.531	
8,494.39	8,417.00	8,306.32	8,187.00	24.22	26.60	134.54	-645.83	802.79	1,880.53	1,842.55	37.98	49.516	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-29.94	29.94				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-29.94	29.94	29.75	0.19	156.709	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-29.94	29.94	29.30	0.64	46.738	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-29.94	29.94	28.85	1.09	27.465	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-29.94	29.94	28.40	1.54	19.446	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-29.94	29.94	27.95	1.99	15.051	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-29.94	29.94	27.50	2.44	12.277	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-29.94	29.94	27.05	2.89	10.366	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-29.94	29.94	26.60	3.34	8.970	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	0.00	-29.94	29.94	26.15	3.79	7.905	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.00	0.00	-29.94	29.94	25.70	4.24	7.066	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.00	0.00	-29.94	29.94	25.25	4.69	6.389	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.00	0.00	-29.94	29.94	24.80	5.14	5.829	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.00	0.00	-29.94	29.94	24.35	5.59	5.360	
1,400.00	1,399.98	1,400.42	1,400.41	3.01	2.99	-56.39	-1.00	-29.08	28.10	22.09	6.01	4.678	
1,500.00	1,499.84	1,500.31	1,500.22	3.24	3.17	-74.68	-3.99	-26.52	24.11	17.70	6.41	3.763	
1,549.53	1,549.22	1,549.43	1,549.25	3.35	3.27	-90.90	-6.18	-24.64	23.13	16.52	6.62	3.495 CC, ES, SF	
1,600.00	1,599.45	1,599.14	1,598.83	3.47	3.36	-110.61	-8.88	-22.32	24.62	17.79	6.82	3.607	
1,700.00	1,698.70	1,696.40	1,695.69	3.71	3.56	-142.06	-15.60	-16.56	37.55	30.34	7.21	5.209	
1,800.00	1,797.47	1,791.63	1,790.27	3.97	3.77	-157.74	-23.98	-9.37	61.11	53.55	7.57	8.076	
1,843.71	1,840.45	1,832.50	1,830.78	4.10	3.87	-161.72	-28.12	-5.81	73.87	66.15	7.72	9.566	
1,900.00	1,895.73	1,884.57	1,882.29	4.27	4.00	-165.46	-33.88	-0.87	91.68	83.74	7.95	11.539	
2,000.00	1,993.94	1,975.82	1,972.30	4.58	4.25	-169.61	-45.25	8.89	125.59	117.24	8.35	15.040	
2,100.00	2,092.14	2,065.43	2,060.32	4.91	4.52	-172.12	-58.01	19.83	162.03	153.27	8.76	18.494	
2,200.00	2,190.34	2,153.35	2,146.27	5.25	4.81	-173.80	-72.04	31.87	200.79	191.62	9.18	21.883	
2,300.00	2,288.55	2,239.53	2,230.08	5.61	5.13	-175.00	-87.25	44.92	241.73	232.14	9.59	25.201	
2,400.00	2,386.75	2,323.93	2,311.71	5.97	5.48	-175.89	-103.53	58.90	284.76	274.75	10.01	28.446	
2,500.00	2,484.96	2,406.54	2,391.13	6.34	5.85	-176.58	-120.79	73.70	329.78	319.35	10.43	31.619	
2,600.00	2,583.16	2,487.33	2,468.30	6.71	6.24	-177.13	-138.92	89.26	376.73	365.88	10.85	34.718	
2,700.00	2,681.37	2,571.50	2,548.26	7.09	6.69	-177.59	-158.87	106.38	425.22	413.93	11.29	37.680	
2,800.00	2,779.57	2,658.82	2,631.17	7.47	7.17	-177.98	-179.67	124.23	473.87	462.14	11.73	40.395	
2,900.00	2,877.77	2,746.15	2,714.08	7.86	7.66	-178.30	-200.47	142.08	522.54	510.36	12.18	42.899	
3,000.00	2,975.98	2,833.47	2,797.00	8.25	8.16	-178.56	-221.27	159.92	571.22	558.58	12.63	45.212	
3,100.00	3,074.18	2,920.80	2,879.91	8.64	8.68	-178.78	-242.07	177.77	619.90	606.81	13.09	47.351	
3,200.00	3,172.39	3,008.12	2,962.82	9.04	9.20	-178.97	-262.87	195.62	668.59	655.04	13.55	49.335	
3,300.00	3,270.59	3,095.45	3,045.73	9.44	9.72	-179.14	-283.67	213.47	717.29	703.27	14.02	51.176	
3,400.00	3,368.80	3,182.77	3,128.65	9.84	10.26	-179.28	-304.47	231.31	765.99	751.51	14.48	52.888	
3,500.00	3,467.00	3,270.10	3,211.56	10.24	10.79	-179.40	-325.27	249.16	814.69	799.74	14.95	54.485	
3,600.00	3,565.21	3,357.42	3,294.47	10.64	11.33	-179.52	-346.07	267.01	863.40	847.97	15.42	55.978	
3,700.00	3,663.41	3,444.75	3,377.39	11.04	11.88	-179.62	-366.87	284.86	912.11	896.21	15.90	57.375	
3,800.00	3,761.61	3,532.07	3,460.30	11.45	12.42	-179.70	-387.67	302.70	960.82	944.44	16.37	58.685	
3,900.00	3,859.82	3,619.40	3,543.21	11.85	12.97	-179.79	-408.47	320.55	1,009.53	992.68	16.85	59.915	
4,000.00	3,958.02	3,706.73	3,626.12	12.26	13.52	-179.86	-429.27	338.40	1,058.24	1,040.91	17.33	61.072	
4,100.00	4,056.23	3,794.05	3,709.04	12.67	14.08	-179.93	-450.07	356.25	1,106.96	1,089.15	17.81	62.162	
4,200.00	4,154.43	3,881.38	3,791.95	13.07	14.63	-179.99	-470.87	374.09	1,155.67	1,137.38	18.29	63.189	
4,300.00	4,252.64	3,968.70	3,874.86	13.48	15.19	-179.96	-491.67	391.94	1,204.39	1,185.61	18.77	64.160	
4,400.00	4,350.84	4,056.03	3,957.78	13.89	15.75	-179.90	-512.47	409.79	1,253.10	1,233.85	19.26	65.079	
4,500.00	4,449.04	4,143.35	4,040.69	14.30	16.31	-179.86	-533.27	427.63	1,301.82	1,282.08	19.74	65.949	
4,600.00	4,547.25	4,230.68	4,123.60	14.71	16.87	-179.81	-554.08	445.48	1,350.54	1,330.31	20.23	66.775	
4,700.00	4,645.45	4,318.00	4,206.51	15.12	17.43	-179.77	-574.88	463.33	1,399.26	1,378.55	20.71	67.559	
4,800.00	4,743.66	4,405.33	4,289.43	15.53	17.99	-179.73	-595.68	481.18	1,447.98	1,426.78	21.20	68.304	
4,900.00	4,841.86	4,492.65	4,372.34	15.94	18.56	-179.70	-616.48	499.02	1,496.70	1,475.01	21.69	69.014	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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									
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	4,940.07	4,579.98	4,455.25	16.36	19.12	179.66	-637.28	516.87	1,545.42	1,523.24	22.18	69.689	
5,100.00	5,038.27	4,667.30	4,538.17	16.77	19.68	179.63	-658.08	534.72	1,594.14	1,571.47	22.67	70.334	
5,200.00	5,136.48	4,754.63	4,621.08	17.18	20.25	179.60	-678.88	552.57	1,642.86	1,619.70	23.16	70.949	
5,300.00	5,234.68	4,841.95	4,703.99	17.59	20.82	179.57	-699.68	570.41	1,691.58	1,667.93	23.65	71.537	
5,400.00	5,332.88	4,929.28	4,786.90	18.01	21.38	179.54	-720.48	588.26	1,740.30	1,716.16	24.14	72.100	
5,500.00	5,431.09	5,016.61	4,869.82	18.42	21.95	179.52	-741.28	606.11	1,789.02	1,764.40	24.63	72.638	
5,600.00	5,529.29	5,103.93	4,952.73	18.84	22.52	179.50	-762.08	623.96	1,837.75	1,812.62	25.12	73.154	
5,700.00	5,627.50	5,191.26	5,035.64	19.25	23.09	179.47	-782.88	641.80	1,886.47	1,860.85	25.61	73.649	
5,790.68	5,716.55	5,250.61	5,092.00	19.62	23.47	179.46	-797.01	653.94	1,930.75	1,904.74	26.01	74.236	
5,800.00	5,725.70	5,250.61	5,092.00	19.66	23.47	179.46	-797.01	653.94	1,935.38	1,909.33	26.05	74.298	
5,900.00	5,824.27	5,250.61	5,092.00	19.96	23.47	179.47	-797.01	653.94	1,985.49	1,959.05	26.44	75.095	
6,000.00	5,923.37	5,250.61	5,092.00	20.22	23.47	179.48	-797.01	653.94	2,036.34	2,009.55	26.79	76.008	
6,100.00	6,022.87	5,250.61	5,092.00	20.45	23.47	179.49	-797.01	653.94	2,087.81	2,060.71	27.10	77.035	
6,200.00	6,122.66	5,250.61	5,092.00	20.64	23.47	179.50	-797.01	653.94	2,139.81	2,112.43	27.37	78.173	
6,300.00	6,222.61	5,250.61	5,092.00	20.79	23.47	179.51	-797.01	653.94	2,192.22	2,164.62	27.60	79.424	
6,334.39	6,257.00	5,250.61	5,092.00	20.83	23.47	141.03	-797.01	653.94	2,210.33	2,182.66	27.67	79.878	
6,400.00	6,322.61	5,250.61	5,092.00	20.92	23.47	141.03	-797.01	653.94	2,245.61	2,217.81	27.79	80.805	
6,500.00	6,422.61	5,250.61	5,092.00	21.06	23.47	141.03	-797.01	653.94	2,301.93	2,273.93	27.99	82.236	
6,600.00	6,522.61	5,250.61	5,092.00	21.21	23.47	141.03	-797.01	653.94	2,361.14	2,332.95	28.19	83.747	
6,700.00	6,622.61	5,250.61	5,092.00	21.36	23.47	141.03	-797.01	653.94	2,423.04	2,394.64	28.40	85.330	
6,800.00	6,722.61	5,250.61	5,092.00	21.51	23.47	141.03	-797.01	653.94	2,487.41	2,458.82	28.60	86.975	
6,900.00	6,822.61	5,250.61	5,092.00	21.66	23.47	141.03	-797.01	653.94	2,554.09	2,525.28	28.80	88.675	
7,000.00	6,922.61	5,250.61	5,092.00	21.81	23.47	141.03	-797.01	653.94	2,622.88	2,593.87	29.01	90.422	
7,100.00	7,022.61	5,250.61	5,092.00	21.96	23.47	141.03	-797.01	653.94	2,693.62	2,664.41	29.21	92.210	
7,200.00	7,122.61	5,250.61	5,092.00	22.12	23.47	141.03	-797.01	653.94	2,766.17	2,736.76	29.42	94.032	
7,300.00	7,222.61	5,250.61	5,092.00	22.27	23.47	141.03	-797.01	653.94	2,840.39	2,810.77	29.62	95.885	
7,400.00	7,322.61	5,250.61	5,092.00	22.43	23.47	141.03	-797.01	653.94	2,916.16	2,886.33	29.83	97.761	
7,500.00	7,422.61	5,250.61	5,092.00	22.59	23.47	141.03	-797.01	653.94	2,993.34	2,963.30	30.04	99.658	
7,600.00	7,522.61	5,250.61	5,092.00	22.75	23.47	141.03	-797.01	653.94	3,071.84	3,041.60	30.24	101.571	
7,700.00	7,622.61	5,250.61	5,092.00	22.91	23.47	141.03	-797.01	653.94	3,151.56	3,121.11	30.45	103.497	
7,800.00	7,722.61	5,250.61	5,092.00	23.07	23.47	141.03	-797.01	653.94	3,232.41	3,201.75	30.66	105.431	
7,900.00	7,822.61	5,250.61	5,092.00	23.23	23.47	141.03	-797.01	653.94	3,314.30	3,283.43	30.87	107.372	
8,000.00	7,922.61	5,250.61	5,092.00	23.40	23.47	141.03	-797.01	653.94	3,397.16	3,366.08	31.08	109.317	
8,100.00	8,022.61	5,250.61	5,092.00	23.56	23.47	141.03	-797.01	653.94	3,480.92	3,449.64	31.29	111.264	
8,200.00	8,122.61	5,250.61	5,092.00	23.73	23.47	141.03	-797.01	653.94	3,565.52	3,534.03	31.49	113.209	
8,300.00	8,222.61	5,250.61	5,092.00	23.89	23.47	141.03	-797.01	653.94	3,650.90	3,619.19	31.70	115.153	
8,400.00	8,322.61	5,250.61	5,092.00	24.06	23.47	141.03	-797.01	653.94	3,737.00	3,705.09	31.92	117.092	
8,494.39	8,417.00	5,250.61	5,092.00	24.22	23.47	141.03	-797.01	653.94	3,818.90	3,786.78	32.11	118.917	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	0.36	40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	89.48	0.36	40.01	40.01	39.82	0.19	209.443	
200.00	200.00	200.00	200.00	0.32	0.32	89.48	0.36	40.01	40.01	39.37	0.64	62.465	
300.00	300.00	300.00	300.00	0.55	0.55	89.48	0.36	40.01	40.01	38.92	1.09	36.706	
400.00	400.00	400.00	400.00	0.77	0.77	89.48	0.36	40.01	40.01	38.47	1.54	25.989	
500.00	500.00	500.00	500.00	0.99	0.99	89.48	0.36	40.01	40.01	38.03	1.99	20.116	
600.00	600.00	600.00	600.00	1.22	1.22	89.48	0.36	40.01	40.01	37.58	2.44	16.408	
700.00	700.00	700.00	700.00	1.44	1.44	89.48	0.36	40.01	40.01	37.13	2.89	13.854	
800.00	800.00	800.00	800.00	1.67	1.67	89.48	0.36	40.01	40.01	36.68	3.34	11.988	
900.00	900.00	900.00	900.00	1.89	1.89	89.48	0.36	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	89.48	0.36	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	89.48	0.36	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	89.48	0.36	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	89.48	0.36	40.01	40.01	34.43	5.59	7.164 CC, ES	
1,400.00	1,399.98	1,398.53	1,398.51	3.01	3.00	129.88	0.27	41.70	42.83	36.82	6.01	7.125 SF	
1,500.00	1,499.84	1,496.47	1,496.31	3.24	3.20	134.34	-0.01	46.74	51.49	45.08	6.42	8.024	
1,600.00	1,599.45	1,593.25	1,592.74	3.47	3.41	139.08	-0.47	54.99	66.34	59.52	6.82	9.729	
1,700.00	1,698.70	1,688.33	1,687.14	3.71	3.63	142.91	-1.10	66.25	87.46	80.24	7.22	12.120	
1,800.00	1,797.47	1,781.21	1,778.95	3.97	3.87	145.67	-1.88	80.27	114.72	107.11	7.61	15.075	
1,843.71	1,840.45	1,821.00	1,818.13	4.10	3.98	146.60	-2.27	87.18	128.51	120.73	7.78	16.515	
1,900.00	1,895.73	1,871.60	1,867.82	4.27	4.13	147.68	-2.81	96.76	147.47	139.45	8.02	18.380	
2,000.00	1,993.94	1,960.02	1,954.19	4.58	4.42	148.83	-3.86	115.59	183.40	174.94	8.46	21.674	
2,100.00	2,092.14	2,046.44	2,038.02	4.91	4.74	149.35	-5.03	136.56	222.05	213.14	8.91	24.923	
2,200.00	2,190.34	2,130.78	2,119.19	5.25	5.09	149.52	-6.31	159.45	263.30	253.93	9.37	28.112	
2,300.00	2,288.55	2,212.98	2,197.61	5.61	5.47	149.48	-7.68	184.04	307.03	297.20	9.83	31.236	
2,400.00	2,386.75	2,299.39	2,279.46	5.97	5.92	149.34	-9.23	211.68	352.60	342.29	10.32	34.180	
2,500.00	2,484.96	2,388.34	2,363.68	6.34	6.41	149.22	-10.82	240.25	398.29	387.47	10.82	36.809	
2,600.00	2,583.16	2,477.29	2,447.91	6.71	6.91	149.12	-12.42	268.81	443.97	432.64	11.33	39.172	
2,700.00	2,681.37	2,566.25	2,532.13	7.09	7.43	149.04	-14.01	297.38	489.66	477.81	11.85	41.304	
2,800.00	2,779.57	2,655.20	2,616.36	7.47	7.96	148.98	-15.61	325.94	535.35	522.97	12.38	43.233	
2,900.00	2,877.77	2,744.15	2,700.58	7.86	8.50	148.92	-17.21	354.51	581.04	568.12	12.92	44.982	
3,000.00	2,975.98	2,833.10	2,784.81	8.25	9.05	148.88	-18.80	383.07	626.73	613.27	13.46	46.574	
3,100.00	3,074.18	2,922.05	2,869.03	8.64	9.60	148.84	-20.40	411.64	672.42	658.41	14.00	48.026	
3,200.00	3,172.39	3,011.00	2,953.26	9.04	10.16	148.80	-21.99	440.20	718.11	703.56	14.55	49.356	
3,300.00	3,270.59	3,099.95	3,037.48	9.44	10.72	148.77	-23.59	468.77	763.79	748.69	15.10	50.576	
3,400.00	3,368.80	3,188.90	3,121.71	9.84	11.29	148.74	-25.19	497.33	809.48	793.83	15.66	51.697	
3,500.00	3,467.00	3,277.86	3,205.93	10.24	11.86	148.72	-26.78	525.89	855.17	838.96	16.22	52.733	
3,600.00	3,565.21	3,366.81	3,290.16	10.64	12.44	148.70	-28.38	554.46	900.86	884.09	16.78	53.690	
3,700.00	3,663.41	3,455.76	3,374.38	11.04	13.01	148.68	-29.97	583.02	946.55	929.21	17.34	54.578	
3,800.00	3,761.61	3,544.71	3,458.61	11.45	13.59	148.66	-31.57	611.59	992.24	974.34	17.91	55.403	
3,900.00	3,859.82	3,633.66	3,542.83	11.85	14.17	148.64	-33.16	640.15	1,037.93	1,019.46	18.48	56.171	
4,000.00	3,958.02	3,722.61	3,627.06	12.26	14.75	148.63	-34.76	668.72	1,083.63	1,064.58	19.05	56.888	
4,100.00	4,056.23	3,811.56	3,711.28	12.67	15.34	148.61	-36.36	697.28	1,129.32	1,109.70	19.62	57.558	
4,200.00	4,154.43	3,900.52	3,795.51	13.07	15.92	148.60	-37.95	725.85	1,175.01	1,154.81	20.19	58.186	
4,300.00	4,252.64	3,989.47	3,879.73	13.48	16.51	148.59	-39.55	754.41	1,220.70	1,199.93	20.77	58.775	
4,400.00	4,350.84	4,078.42	3,963.96	13.89	17.09	148.58	-41.14	782.98	1,266.39	1,245.04	21.35	59.328	
4,500.00	4,449.04	4,167.37	4,048.19	14.30	17.68	148.57	-42.74	811.54	1,312.08	1,290.15	21.92	59.849	
4,600.00	4,547.25	4,256.32	4,132.41	14.71	18.27	148.56	-44.34	840.10	1,357.77	1,335.27	22.50	60.341	
4,700.00	4,645.45	4,345.27	4,216.64	15.12	18.86	148.55	-45.93	868.67	1,403.46	1,380.38	23.08	60.805	
4,800.00	4,743.66	4,434.22	4,300.86	15.53	19.45	148.54	-47.53	897.23	1,449.15	1,425.49	23.66	61.244	
4,900.00	4,841.86	4,523.17	4,385.09	15.94	20.04	148.53	-49.12	925.80	1,494.84	1,470.60	24.24	61.660	
5,000.00	4,940.07	4,612.13	4,469.31	16.36	20.63	148.53	-50.72	954.36	1,540.53	1,515.70	24.83	62.054	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	5,038.27	4,701.08	4,553.54	16.77	21.22	148.52	-52.32	982.93	1,586.22	1,560.81	25.41	62.428	
5,200.00	5,136.48	4,790.03	4,637.76	17.18	21.82	148.51	-53.91	1,011.49	1,631.91	1,605.92	25.99	62.784	
5,300.00	5,234.68	4,878.98	4,721.99	17.59	22.41	148.51	-55.51	1,040.06	1,677.60	1,651.03	26.58	63.122	
5,400.00	5,332.88	4,967.93	4,806.21	18.01	23.00	148.50	-57.10	1,068.62	1,723.29	1,696.13	27.16	63.445	
5,500.00	5,431.09	5,056.88	4,890.44	18.42	23.60	148.49	-58.70	1,097.19	1,768.98	1,741.24	27.75	63.752	
5,600.00	5,529.29	5,145.83	4,974.66	18.84	24.19	148.49	-60.29	1,125.75	1,814.67	1,786.34	28.33	64.046	
5,700.00	5,627.50	5,234.78	5,058.89	19.25	24.78	148.48	-61.89	1,154.31	1,860.37	1,831.44	28.92	64.326	
5,790.68	5,716.55	5,315.44	5,135.26	19.62	25.32	148.48	-63.34	1,180.22	1,901.80	1,872.34	29.45	64.570	
5,800.00	5,725.70	5,323.74	5,143.12	19.66	25.38	148.53	-63.49	1,182.88	1,906.04	1,876.52	29.53	64.556	
5,900.00	5,824.27	5,413.47	5,228.08	19.96	25.98	149.00	-65.10	1,211.70	1,950.15	1,919.90	30.26	64.453	
6,000.00	5,923.37	5,504.44	5,314.22	20.22	26.59	149.37	-66.73	1,240.91	1,991.56	1,960.61	30.95	64.339	
6,100.00	6,022.87	5,687.93	5,488.94	20.45	27.60	149.51	-69.85	1,296.78	2,029.23	1,997.37	31.86	63.702	
6,200.00	6,122.66	5,987.68	5,780.81	20.64	28.76	149.47	-73.62	1,364.35	2,056.16	2,023.24	32.91	62.475	
6,300.00	6,222.61	6,302.98	6,093.66	20.79	29.52	149.42	-75.74	1,402.16	2,070.14	2,036.34	33.80	61.253	
6,334.39	6,257.00	6,413.29	6,203.85	20.83	29.67	110.92	-76.02	1,407.24	2,071.83	2,037.78	34.05	60.846	
6,400.00	6,322.61	6,532.06	6,322.61	20.92	29.80	110.91	-76.08	1,408.28	2,072.14	2,037.80	34.34	60.345	
6,500.00	6,422.61	6,632.06	6,422.61	21.06	29.90	110.91	-76.08	1,408.28	2,072.14	2,037.46	34.67	59.762	
6,600.00	6,522.61	6,732.06	6,522.61	21.21	30.00	110.91	-76.08	1,408.28	2,072.14	2,037.13	35.01	59.186	
6,700.00	6,622.61	6,832.06	6,622.61	21.36	30.10	110.91	-76.08	1,408.28	2,072.14	2,036.79	35.35	58.617	
6,800.00	6,722.61	6,932.06	6,722.61	21.51	30.21	110.91	-76.08	1,408.28	2,072.14	2,036.44	35.69	58.054	
6,900.00	6,822.61	7,032.06	6,822.61	21.66	30.31	110.91	-76.08	1,408.28	2,072.14	2,036.10	36.04	57.499	
7,000.00	6,922.61	7,132.06	6,922.61	21.81	30.42	110.91	-76.08	1,408.28	2,072.14	2,035.75	36.38	56.951	
7,100.00	7,022.61	7,232.06	7,022.61	21.96	30.53	110.91	-76.08	1,408.28	2,072.14	2,035.40	36.73	56.410	
7,200.00	7,122.61	7,332.06	7,122.61	22.12	30.64	110.91	-76.08	1,408.28	2,072.14	2,035.05	37.08	55.875	
7,300.00	7,222.61	7,432.06	7,222.61	22.27	30.75	110.91	-76.08	1,408.28	2,072.14	2,034.70	37.44	55.348	
7,400.00	7,322.61	7,532.06	7,322.61	22.43	30.86	110.91	-76.08	1,408.28	2,072.14	2,034.34	37.79	54.828	
7,500.00	7,422.61	7,632.06	7,422.61	22.59	30.98	110.91	-76.08	1,408.28	2,072.14	2,033.99	38.15	54.314	
7,600.00	7,522.61	7,732.06	7,522.61	22.75	31.09	110.91	-76.08	1,408.28	2,072.14	2,033.63	38.51	53.807	
7,700.00	7,622.61	7,832.06	7,622.61	22.91	31.21	110.91	-76.08	1,408.28	2,072.14	2,033.27	38.87	53.308	
7,800.00	7,722.61	7,932.06	7,722.61	23.07	31.32	110.91	-76.08	1,408.28	2,072.14	2,032.90	39.23	52.814	
7,900.00	7,822.61	8,032.06	7,822.61	23.23	31.44	110.91	-76.08	1,408.28	2,072.14	2,032.54	39.60	52.328	
8,000.00	7,922.61	8,132.06	7,922.61	23.40	31.56	110.91	-76.08	1,408.28	2,072.14	2,032.17	39.97	51.848	
8,100.00	8,022.61	8,232.06	8,022.61	23.56	31.68	110.91	-76.08	1,408.28	2,072.14	2,031.80	40.33	51.375	
8,200.00	8,122.61	8,332.06	8,122.61	23.73	31.80	110.91	-76.08	1,408.28	2,072.14	2,031.43	40.70	50.909	
8,254.58	8,177.19	8,386.64	8,177.19	23.82	31.87	110.91	-76.08	1,408.28	2,072.14	2,031.23	40.91	50.657	
8,300.00	8,222.61	8,405.45	8,196.00	23.89	31.89	110.91	-76.08	1,408.28	2,072.31	2,031.28	41.03	50.511	
8,400.00	8,322.61	8,405.45	8,196.00	24.06	31.89	110.91	-76.08	1,408.28	2,076.00	2,034.78	41.22	50.361	
8,494.39	8,417.00	8,405.45	8,196.00	24.22	31.89	110.91	-76.08	1,408.28	2,083.89	2,042.48	41.41	50.327	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	88.99	0.35	19.87	19.87				
100.00	100.00	100.00	100.00	0.10	0.10	88.99	0.35	19.87	19.87	19.68	0.19	104.001	
200.00	200.00	200.00	200.00	0.32	0.32	88.99	0.35	19.87	19.87	19.23	0.64	31.018	
300.00	300.00	300.00	300.00	0.55	0.55	88.99	0.35	19.87	19.87	18.78	1.09	18.227	
400.00	400.00	400.00	400.00	0.77	0.77	88.99	0.35	19.87	19.87	18.33	1.54	12.905	
500.00	500.00	500.00	500.00	0.99	0.99	88.99	0.35	19.87	19.87	17.88	1.99	9.989	
600.00	600.00	600.00	600.00	1.22	1.22	88.99	0.35	19.87	19.87	17.43	2.44	8.148	
700.00	700.00	700.00	700.00	1.44	1.44	88.99	0.35	19.87	19.87	16.98	2.89	6.879	
800.00	800.00	800.00	800.00	1.67	1.67	88.99	0.35	19.87	19.87	16.53	3.34	5.953	
900.00	900.00	900.00	900.00	1.89	1.89	88.99	0.35	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	88.99	0.35	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	88.99	0.35	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	88.99	0.35	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	88.99	0.35	19.87	19.87	14.28	5.59	3.557	CC, ES, SF
1,400.00	1,399.98	1,399.40	1,399.38	3.01	3.01	128.21	1.45	21.20	22.29	16.27	6.02	3.701	
1,500.00	1,499.84	1,498.45	1,498.29	3.24	3.23	129.69	4.73	25.16	29.56	23.11	6.45	4.583	
1,600.00	1,599.45	1,596.80	1,596.27	3.47	3.45	130.95	10.13	31.71	41.66	34.78	6.88	6.059	
1,700.00	1,698.70	1,694.12	1,692.87	3.71	3.68	131.78	17.59	40.74	58.53	51.23	7.31	8.010	
1,800.00	1,797.47	1,790.08	1,787.70	3.97	3.93	132.25	26.98	52.11	80.11	72.36	7.75	10.332	
1,843.71	1,840.45	1,831.53	1,828.48	4.10	4.05	132.38	31.66	57.78	91.00	83.04	7.96	11.438	
1,900.00	1,895.73	1,884.50	1,880.46	4.27	4.21	132.49	38.19	65.69	105.93	97.70	8.23	12.865	
2,000.00	1,993.94	1,977.62	1,971.32	4.58	4.51	131.87	51.14	81.37	134.22	125.47	8.75	15.334	
2,100.00	2,092.14	2,069.33	2,060.11	4.91	4.85	130.73	65.73	99.04	164.76	155.46	9.30	17.717	
2,200.00	2,190.34	2,159.47	2,146.63	5.25	5.23	129.35	81.83	118.54	197.59	187.72	9.87	20.015	
2,300.00	2,288.55	2,247.91	2,230.70	5.61	5.65	127.89	99.30	139.69	232.73	222.27	10.47	22.235	
2,400.00	2,386.75	2,334.53	2,312.19	5.97	6.11	126.44	118.00	162.34	270.20	259.12	11.08	24.384	
2,500.00	2,484.96	2,419.24	2,390.98	6.34	6.61	125.03	137.80	186.32	309.98	298.27	11.71	26.471	
2,600.00	2,583.16	2,501.96	2,467.00	6.71	7.14	123.68	158.56	211.46	352.05	339.70	12.35	28.504	
2,700.00	2,681.37	2,587.94	2,545.19	7.09	7.74	122.37	181.34	239.04	396.02	383.00	13.02	30.405	
2,800.00	2,779.57	2,677.30	2,626.36	7.47	8.39	121.26	205.12	267.85	440.33	426.61	13.72	32.087	
2,900.00	2,877.77	2,766.65	2,707.53	7.86	9.05	120.36	228.91	296.66	484.74	470.31	14.43	33.596	
3,000.00	2,975.98	2,856.01	2,788.70	8.25	9.73	119.60	252.70	325.47	529.24	514.10	15.14	34.952	
3,100.00	3,074.18	2,945.36	2,869.87	8.64	10.42	118.96	276.49	354.28	573.80	557.94	15.86	36.174	
3,200.00	3,172.39	3,034.71	2,951.04	9.04	11.12	118.41	300.28	383.08	618.41	601.82	16.59	37.281	
3,300.00	3,270.59	3,124.07	3,032.21	9.44	11.82	117.94	324.07	411.89	663.05	645.73	17.32	38.286	
3,400.00	3,368.80	3,213.42	3,113.37	9.84	12.53	117.53	347.86	440.70	707.73	689.68	18.05	39.201	
3,500.00	3,467.00	3,302.78	3,194.54	10.24	13.24	117.16	371.64	469.51	752.44	733.64	18.79	40.037	
3,600.00	3,565.21	3,392.13	3,275.71	10.64	13.96	116.84	395.43	498.32	797.16	777.63	19.54	40.803	
3,700.00	3,663.41	3,481.48	3,356.88	11.04	14.68	116.55	419.22	527.13	841.91	821.62	20.28	41.507	
3,800.00	3,761.61	3,570.84	3,438.05	11.45	15.41	116.29	443.01	555.94	886.67	865.63	21.03	42.156	
3,900.00	3,859.82	3,660.19	3,519.22	11.85	16.14	116.05	466.80	584.74	931.44	909.66	21.79	42.756	
4,000.00	3,958.02	3,749.55	3,600.38	12.26	16.87	115.84	490.59	613.55	976.23	953.69	22.54	43.311	
4,100.00	4,056.23	3,838.90	3,681.55	12.67	17.60	115.64	514.38	642.36	1,021.02	997.72	23.30	43.828	
4,200.00	4,154.43	3,928.25	3,762.72	13.07	18.33	115.46	538.16	671.17	1,065.82	1,041.77	24.05	44.308	
4,300.00	4,252.64	4,017.61	3,843.89	13.48	19.07	115.30	561.95	699.98	1,110.64	1,085.82	24.81	44.757	
4,400.00	4,350.84	4,106.96	3,925.06	13.89	19.80	115.15	585.74	728.79	1,155.45	1,129.88	25.58	45.176	
4,500.00	4,449.04	4,196.32	4,006.23	14.30	20.54	115.01	609.53	757.60	1,200.28	1,173.94	26.34	45.569	
4,600.00	4,547.25	4,285.67	4,087.40	14.71	21.28	114.88	633.32	786.40	1,245.11	1,218.00	27.10	45.937	
4,700.00	4,645.45	4,375.03	4,168.56	15.12	22.02	114.76	657.11	815.21	1,289.94	1,262.07	27.87	46.283	
4,800.00	4,743.66	4,464.38	4,249.73	15.53	22.76	114.64	680.90	844.02	1,334.78	1,306.14	28.64	46.609	
4,900.00	4,841.86	4,553.73	4,330.90	15.94	23.51	114.54	704.68	872.83	1,379.62	1,350.22	29.41	46.917	
5,000.00	4,940.07	4,643.09	4,412.07	16.36	24.25	114.44	728.47	901.64	1,424.47	1,394.29	30.17	47.207	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	
5,100.00	5,038.27	4,732.44	4,493.24	16.77	24.99	114.35	752.26	930.45	1,469.32	1,438.37	30.94	47.482	
5,200.00	5,136.48	4,821.80	4,574.41	17.18	25.74	114.26	776.05	959.26	1,514.17	1,482.45	31.72	47.742	
5,300.00	5,234.68	4,911.15	4,655.57	17.59	26.48	114.18	799.84	988.06	1,559.02	1,526.54	32.49	47.989	
5,400.00	5,332.88	5,000.50	4,736.74	18.01	27.22	114.10	823.63	1,016.87	1,603.88	1,570.62	33.26	48.223	
5,500.00	5,431.09	5,089.86	4,817.91	18.42	27.97	114.02	847.42	1,045.68	1,648.74	1,614.71	34.03	48.446	
5,600.00	5,529.29	5,179.21	4,899.08	18.84	28.72	113.95	871.21	1,074.49	1,693.60	1,658.80	34.81	48.658	
5,700.00	5,627.50	5,268.57	4,980.25	19.25	29.46	113.89	894.99	1,103.30	1,738.47	1,702.89	35.58	48.860	
5,790.68	5,716.55	5,349.59	5,053.85	19.62	30.14	113.83	916.57	1,129.42	1,779.15	1,742.87	36.28	49.035	
5,800.00	5,725.70	5,357.92	5,061.42	19.66	30.21	113.91	918.78	1,132.11	1,783.32	1,746.95	36.38	49.025	
5,900.00	5,824.27	5,447.59	5,142.87	19.96	30.96	114.68	942.66	1,161.02	1,827.44	1,790.13	37.31	48.983	
6,000.00	5,923.37	5,537.71	5,224.74	20.22	31.71	115.31	966.65	1,190.07	1,870.25	1,832.06	38.19	48.972	
6,100.00	6,022.87	5,732.22	5,403.55	20.45	33.00	115.48	1,015.34	1,249.04	1,909.83	1,870.53	39.31	48.590	
6,200.00	6,122.66	5,970.01	5,628.51	20.64	34.26	115.42	1,064.25	1,308.28	1,941.51	1,901.14	40.37	48.093	
6,300.00	6,222.61	6,220.36	5,871.38	20.79	35.29	115.23	1,102.73	1,354.87	1,964.46	1,923.20	41.26	47.607	
6,334.39	6,257.00	6,308.79	5,958.30	20.83	35.58	76.65	1,113.07	1,367.40	1,970.23	1,928.71	41.52	47.447	
6,400.00	6,322.61	6,479.98	6,127.81	20.92	36.04	76.34	1,128.22	1,385.74	1,978.44	1,936.53	41.91	47.208	
6,500.00	6,422.61	6,744.87	6,392.07	21.06	36.46	76.13	1,138.89	1,398.66	1,984.15	1,941.72	42.43	46.764	
6,600.00	6,522.61	6,875.42	6,522.61	21.21	36.57	76.13	1,139.15	1,398.98	1,984.29	1,941.55	42.74	46.423	
6,700.00	6,622.61	6,975.42	6,622.61	21.36	36.66	76.13	1,139.15	1,398.98	1,984.29	1,941.27	43.02	46.121	
6,800.00	6,722.61	7,075.42	6,722.61	21.51	36.74	76.13	1,139.15	1,398.98	1,984.29	1,940.98	43.31	45.820	
6,900.00	6,822.61	7,175.42	6,822.61	21.66	36.83	76.13	1,139.15	1,398.98	1,984.29	1,940.70	43.59	45.519	
7,000.00	6,922.61	7,275.42	6,922.61	21.81	36.92	76.13	1,139.15	1,398.98	1,984.29	1,940.41	43.88	45.220	
7,100.00	7,022.61	7,375.42	7,022.61	21.96	37.00	76.13	1,139.15	1,398.98	1,984.29	1,940.12	44.17	44.922	
7,200.00	7,122.61	7,475.42	7,122.61	22.12	37.09	76.13	1,139.15	1,398.98	1,984.29	1,939.82	44.47	44.625	
7,300.00	7,222.61	7,575.42	7,222.61	22.27	37.18	76.13	1,139.15	1,398.98	1,984.29	1,939.53	44.76	44.330	
7,400.00	7,322.61	7,675.42	7,322.61	22.43	37.28	76.13	1,139.15	1,398.98	1,984.29	1,939.23	45.06	44.036	
7,500.00	7,422.61	7,775.42	7,422.61	22.59	37.37	76.13	1,139.15	1,398.98	1,984.29	1,938.93	45.36	43.744	
7,600.00	7,522.61	7,875.42	7,522.61	22.75	37.46	76.13	1,139.15	1,398.98	1,984.29	1,938.62	45.67	43.453	
7,700.00	7,622.61	7,975.42	7,622.61	22.91	37.56	76.13	1,139.15	1,398.98	1,984.29	1,938.32	45.97	43.163	
7,800.00	7,722.61	8,075.42	7,722.61	23.07	37.66	76.13	1,139.15	1,398.98	1,984.29	1,938.01	46.28	42.876	
7,900.00	7,822.61	8,175.42	7,822.61	23.23	37.75	76.13	1,139.15	1,398.98	1,984.29	1,937.70	46.59	42.590	
8,000.00	7,922.61	8,275.42	7,922.61	23.40	37.85	76.13	1,139.15	1,398.98	1,984.29	1,937.39	46.90	42.306	
8,100.00	8,022.61	8,375.42	8,022.61	23.56	37.95	76.13	1,139.15	1,398.98	1,984.29	1,937.07	47.22	42.023	
8,200.00	8,122.61	8,475.42	8,122.61	23.73	38.05	76.13	1,139.15	1,398.98	1,984.29	1,936.75	47.54	41.743	
8,200.15	8,122.76	8,475.56	8,122.76	23.73	38.05	76.13	1,139.15	1,398.98	1,984.29	1,936.75	47.54	41.743	
8,300.00	8,222.61	8,508.80	8,156.00	23.89	38.08	76.13	1,139.15	1,398.98	1,985.41	1,937.65	47.76	41.574	
8,400.00	8,322.61	8,508.80	8,156.00	24.06	38.08	76.13	1,139.15	1,398.98	1,991.27	1,943.34	47.93	41.547	
8,494.39	8,417.00	8,508.80	8,156.00	24.22	38.08	76.13	1,139.15	1,398.98	2,001.38	1,953.29	48.09	41.617	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	-90.35	-0.36	-60.16	60.16				
100.00	100.00	100.00	100.00	0.10	0.10	-90.35	-0.36	-60.16	60.16	59.97	0.19	314.889	
200.00	200.00	200.00	200.00	0.32	0.32	-90.35	-0.36	-60.16	60.16	59.52	0.64	93.914	
300.00	300.00	300.00	300.00	0.55	0.55	-90.35	-0.36	-60.16	60.16	59.07	1.09	55.187	
400.00	400.00	400.00	400.00	0.77	0.77	-90.35	-0.36	-60.16	60.16	58.62	1.54	39.074	
500.00	500.00	500.00	500.00	0.99	0.99	-90.35	-0.36	-60.16	60.16	58.17	1.99	30.244	
600.00	600.00	600.00	600.00	1.22	1.22	-90.35	-0.36	-60.16	60.16	57.72	2.44	24.669	
700.00	700.00	700.00	700.00	1.44	1.44	-90.35	-0.36	-60.16	60.16	57.27	2.89	20.829	
800.00	800.00	800.00	800.00	1.67	1.67	-90.35	-0.36	-60.16	60.16	56.82	3.34	18.024	
900.00	900.00	900.00	900.00	1.89	1.89	-90.35	-0.36	-60.16	60.16	56.37	3.79	15.885	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.35	-0.36	-60.16	60.16	55.92	4.24	14.199	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.35	-0.36	-60.16	60.16	55.47	4.69	12.837	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.35	-0.36	-60.16	60.16	55.02	5.14	11.714	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.35	-0.36	-60.16	60.16	54.57	5.59	10.771 CC, ES	
1,400.00	1,399.98	1,397.92	1,397.91	3.01	3.00	-53.25	-0.51	-61.83	60.80	54.79	6.01	10.117	
1,500.00	1,499.84	1,495.69	1,495.54	3.24	3.20	-57.22	-0.96	-66.81	62.95	56.53	6.42	9.807 SF	
1,600.00	1,599.45	1,593.15	1,592.64	3.47	3.41	-63.18	-1.70	-75.09	67.15	60.31	6.84	9.820	
1,700.00	1,698.70	1,690.16	1,688.95	3.71	3.63	-70.22	-2.73	-86.58	74.10	66.82	7.28	10.182	
1,800.00	1,797.47	1,786.56	1,784.22	3.97	3.88	-77.35	-4.05	-101.21	84.40	76.64	7.75	10.885	
1,843.71	1,840.45	1,828.47	1,825.47	4.10	4.00	-80.29	-4.71	-108.57	90.04	82.06	7.98	11.286	
1,900.00	1,895.73	1,882.26	1,878.26	4.27	4.16	-83.69	-5.63	-118.89	98.42	90.14	8.28	11.887	
2,000.00	1,993.94	1,977.30	1,971.01	4.58	4.48	-87.80	-7.49	-139.53	116.16	107.32	8.85	13.132	
2,100.00	2,092.14	2,074.05	2,064.86	4.91	4.84	-90.28	-9.58	-162.93	136.38	126.93	9.45	14.434	
2,200.00	2,190.34	2,171.81	2,159.66	5.25	5.24	-92.10	-11.72	-186.72	156.91	146.83	10.09	15.557	
2,300.00	2,288.55	2,269.58	2,254.46	5.61	5.65	-93.50	-13.85	-210.51	177.57	166.82	10.75	16.519	
2,400.00	2,386.75	2,367.34	2,349.26	5.97	6.08	-94.61	-15.99	-234.30	198.30	186.86	11.43	17.344	
2,500.00	2,484.96	2,465.10	2,444.06	6.34	6.52	-95.51	-18.12	-258.09	219.09	206.95	12.14	18.053	
2,600.00	2,583.16	2,562.86	2,538.86	6.71	6.97	-96.26	-20.26	-281.88	239.92	227.06	12.85	18.667	
2,700.00	2,681.37	2,660.63	2,633.66	7.09	7.44	-96.88	-22.39	-305.67	260.78	247.20	13.58	19.201	
2,800.00	2,779.57	2,758.39	2,728.46	7.47	7.90	-97.41	-24.53	-329.46	281.67	267.35	14.32	19.667	
2,900.00	2,877.77	2,856.15	2,823.26	7.86	8.38	-97.87	-26.66	-353.25	302.58	287.51	15.07	20.077	
3,000.00	2,975.98	2,953.92	2,918.06	8.25	8.85	-98.27	-28.80	-377.04	323.51	307.68	15.83	20.439	
3,100.00	3,074.18	3,051.68	3,012.86	8.64	9.34	-98.62	-30.93	-400.83	344.45	327.85	16.59	20.760	
3,200.00	3,172.39	3,149.44	3,107.66	9.04	9.82	-98.93	-33.07	-424.62	365.40	348.03	17.36	21.047	
3,300.00	3,270.59	3,247.20	3,202.46	9.44	10.31	-99.21	-35.20	-448.41	386.35	368.22	18.14	21.304	
3,400.00	3,368.80	3,344.97	3,297.26	9.84	10.80	-99.46	-37.33	-472.20	407.32	388.41	18.91	21.535	
3,500.00	3,467.00	3,442.73	3,392.06	10.24	11.29	-99.68	-39.47	-495.99	428.30	408.60	19.70	21.744	
3,600.00	3,565.21	3,540.49	3,486.86	10.64	11.79	-99.89	-41.60	-519.78	449.27	428.79	20.48	21.933	
3,700.00	3,663.41	3,638.25	3,581.66	11.04	12.29	-100.07	-43.74	-543.57	470.26	448.99	21.27	22.106	
3,800.00	3,761.61	3,736.02	3,676.46	11.45	12.78	-100.24	-45.87	-567.36	491.25	469.18	22.07	22.263	
3,900.00	3,859.82	3,833.78	3,771.26	11.85	13.28	-100.40	-48.01	-591.15	512.24	489.38	22.86	22.408	
4,000.00	3,958.02	3,931.54	3,866.06	12.26	13.79	-100.54	-50.14	-614.94	533.23	509.58	23.66	22.541	
4,100.00	4,056.23	4,029.31	3,960.86	12.67	14.29	-100.67	-52.28	-638.73	554.23	529.78	24.46	22.663	
4,200.00	4,154.43	4,127.07	4,055.66	13.07	14.79	-100.80	-54.41	-662.52	575.23	549.98	25.26	22.776	
4,300.00	4,252.64	4,224.83	4,150.46	13.48	15.29	-100.91	-56.55	-686.31	596.24	570.18	26.06	22.881	
4,400.00	4,350.84	4,322.59	4,245.26	13.89	15.80	-101.02	-58.68	-710.10	617.24	590.38	26.86	22.978	
4,500.00	4,449.04	4,420.36	4,340.06	14.30	16.30	-101.12	-60.81	-733.89	638.25	610.58	27.67	23.069	
4,600.00	4,547.25	4,518.12	4,434.86	14.71	16.81	-101.21	-62.95	-757.68	659.26	630.79	28.47	23.154	
4,700.00	4,645.45	4,615.88	4,529.66	15.12	17.32	-101.30	-65.08	-781.48	680.27	650.99	29.28	23.233	
4,800.00	4,743.66	4,713.64	4,624.46	15.53	17.82	-101.38	-67.22	-805.27	701.28	671.19	30.09	23.307	
4,900.00	4,841.86	4,811.41	4,719.26	15.94	18.33	-101.45	-69.35	-829.06	722.30	691.40	30.90	23.376	
5,000.00	4,940.07	4,909.17	4,814.06	16.36	18.84	-101.53	-71.49	-852.85	743.31	711.60	31.71	23.442	

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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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	5,038.27	5,006.93	4,908.86	16.77	19.35	-101.60	-73.62	-876.64	764.33	731.81	32.52	23.503	
5,200.00	5,136.48	5,104.70	5,003.66	17.18	19.86	-101.66	-75.76	-900.43	785.34	752.01	33.33	23.561	
5,300.00	5,234.68	5,202.46	5,098.46	17.59	20.37	-101.72	-77.89	-924.22	806.36	772.22	34.14	23.616	
5,400.00	5,332.88	5,300.22	5,193.26	18.01	20.88	-101.78	-80.03	-948.01	827.38	792.42	34.96	23.668	
5,500.00	5,431.09	5,397.98	5,288.06	18.42	21.39	-101.84	-82.16	-971.80	848.40	812.63	35.77	23.717	
5,600.00	5,529.29	5,495.75	5,382.86	18.84	21.90	-101.89	-84.29	-995.59	869.42	832.83	36.59	23.763	
5,700.00	5,627.50	5,593.51	5,477.66	19.25	22.41	-101.94	-86.43	-1,019.38	890.44	853.04	37.40	23.808	
5,790.68	5,716.55	5,682.16	5,563.62	19.62	22.87	-101.98	-88.36	-1,040.95	909.50	871.36	38.14	23.846	
5,800.00	5,725.70	5,691.27	5,572.46	19.66	22.92	-102.03	-88.56	-1,043.17	911.46	873.24	38.22	23.848	
5,900.00	5,824.27	5,815.06	5,693.04	19.96	23.45	-102.41	-91.06	-1,071.02	930.80	891.78	39.02	23.854	
6,000.00	5,923.37	5,942.60	5,818.41	20.22	23.85	-102.71	-93.15	-1,094.27	946.41	906.72	39.69	23.844	
6,100.00	6,022.87	6,071.37	5,945.93	20.45	24.19	-102.90	-94.75	-1,112.08	958.22	917.95	40.27	23.796	
6,200.00	6,122.66	6,201.06	6,075.03	20.64	24.46	-103.02	-95.84	-1,124.24	966.16	925.41	40.75	23.710	
6,300.00	6,222.61	6,331.33	6,205.13	20.79	24.66	-103.04	-96.41	-1,130.58	970.19	929.07	41.12	23.593	
6,334.39	6,257.00	6,376.19	6,249.99	20.83	24.71	-141.52	-96.48	-1,131.39	970.67	929.44	41.23	23.543	
6,400.00	6,322.61	6,448.82	6,322.61	20.92	24.80	-141.51	-96.49	-1,131.55	970.75	929.34	41.41	23.441	
6,500.00	6,422.61	6,548.82	6,422.61	21.06	24.91	-141.51	-96.49	-1,131.55	970.75	929.06	41.70	23.282	
6,600.00	6,522.61	6,648.82	6,522.61	21.21	25.03	-141.51	-96.49	-1,131.55	970.75	928.77	41.99	23.121	
6,700.00	6,622.61	6,748.82	6,622.61	21.36	25.15	-141.51	-96.49	-1,131.55	970.75	928.47	42.28	22.960	
6,800.00	6,722.61	6,848.82	6,722.61	21.51	25.28	-141.51	-96.49	-1,131.55	970.75	928.18	42.58	22.801	
6,900.00	6,822.61	6,948.82	6,822.61	21.66	25.40	-141.51	-96.49	-1,131.55	970.75	927.88	42.87	22.642	
7,000.00	6,922.61	7,048.82	6,922.61	21.81	25.53	-141.51	-96.49	-1,131.55	970.75	927.58	43.18	22.484	
7,100.00	7,022.61	7,148.82	7,022.61	21.96	25.66	-141.51	-96.49	-1,131.55	970.75	927.28	43.48	22.327	
7,200.00	7,122.61	7,248.82	7,122.61	22.12	25.79	-141.51	-96.49	-1,131.55	970.75	926.97	43.79	22.171	
7,300.00	7,222.61	7,348.82	7,222.61	22.27	25.92	-141.51	-96.49	-1,131.55	970.75	926.66	44.09	22.015	
7,400.00	7,322.61	7,448.82	7,322.61	22.43	26.05	-141.51	-96.49	-1,131.55	970.75	926.35	44.41	21.861	
7,500.00	7,422.61	7,548.82	7,422.61	22.59	26.18	-141.51	-96.49	-1,131.55	970.75	926.04	44.72	21.708	
7,600.00	7,522.61	7,648.82	7,522.61	22.75	26.31	-141.51	-96.49	-1,131.55	970.75	925.72	45.03	21.556	
7,700.00	7,622.61	7,748.82	7,622.61	22.91	26.45	-141.51	-96.49	-1,131.55	970.75	925.40	45.35	21.405	
7,800.00	7,722.61	7,848.82	7,722.61	23.07	26.59	-141.51	-96.49	-1,131.55	970.75	925.08	45.67	21.254	
7,900.00	7,822.61	7,948.82	7,822.61	23.23	26.72	-141.51	-96.49	-1,131.55	970.75	924.76	46.00	21.105	
8,000.00	7,922.61	8,048.82	7,922.61	23.40	26.86	-141.51	-96.49	-1,131.55	970.75	924.43	46.32	20.958	
8,100.00	8,022.61	8,148.82	8,022.61	23.56	27.00	-141.51	-96.49	-1,131.55	970.75	924.11	46.65	20.811	
8,200.00	8,122.61	8,248.82	8,122.61	23.73	27.14	-141.51	-96.49	-1,131.55	970.75	923.78	46.98	20.665	
8,253.95	8,176.56	8,302.77	8,176.56	23.82	27.22	-141.51	-96.49	-1,131.55	970.75	923.60	47.15	20.587	
8,300.00	8,222.61	8,321.21	8,195.00	23.89	27.25	-141.51	-96.49	-1,131.55	971.15	923.89	47.26	20.549	
8,400.00	8,322.61	8,321.21	8,195.00	24.06	27.25	-141.51	-96.49	-1,131.55	979.11	931.68	47.43	20.643	
8,494.39	8,417.00	8,321.21	8,195.00	24.22	27.25	-141.51	-96.49	-1,131.55	995.82	948.22	47.59	20.925	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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
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	-90.00	0.00	-10.07	10.07				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-10.07	10.07	9.88	0.19	52.725	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-10.07	10.07	9.43	0.64	15.725	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-10.07	10.07	8.98	1.09	9.240	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-10.07	10.07	8.53	1.54	6.542	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-10.07	10.07	8.08	1.99	5.064	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-10.07	10.07	7.63	2.44	4.131	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-10.07	10.07	7.18	2.89	3.488	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-10.07	10.07	6.74	3.34	3.018	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	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	-90.00	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	-90.00	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	-90.00	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	-90.00	0.00	-10.07	10.07	4.49	5.59	1.803 CC	
1,400.00	1,399.98	1,399.77	1,399.76	3.01	3.01	-55.68	0.62	-11.22	10.16	4.14	6.02	1.687 ES	
1,500.00	1,499.84	1,499.53	1,499.44	3.24	3.22	-67.50	2.49	-14.65	10.73	4.28	6.45	1.663 SF	
1,600.00	1,599.45	1,599.28	1,598.97	3.47	3.44	-83.53	5.61	-20.36	12.53	5.63	6.90	1.816	
1,700.00	1,698.70	1,699.01	1,698.28	3.71	3.67	-98.37	9.96	-28.36	16.18	8.81	7.37	2.194	
1,800.00	1,797.47	1,798.71	1,797.30	3.97	3.92	-109.24	15.56	-38.62	21.81	13.93	7.88	2.769	
1,843.71	1,840.45	1,842.29	1,840.47	4.10	4.03	-112.80	18.39	-43.82	24.86	16.75	8.11	3.066	
1,900.00	1,895.73	1,898.42	1,895.97	4.27	4.18	-115.63	22.39	-51.15	29.03	20.62	8.41	3.451	
2,000.00	1,993.94	1,998.20	1,994.32	4.58	4.47	-115.86	30.45	-65.95	36.40	27.39	9.00	4.042	
2,100.00	2,092.14	2,097.94	2,092.14	4.91	4.79	-112.59	39.74	-82.99	43.69	34.03	9.65	4.526	
2,200.00	2,190.34	2,197.56	2,189.39	5.25	5.14	-107.69	50.09	-101.98	51.22	40.87	10.35	4.949	
2,300.00	2,288.55	2,297.17	2,286.55	5.61	5.51	-103.73	60.60	-121.27	59.08	48.01	11.07	5.337	
2,400.00	2,386.75	2,396.79	2,383.72	5.97	5.90	-100.71	71.11	-140.56	67.15	55.35	11.80	5.689	
2,500.00	2,484.96	2,496.41	2,480.89	6.34	6.30	-98.35	81.63	-159.84	75.37	62.82	12.55	6.006	
2,600.00	2,583.16	2,596.03	2,578.05	6.71	6.71	-96.45	92.14	-179.13	83.69	70.39	13.31	6.290	
2,700.00	2,681.37	2,695.65	2,675.22	7.09	7.12	-94.89	102.65	-198.42	92.09	78.02	14.07	6.545	
2,800.00	2,779.57	2,795.27	2,772.39	7.47	7.55	-93.60	113.16	-217.71	100.54	85.70	14.84	6.774	
2,900.00	2,877.77	2,894.89	2,869.55	7.86	7.98	-92.51	123.67	-236.99	109.04	93.42	15.62	6.981	
3,000.00	2,975.98	2,994.50	2,966.72	8.25	8.41	-91.57	134.19	-256.28	117.57	101.17	16.40	7.167	
3,100.00	3,074.18	3,094.12	3,063.89	8.64	8.85	-90.77	144.70	-275.57	126.13	108.93	17.19	7.336	
3,200.00	3,172.39	3,193.74	3,161.05	9.04	9.29	-90.06	155.21	-294.86	134.70	116.72	17.98	7.490	
3,300.00	3,270.59	3,293.36	3,258.22	9.44	9.74	-89.44	165.72	-314.14	143.30	124.52	18.78	7.630	
3,400.00	3,368.80	3,392.98	3,355.39	9.84	10.19	-88.89	176.23	-333.43	151.91	132.33	19.58	7.758	
3,500.00	3,467.00	3,492.60	3,452.55	10.24	10.64	-88.40	186.74	-352.72	160.53	140.15	20.38	7.876	
3,600.00	3,565.21	3,592.22	3,549.72	10.64	11.09	-87.96	197.26	-372.01	169.17	147.98	21.19	7.985	
3,700.00	3,663.41	3,691.84	3,646.89	11.04	11.55	-87.56	207.77	-391.29	177.81	155.82	21.99	8.085	
3,800.00	3,761.61	3,791.45	3,744.05	11.45	12.00	-87.20	218.28	-410.58	186.46	163.66	22.80	8.177	
3,900.00	3,859.82	3,891.07	3,841.22	11.85	12.46	-86.87	228.79	-429.87	195.12	171.50	23.61	8.263	
4,000.00	3,958.02	3,990.69	3,938.39	12.26	12.92	-86.57	239.30	-449.16	203.78	179.35	24.42	8.343	
4,100.00	4,056.23	4,090.31	4,035.55	12.67	13.38	-86.29	249.82	-468.44	212.45	187.21	25.24	8.418	
4,200.00	4,154.43	4,189.93	4,132.72	13.07	13.84	-86.03	260.33	-487.73	221.12	195.07	26.05	8.487	
4,300.00	4,252.64	4,289.55	4,229.89	13.48	14.30	-85.80	270.84	-507.02	229.80	202.93	26.87	8.552	
4,400.00	4,350.84	4,389.17	4,327.05	13.89	14.76	-85.58	281.35	-526.31	238.48	210.79	27.69	8.613	
4,500.00	4,449.04	4,488.78	4,424.22	14.30	15.23	-85.38	291.86	-545.59	247.16	218.66	28.50	8.671	
4,600.00	4,547.25	4,588.40	4,521.39	14.71	15.69	-85.19	302.37	-564.88	255.85	226.52	29.32	8.725	
4,700.00	4,645.45	4,688.02	4,618.55	15.12	16.16	-85.01	312.89	-584.17	264.54	234.39	30.14	8.776	
4,800.00	4,743.66	4,787.64	4,715.72	15.53	16.62	-84.84	323.40	-603.46	273.23	242.26	30.97	8.824	
4,900.00	4,841.86	4,887.26	4,812.89	15.94	17.09	-84.69	333.91	-622.74	281.92	250.13	31.79	8.869	
5,000.00	4,940.07	4,986.88	4,910.05	16.36	17.56	-84.54	344.42	-642.03	290.62	258.01	32.61	8.912	

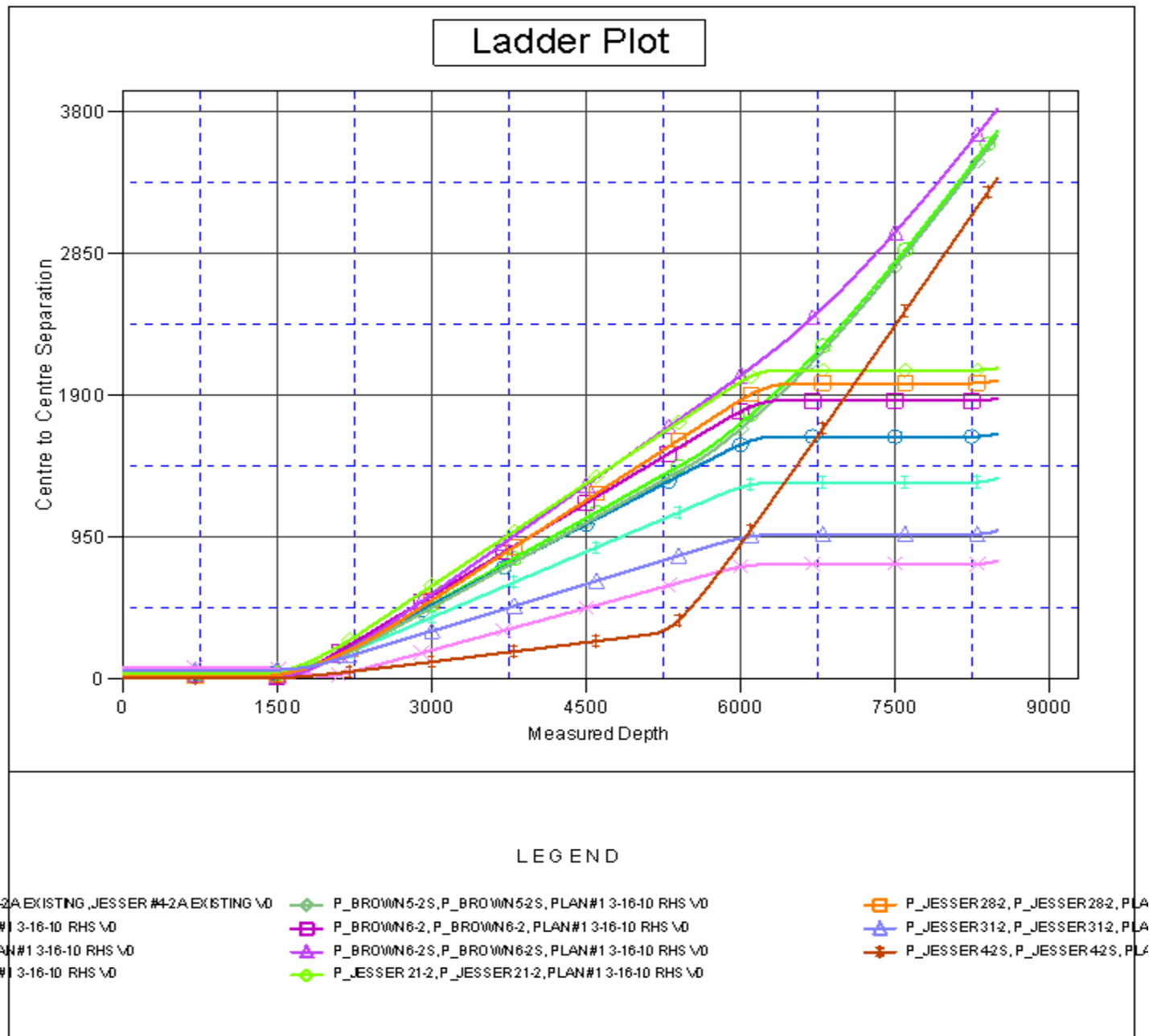
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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
5,100.00	5,038.27	5,086.50	5,007.22	16.77	18.02	-84.41	354.93	-661.32	299.31	265.88	33.43	8.953	
5,200.00	5,136.48	5,158.04	5,077.00	17.18	18.36	-84.31	362.48	-675.17	309.29	275.15	34.14	9.060	
5,300.00	5,234.68	5,158.04	5,077.00	17.59	18.36	-84.31	362.48	-675.17	341.49	306.94	34.55	9.884	
5,400.00	5,332.88	5,158.04	5,077.00	18.01	18.36	-84.31	362.48	-675.17	396.95	361.98	34.96	11.354	
5,500.00	5,431.09	5,158.04	5,077.00	18.42	18.36	-84.31	362.48	-675.17	467.46	432.09	35.37	13.215	
5,600.00	5,529.29	5,158.04	5,077.00	18.84	18.36	-84.31	362.48	-675.17	547.24	511.46	35.78	15.293	
5,700.00	5,627.50	5,158.04	5,077.00	19.25	18.36	-84.31	362.48	-675.17	632.79	596.60	36.20	17.482	
5,790.68	5,716.55	5,158.04	5,077.00	19.62	18.36	-84.31	362.48	-675.17	713.62	677.05	36.57	19.514	
5,800.00	5,725.70	5,158.04	5,077.00	19.66	18.36	-84.71	362.48	-675.17	722.07	685.42	36.64	19.705	
5,900.00	5,824.27	5,158.04	5,077.00	19.96	18.36	-89.35	362.48	-675.17	813.89	776.54	37.36	21.786	
6,000.00	5,923.37	5,158.04	5,077.00	20.22	18.36	-94.66	362.48	-675.17	907.46	869.50	37.96	23.907	
6,100.00	6,022.87	5,158.04	5,077.00	20.45	18.36	-100.52	362.48	-675.17	1,002.19	963.81	38.37	26.117	
6,200.00	6,122.66	5,158.04	5,077.00	20.64	18.36	-106.76	362.48	-675.17	1,097.67	1,059.13	38.54	28.482	
6,300.00	6,222.61	5,158.04	5,077.00	20.79	18.36	-113.17	362.48	-675.17	1,193.62	1,155.20	38.42	31.065	
6,334.39	6,257.00	5,158.04	5,077.00	20.83	18.36	-153.85	362.48	-675.17	1,226.69	1,188.37	38.32	32.012	
6,400.00	6,322.61	5,158.04	5,077.00	20.92	18.36	-153.85	362.48	-675.17	1,289.93	1,251.52	38.41	33.584	
6,500.00	6,422.61	5,158.04	5,077.00	21.06	18.36	-153.85	362.48	-675.17	1,386.73	1,348.17	38.56	35.961	
6,600.00	6,522.61	5,158.04	5,077.00	21.21	18.36	-153.85	362.48	-675.17	1,483.97	1,445.25	38.72	38.329	
6,700.00	6,622.61	5,158.04	5,077.00	21.36	18.36	-153.85	362.48	-675.17	1,581.54	1,542.67	38.87	40.685	
6,800.00	6,722.61	5,158.04	5,077.00	21.51	18.36	-153.85	362.48	-675.17	1,679.40	1,640.37	39.03	43.028	
6,900.00	6,822.61	5,158.04	5,077.00	21.66	18.36	-153.85	362.48	-675.17	1,777.50	1,738.31	39.19	45.357	
7,000.00	6,922.61	5,158.04	5,077.00	21.81	18.36	-153.85	362.48	-675.17	1,875.80	1,836.46	39.35	47.671	
7,100.00	7,022.61	5,158.04	5,077.00	21.96	18.36	-153.85	362.48	-675.17	1,974.28	1,934.77	39.51	49.970	
7,200.00	7,122.61	5,158.04	5,077.00	22.12	18.36	-153.85	362.48	-675.17	2,072.89	2,033.22	39.67	52.251	
7,300.00	7,222.61	5,158.04	5,077.00	22.27	18.36	-153.85	362.48	-675.17	2,171.64	2,131.80	39.83	54.516	
7,400.00	7,322.61	5,158.04	5,077.00	22.43	18.36	-153.85	362.48	-675.17	2,270.49	2,230.49	40.00	56.763	
7,500.00	7,422.61	5,158.04	5,077.00	22.59	18.36	-153.85	362.48	-675.17	2,369.44	2,329.28	40.16	58.993	
7,600.00	7,522.61	5,158.04	5,077.00	22.75	18.36	-153.85	362.48	-675.17	2,468.48	2,428.15	40.33	61.205	
7,700.00	7,622.61	5,158.04	5,077.00	22.91	18.36	-153.85	362.48	-675.17	2,567.59	2,527.09	40.50	63.399	
7,800.00	7,722.61	5,158.04	5,077.00	23.07	18.36	-153.85	362.48	-675.17	2,666.76	2,626.09	40.67	65.576	
7,900.00	7,822.61	5,158.04	5,077.00	23.23	18.36	-153.85	362.48	-675.17	2,766.00	2,725.16	40.84	67.733	
8,000.00	7,922.61	5,158.04	5,077.00	23.40	18.36	-153.85	362.48	-675.17	2,865.29	2,824.28	41.01	69.873	
8,100.00	8,022.61	5,158.04	5,077.00	23.56	18.36	-153.85	362.48	-675.17	2,964.62	2,923.44	41.18	71.995	
8,200.00	8,122.61	5,158.04	5,077.00	23.73	18.36	-153.85	362.48	-675.17	3,064.00	3,022.65	41.35	74.098	
8,300.00	8,222.61	5,158.04	5,077.00	23.89	18.36	-153.85	362.48	-675.17	3,163.42	3,121.90	41.52	76.183	
8,400.00	8,322.61	5,158.04	5,077.00	24.06	18.36	-153.85	362.48	-675.17	3,262.87	3,221.18	41.70	78.250	
8,494.39	8,417.00	5,158.04	5,077.00	24.22	18.36	-153.85	362.48	-675.17	3,356.78	3,314.92	41.86	80.185	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 4-2
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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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	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 4-2
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 4-2
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 4-2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 4-2	Database:	EDM 2003.21 Single User Db
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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°

