



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_JESSER 18-2 PAD

P_BROWN 3-2S

P_BROWN 3-2S

Plan: PLAN #1 3-16-10 RHS

Standard Planning Report

16 March, 2010

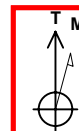




Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_JESSER 18-2 PAD
 Well: P_BROWN 3-2S
 Wellbore: P_BROWN 3-2S
 Section: SECTION 2 T1N R66W
 SHL: 1178 FNL 1212 FWL
 Design: PLAN #1 3-16-10 RHS
 Latitude: 40° 5' 2.662 N
 Longitude: 104° 44' 57.710 W
 GL: 5143.00
 KB: WELL @ 5158.00ft (Original Well Elev)



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
4275.00	4378.99	PARKMAN
4765.00	4892.04	SUSSEX

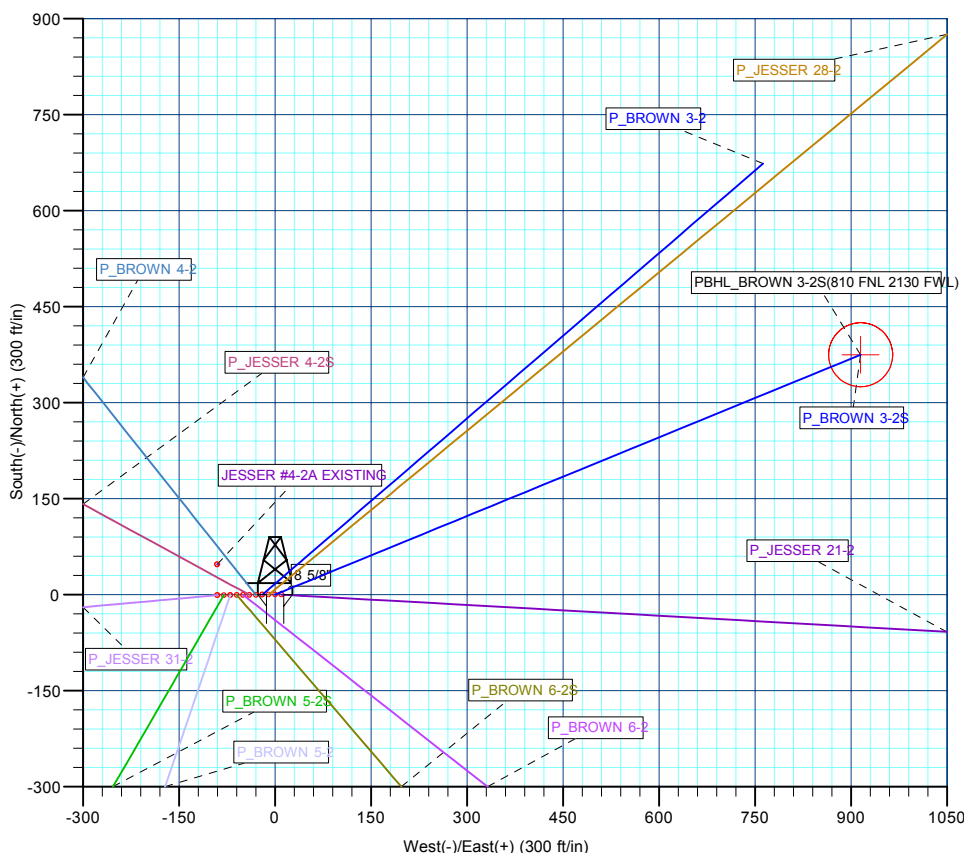
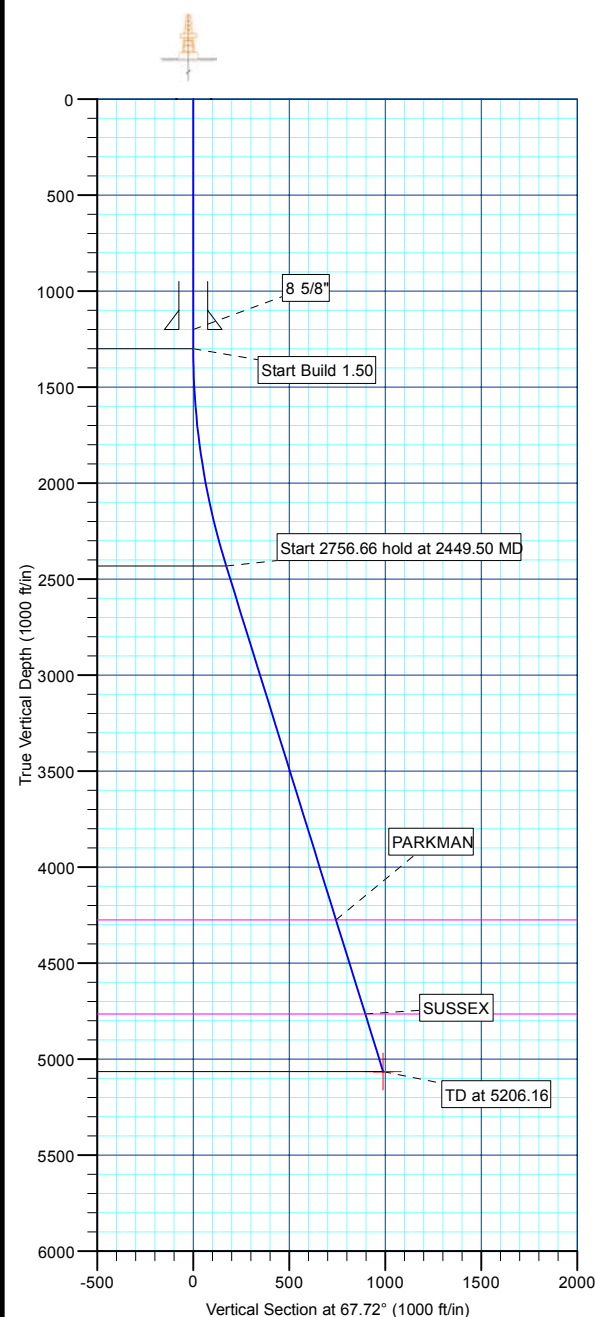
CASING DETAILS			
TVD	MD	Name	Size
1200.00	1200.00	8 5/8"	8.62

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	
2449.50	17.24	67.72	2432.23	65.08	158.85	1.50	67.72	171.66	Start Build 1.50
5206.16	17.24	67.72	5065.00	374.89	914.96	0.00	0.00	988.78	Start 2756.66 hold at 2449.50 MD TD at 5206.16

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	5065.00	374.89	914.96	40° 5' 6.367 N	104° 44' 45.938 W	Circle (Radius: 50.00)

WELL DETAILS: P_BROWN 3-2S						
+N/-S	+E/-W	Northing	Ground Level: Easting	5143.00 Latitude	Longitude	Slot
0.00	0.00	1274361.50	3210031.61	40° 5' 2.662 N	104° 44' 57.710 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 4-2, P_BROWN 4-2, 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 3-2S/P_BROWN 3-2S)	
Created By: Robert H. Scott	Date: 15:16, March 16 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 3-2S		
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:	1,274,361.36 ft	Latitude:	40° 5' 2.663 N
From:	Lat/Long	Easting:	3,210,011.75 ft	Longitude:	104° 44' 57.966 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.48 °

Well	P_BROWN 3-2S					
Well Position	+N/-S	-0.03 ft	Northing:	1,274,361.50 ft	Latitude:	40° 5' 2.662 N
	+E/-W	19.87 ft	Easting:	3,210,031.61 ft	Longitude:	104° 44' 57.710 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,143.00 ft

Wellbore	P_BROWN 3-2S				
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	67.72

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	
2,449.50	17.24	67.72	2,432.23	65.08	158.85	1.50	1.50	0.00	67.72	
5,206.16	17.24	67.72	5,065.00	374.89	914.96	0.00	0.00	0.00	0.00	PBHL_BROWN 3-2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 3-2S		
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 1.50									
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	1.50	67.72	1,399.99	0.50	1.21	1.31	1.50	1.50	0.00
1,500.00	3.00	67.72	1,499.91	1.98	4.84	5.23	1.50	1.50	0.00
1,600.00	4.50	67.72	1,599.69	4.46	10.90	11.77	1.50	1.50	0.00
1,700.00	6.00	67.72	1,699.27	7.93	19.36	20.92	1.50	1.50	0.00
1,800.00	7.50	67.72	1,798.57	12.39	30.24	32.68	1.50	1.50	0.00
1,900.00	9.00	67.72	1,897.54	17.83	43.52	47.03	1.50	1.50	0.00
2,000.00	10.50	67.72	1,996.09	24.25	59.19	63.96	1.50	1.50	0.00
2,100.00	12.00	67.72	2,094.16	31.65	77.24	83.47	1.50	1.50	0.00
2,200.00	13.50	67.72	2,191.70	40.01	97.66	105.54	1.50	1.50	0.00
2,300.00	15.00	67.72	2,288.62	49.35	120.44	130.15	1.50	1.50	0.00
2,400.00	16.50	67.72	2,384.86	59.64	145.55	157.30	1.50	1.50	0.00
Start 2756.66 hold at 2449.50 MD									
2,449.50	17.24	67.72	2,432.23	65.08	158.85	171.66	1.50	1.50	0.00
2,500.00	17.24	67.72	2,480.46	70.76	172.70	186.63	0.00	0.00	0.00
2,600.00	17.24	67.72	2,575.96	82.00	200.13	216.27	0.00	0.00	0.00
2,700.00	17.24	67.72	2,671.47	93.24	227.56	245.92	0.00	0.00	0.00
2,800.00	17.24	67.72	2,766.98	104.47	254.98	275.56	0.00	0.00	0.00
2,900.00	17.24	67.72	2,862.48	115.71	282.41	305.20	0.00	0.00	0.00
3,000.00	17.24	67.72	2,957.99	126.95	309.84	334.84	0.00	0.00	0.00
3,100.00	17.24	67.72	3,053.49	138.19	337.27	364.48	0.00	0.00	0.00
3,200.00	17.24	67.72	3,149.00	149.43	364.70	394.12	0.00	0.00	0.00
3,300.00	17.24	67.72	3,244.51	160.67	392.13	423.77	0.00	0.00	0.00
3,400.00	17.24	67.72	3,340.01	171.91	419.56	453.41	0.00	0.00	0.00
3,500.00	17.24	67.72	3,435.52	183.14	446.98	483.05	0.00	0.00	0.00
3,600.00	17.24	67.72	3,531.02	194.38	474.41	512.69	0.00	0.00	0.00
3,700.00	17.24	67.72	3,626.53	205.62	501.84	542.33	0.00	0.00	0.00
3,800.00	17.24	67.72	3,722.03	216.86	529.27	571.97	0.00	0.00	0.00
3,900.00	17.24	67.72	3,817.54	228.10	556.70	601.62	0.00	0.00	0.00
4,000.00	17.24	67.72	3,913.05	239.34	584.13	631.26	0.00	0.00	0.00
4,100.00	17.24	67.72	4,008.55	250.57	611.56	660.90	0.00	0.00	0.00
4,200.00	17.24	67.72	4,104.06	261.81	638.98	690.54	0.00	0.00	0.00
4,300.00	17.24	67.72	4,199.56	273.05	666.41	720.18	0.00	0.00	0.00
PARKMAN									
4,378.99	17.24	67.72	4,275.00	281.93	688.08	743.60	0.00	0.00	0.00
4,400.00	17.24	67.72	4,295.07	284.29	693.84	749.82	0.00	0.00	0.00
4,500.00	17.24	67.72	4,390.58	295.53	721.27	779.47	0.00	0.00	0.00
4,600.00	17.24	67.72	4,486.08	306.77	748.70	809.11	0.00	0.00	0.00
4,700.00	17.24	67.72	4,581.59	318.00	776.13	838.75	0.00	0.00	0.00
4,800.00	17.24	67.72	4,677.09	329.24	803.56	868.39	0.00	0.00	0.00
SUSSEX									
4,892.04	17.24	67.72	4,765.00	339.59	828.80	895.67	0.00	0.00	0.00
4,900.00	17.24	67.72	4,772.60	340.48	830.99	898.03	0.00	0.00	0.00
5,000.00	17.24	67.72	4,868.10	351.72	858.41	927.67	0.00	0.00	0.00
5,100.00	17.24	67.72	4,963.61	362.96	885.84	957.32	0.00	0.00	0.00
5,200.00	17.24	67.72	5,059.12	374.20	913.27	986.96	0.00	0.00	0.00
TD at 5206.16 - PBHL_BROWN 3-2S(810 FNL 2130 FWL)									
5,206.16	17.24	67.72	5,065.00	374.89	914.96	988.78	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BROWN 3-2S		
Design:	PLAN #1 3-16-10 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_BROWN 3-2S(- plan hits target center - Circle (radius 50.00)	0.00	0.00	5,065.00	374.89	914.96	1,274,744.12	3,210,943.37	40° 5' 6.367 N	104° 44' 45.938 W

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 (°)	
4,378.99	4,275.00	PARKMAN				
4,892.04	4,765.00	SUSSEX				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
1,300.00	1,300.00	0.00	0.00	Start Build 1.50	
2,449.50	2,432.23	65.08	158.85	Start 2756.66 hold at 2449.50 MD	
5,206.16	5,065.00	374.89	914.96	TD at 5206.16	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_JESSER 18-2 PAD
P_BROWN 3-2S**

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

Anticollision Report

16 March, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	5,206.16	PLAN #1 3-16-10 RHS (P_BROWN 3-2S)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_JESSER 18-2 PAD						
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,300.00	1,279.00	102.03	50.08	1.964	CC
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,500.00	1,478.91	105.48	45.13	1.748	ES
JESSER #4-2A EXISTING - JESSER #4-2A EXISTING -	1,700.00	1,678.27	116.61	48.01	1.700	SF
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,531.27	1,532.38	19.55	12.98	2.974	CC
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,600.00	1,601.34	19.70	12.83	2.867	ES
P_BROWN 3-2 - P_BROWN 3-2 - PLAN #1 3-16-10 RHS	1,700.00	1,701.54	20.77	13.44	2.833	SF
P_BROWN 4-2 - P_BROWN 4-2 - PLAN #1 3-16-10 RHS	1,300.00	1,300.00	29.94	24.36	5.361	CC, ES
P_BROWN 4-2 - P_BROWN 4-2 - PLAN #1 3-16-10 RHS	1,400.00	1,399.30	32.23	26.21	5.355	SF
P_BROWN 5-2 - P_BROWN 5-2 - PLAN #1 3-16-10 RHS	1,300.00	1,300.00	69.96	64.37	12.525	CC, ES
P_BROWN 5-2 - P_BROWN 5-2 - PLAN #1 3-16-10 RHS	1,400.00	1,399.12	71.78	65.78	11.976	SF
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	80.03	74.44	14.328	CC, ES
P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 F	1,400.00	1,398.89	81.92	75.92	13.665	SF
P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS	1,481.23	1,483.56	49.81	43.49	7.882	CC
P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS	1,500.00	1,502.53	49.82	43.43	7.794	ES
P_BROWN 6-2 - P_BROWN 6-2 - PLAN #1 3-16-10 RHS	1,600.00	1,603.34	50.64	43.85	7.458	SF
P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	59.88	54.29	10.721	CC
P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 F	1,400.00	1,401.00	60.26	54.26	10.042	ES
P_BROWN 6-2S - P_BROWN 6-2S - PLAN #1 3-16-10 F	1,600.00	1,602.42	64.54	57.77	9.526	SF
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	10.07	4.49	1.803	CC, ES
P_JESSER 21-2 - P_JESSER 21-2 - PLAN #1 3-16-10 R	1,400.00	1,399.64	10.61	4.61	1.767	SF
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,486.16	1,486.61	9.83	3.45	1.540	CC
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,500.00	1,500.48	9.84	3.40	1.527	ES
P_JESSER 28-2 - P_JESSER 28-2 - PLAN #1 3-16-10 R	1,600.00	1,600.59	10.44	3.56	1.517	SF
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,300.00	1,300.00	90.10	84.52	16.131	CC, ES
P_JESSER 31-2 - P_JESSER 31-2 - PLAN #1 3-16-10 R	1,400.00	1,396.87	93.00	87.00	15.496	SF
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,300.00	1,300.00	40.01	34.43	7.164	CC, ES
P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 F	1,400.00	1,399.04	42.36	36.35	7.043	SF

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	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	-62.35	47.36	-90.38	104.17								

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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						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	
100.00	100.00	79.00	79.00	0.10	1.58	-62.35	47.36	-90.38	102.03	100.36	1.68	60.895	
200.00	200.00	179.00	179.00	0.32	5.16	-62.35	47.36	-90.38	102.03	96.55	5.48	18.618	
300.00	300.00	279.00	279.00	0.55	9.16	-62.35	47.36	-90.38	102.03	92.33	9.71	10.513	
400.00	400.00	379.00	379.00	0.77	13.16	-62.35	47.36	-90.38	102.03	88.10	13.93	7.325	
500.00	500.00	479.00	479.00	0.99	17.16	-62.35	47.36	-90.38	102.03	83.88	18.15	5.620	
600.00	600.00	579.00	579.00	1.22	21.16	-62.35	47.36	-90.38	102.03	79.65	22.38	4.559	
700.00	700.00	679.00	679.00	1.44	25.16	-62.35	47.36	-90.38	102.03	75.43	26.60	3.835	
800.00	800.00	779.00	779.00	1.67	29.16	-62.35	47.36	-90.38	102.03	71.20	30.83	3.310	
900.00	900.00	879.00	879.00	1.89	33.16	-62.35	47.36	-90.38	102.03	66.98	35.05	2.911	
1,000.00	1,000.00	979.00	979.00	2.12	37.16	-62.35	47.36	-90.38	102.03	62.75	39.28	2.598	
1,100.00	1,100.00	1,079.00	1,079.00	2.34	41.16	-62.35	47.36	-90.38	102.03	58.53	43.50	2.345	
1,200.00	1,200.00	1,179.00	1,179.00	2.57	45.16	-62.35	47.36	-90.38	102.03	54.31	47.73	2.138	
1,300.00	1,300.00	1,279.00	1,279.00	2.79	49.16	-62.35	47.36	-90.38	102.03	50.08	51.95	1.964 CC	
1,400.00	1,399.99	1,378.99	1,378.99	3.01	53.16	-130.61	47.36	-90.38	102.88	46.72	56.16	1.832	
1,500.00	1,499.91	1,478.91	1,478.91	3.22	57.16	-132.20	47.36	-90.38	105.48	45.13	60.35	1.748 ES	
1,600.00	1,599.69	1,578.69	1,578.69	3.44	61.15	-134.68	47.36	-90.38	109.98	45.49	64.49	1.705	
1,700.00	1,699.27	1,678.27	1,678.27	3.67	65.13	-137.80	47.36	-90.38	116.61	48.01	68.59	1.700 SF	
1,800.00	1,798.57	1,777.57	1,777.57	3.91	69.10	-141.31	47.36	-90.38	125.58	52.96	72.62	1.729	
1,900.00	1,897.54	1,876.54	1,876.54	4.17	73.06	-144.95	47.36	-90.38	137.11	60.55	76.56	1.791	
2,000.00	1,996.09	1,975.09	1,975.09	4.46	77.00	-148.51	47.36	-90.38	151.34	70.94	80.40	1.882	
2,100.00	2,094.16	2,073.16	2,073.16	4.78	80.93	-151.84	47.36	-90.38	168.35	84.24	84.11	2.001	
2,200.00	2,191.70	2,170.70	2,170.70	5.13	84.83	-154.87	47.36	-90.38	188.18	100.48	87.70	2.146	
2,300.00	2,288.62	2,267.62	2,267.62	5.52	88.70	-157.57	47.36	-90.38	210.82	119.67	91.16	2.313	
2,400.00	2,384.86	2,363.86	2,363.86	5.96	92.55	-159.94	47.36	-90.38	236.25	141.78	94.47	2.501	
2,449.50	2,432.23	2,411.23	2,411.23	6.19	94.45	-160.99	47.36	-90.38	249.85	153.80	96.05	2.601	
2,500.00	2,480.46	2,459.46	2,459.46	6.44	96.38	-162.04	47.36	-90.38	264.11	166.13	97.99	2.695	
2,600.00	2,575.96	2,554.96	2,554.96	6.94	100.20	-163.83	47.36	-90.38	292.56	190.74	101.83	2.873	
2,700.00	2,671.47	2,650.47	2,650.47	7.47	104.02	-165.30	47.36	-90.38	321.23	215.54	105.69	3.039	
2,800.00	2,766.98	2,745.98	2,745.98	8.00	107.84	-166.53	47.36	-90.38	350.05	240.49	109.56	3.195	
2,900.00	2,862.48	2,841.48	2,841.48	8.55	111.66	-167.57	47.36	-90.38	379.01	265.56	113.45	3.341	
3,000.00	2,957.99	2,936.99	2,936.99	9.10	115.48	-168.46	47.36	-90.38	408.06	290.71	117.34	3.477	
3,100.00	3,053.49	3,032.49	3,032.49	9.66	119.30	-169.24	47.36	-90.38	437.19	315.94	121.25	3.606	
3,200.00	3,149.00	3,128.00	3,128.00	10.23	123.12	-169.92	47.36	-90.38	466.38	341.23	125.15	3.726	
3,300.00	3,244.51	3,223.51	3,223.51	10.80	126.94	-170.52	47.36	-90.38	495.63	366.56	129.07	3.840	
3,400.00	3,340.01	3,319.01	3,319.01	11.38	130.76	-171.05	47.36	-90.38	524.92	391.94	132.98	3.947	
3,500.00	3,435.52	3,414.52	3,414.52	11.96	134.58	-171.53	47.36	-90.38	554.25	417.35	136.90	4.048	
3,600.00	3,531.02	3,510.02	3,510.02	12.54	138.40	-171.95	47.36	-90.38	583.61	442.79	140.83	4.144	
3,700.00	3,626.53	3,605.53	3,605.53	13.13	142.22	-172.34	47.36	-90.38	613.00	468.25	144.76	4.235	
3,800.00	3,722.03	3,701.03	3,701.03	13.72	146.04	-172.69	47.36	-90.38	642.41	493.73	148.68	4.321	
3,900.00	3,817.54	3,796.54	3,796.54	14.31	149.86	-173.01	47.36	-90.38	671.85	519.23	152.61	4.402	
4,000.00	3,913.05	3,892.05	3,892.05	14.91	153.68	-173.31	47.36	-90.38	701.29	544.75	156.55	4.480	
4,100.00	4,008.55	3,987.55	3,987.55	15.50	157.50	-173.58	47.36	-90.38	730.76	570.28	160.48	4.554	
4,200.00	4,104.06	4,083.06	4,083.06	16.10	161.32	-173.83	47.36	-90.38	760.24	595.82	164.42	4.624	
4,300.00	4,199.56	4,178.56	4,178.56	16.70	165.14	-174.06	47.36	-90.38	789.73	621.37	168.36	4.691	
4,400.00	4,295.07	4,274.07	4,274.07	17.30	168.96	-174.27	47.36	-90.38	819.23	646.94	172.29	4.755	
4,500.00	4,390.58	4,369.58	4,369.58	17.90	172.78	-174.47	47.36	-90.38	848.74	672.51	176.23	4.816	
4,600.00	4,486.08	4,465.08	4,465.08	18.50	176.60	-174.66	47.36	-90.38	878.26	698.09	180.17	4.875	
4,700.00	4,581.59	4,560.59	4,560.59	19.10	180.42	-174.83	47.36	-90.38	907.79	723.67	184.12	4.931	
4,800.00	4,677.09	4,656.09	4,656.09	19.70	184.24	-175.00	47.36	-90.38	937.33	749.27	188.06	4.984	
4,900.00	4,772.60	4,751.60	4,751.60	20.31	188.06	-175.15	47.36	-90.38	966.87	774.87	192.00	5.036	
5,000.00	4,868.10	4,847.10	4,847.10	20.91	191.88	-175.29	47.36	-90.38	996.42	800.47	195.94	5.085	
5,100.00	4,963.61	4,942.61	4,942.61	21.51	195.70	-175.43	47.36	-90.38	1,025.97	826.08	199.89	5.133	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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								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	
5,206.16	5,065.00	5,044.00	5,044.00	22.16	199.76	-175.57	47.36	-90.38	1,057.35	853.27	204.08	5.181	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	-89.92	0.03	-19.87	19.87				
100.00	100.00	100.00	100.00	0.10	0.10	-89.92	0.03	-19.87	19.87	19.68	0.19	103.985	
200.00	200.00	200.00	200.00	0.32	0.32	-89.92	0.03	-19.87	19.87	19.23	0.64	31.013	
300.00	300.00	300.00	300.00	0.55	0.55	-89.92	0.03	-19.87	19.87	18.78	1.09	18.224	
400.00	400.00	400.00	400.00	0.77	0.77	-89.92	0.03	-19.87	19.87	18.33	1.54	12.903	
500.00	500.00	500.00	500.00	0.99	0.99	-89.92	0.03	-19.87	19.87	17.88	1.99	9.987	
600.00	600.00	600.00	600.00	1.22	1.22	-89.92	0.03	-19.87	19.87	17.43	2.44	8.146	
700.00	700.00	700.00	700.00	1.44	1.44	-89.92	0.03	-19.87	19.87	16.98	2.89	6.878	
800.00	800.00	800.00	800.00	1.67	1.67	-89.92	0.03	-19.87	19.87	16.53	3.34	5.952	
900.00	900.00	900.00	900.00	1.89	1.89	-89.92	0.03	-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	-89.92	0.03	-19.87	19.87	15.63	4.24	4.689	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-89.92	0.03	-19.87	19.87	15.18	4.69	4.239	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-89.92	0.03	-19.87	19.87	14.73	5.14	3.868	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-89.92	0.03	-19.87	19.87	14.28	5.59	3.557	
1,400.00	1,399.99	1,400.52	1,400.50	3.01	3.01	-155.74	1.18	-18.53	19.76	13.74	6.02	3.282	
1,500.00	1,499.91	1,500.98	1,500.82	3.22	3.23	-149.99	4.63	-14.53	19.57	13.13	6.44	3.038	
1,531.27	1,531.12	1,532.38	1,532.12	3.29	3.30	-147.38	6.18	-12.73	19.55	12.98	6.57	2.974 CC	
1,600.00	1,599.69	1,601.34	1,600.79	3.44	3.46	-140.35	10.36	-7.87	19.70	12.83	6.87	2.867 ES	
1,700.00	1,699.27	1,701.54	1,700.23	3.67	3.70	-127.62	18.36	1.42	20.77	13.44	7.33	2.833 SF	
1,800.00	1,798.57	1,801.53	1,798.97	3.91	3.96	-113.88	28.60	13.32	23.44	15.59	7.85	2.987	
1,900.00	1,897.54	1,901.25	1,898.85	4.17	4.26	-101.50	41.05	27.77	28.06	19.64	8.42	3.334	
2,000.00	1,996.09	2,000.74	1,993.79	4.46	4.59	-91.76	55.63	44.71	34.63	25.59	9.04	3.832	
2,100.00	2,094.16	2,100.41	2,090.66	4.78	4.96	-87.33	70.94	62.49	42.11	32.41	9.70	4.340	
2,200.00	2,191.70	2,200.13	2,187.57	5.13	5.34	-87.24	86.26	80.29	49.57	39.14	10.43	4.754	
2,300.00	2,288.62	2,299.83	2,284.46	5.52	5.75	-89.78	101.58	98.08	56.97	45.74	11.22	5.077	
2,400.00	2,384.86	2,399.42	2,381.26	5.96	6.16	-94.03	116.88	115.85	64.59	52.51	12.07	5.349	
2,449.50	2,432.23	2,448.67	2,429.13	6.19	6.37	-96.57	124.45	124.64	68.58	56.07	12.51	5.481	
2,500.00	2,480.46	2,498.89	2,477.93	6.44	6.59	-99.17	132.16	133.60	72.84	59.88	12.96	5.620	
2,600.00	2,575.96	2,598.33	2,574.58	6.94	7.02	-103.52	147.44	151.35	81.63	67.78	13.85	5.893	
2,700.00	2,671.47	2,697.77	2,671.22	7.47	7.47	-107.00	162.72	169.09	90.81	76.06	14.74	6.159	
2,800.00	2,766.98	2,797.21	2,767.87	8.00	7.91	-109.84	177.99	186.84	100.25	84.62	15.63	6.412	
2,900.00	2,862.48	2,896.65	2,864.51	8.55	8.37	-112.19	193.27	204.58	109.90	93.37	16.53	6.649	
3,000.00	2,957.99	2,996.10	2,961.16	9.10	8.83	-114.15	208.55	222.33	119.70	102.27	17.42	6.870	
3,100.00	3,053.49	3,095.54	3,057.80	9.66	9.29	-115.82	223.83	240.07	129.62	111.30	18.32	7.075	
3,200.00	3,149.00	3,194.98	3,154.45	10.23	9.75	-117.25	239.11	257.82	139.63	120.41	19.22	7.265	
3,300.00	3,244.51	3,294.42	3,251.09	10.80	10.22	-118.48	254.38	275.56	149.71	129.59	20.12	7.441	
3,400.00	3,340.01	3,393.86	3,347.74	11.38	10.69	-119.56	269.66	293.31	159.86	138.84	21.02	7.604	
3,500.00	3,435.52	3,493.30	3,444.38	11.96	11.16	-120.52	284.94	311.05	170.06	148.13	21.93	7.755	
3,600.00	3,531.02	3,592.75	3,541.03	12.54	11.64	-121.36	300.22	328.80	180.29	157.46	22.84	7.895	
3,700.00	3,626.53	3,692.19	3,637.67	13.13	12.11	-122.11	315.50	346.54	190.57	166.82	23.74	8.026	
3,800.00	3,722.03	3,791.63	3,734.32	13.72	12.59	-122.79	330.77	364.29	200.87	176.21	24.65	8.147	
3,900.00	3,817.54	3,891.07	3,830.96	14.31	13.06	-123.40	346.05	382.03	211.19	185.63	25.57	8.261	
4,000.00	3,913.05	3,990.51	3,927.61	14.91	13.54	-123.95	361.33	399.78	221.54	195.06	26.48	8.367	
4,100.00	4,008.55	4,089.95	4,024.25	15.50	14.02	-124.46	376.61	417.52	231.91	204.52	27.39	8.466	
4,200.00	4,104.06	4,189.39	4,120.90	16.10	14.51	-124.92	391.89	435.27	242.29	213.98	28.31	8.560	
4,300.00	4,199.56	4,288.84	4,217.55	16.70	14.99	-125.34	407.16	453.01	252.69	223.47	29.22	8.647	
4,400.00	4,295.07	4,388.28	4,314.19	17.30	15.47	-125.73	422.44	470.76	263.10	232.96	30.14	8.729	
4,500.00	4,390.58	4,487.72	4,410.84	17.90	15.95	-126.09	437.72	488.50	273.52	242.46	31.06	8.807	
4,600.00	4,486.08	4,587.16	4,507.48	18.50	16.44	-126.42	453.00	506.25	283.95	251.97	31.98	8.880	
4,700.00	4,581.59	4,686.60	4,604.13	19.10	16.92	-126.73	468.28	523.99	294.39	261.49	32.89	8.949	
4,800.00	4,677.09	4,786.04	4,700.77	19.70	17.41	-127.02	483.56	541.74	304.83	271.02	33.81	9.015	
4,900.00	4,772.60	4,885.48	4,797.42	20.31	17.89	-127.29	498.83	559.48	315.29	280.55	34.73	9.077	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,868.10	4,984.93	4,894.06	20.91	18.38	-127.54	514.11	577.23	325.75	290.09	35.66	9.136	
5,100.00	4,963.61	5,084.37	4,990.71	21.51	18.86	-127.78	529.39	594.97	336.21	299.64	36.58	9.192	
5,206.16	5,065.00	5,189.94	5,093.31	22.16	19.38	-128.01	545.61	613.81	347.33	309.78	37.56	9.248	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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 4-2 - P_BROWN 4-2 - 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	-90.67	-0.35	-29.94	29.94				
100.00	100.00	100.00	100.00	0.10	0.10	-90.67	-0.35	-29.94	29.94	29.75	0.19	156.720	
200.00	200.00	200.00	200.00	0.32	0.32	-90.67	-0.35	-29.94	29.94	29.30	0.64	46.741	
300.00	300.00	300.00	300.00	0.55	0.55	-90.67	-0.35	-29.94	29.94	28.85	1.09	27.466	
400.00	400.00	400.00	400.00	0.77	0.77	-90.67	-0.35	-29.94	29.94	28.40	1.54	19.447	
500.00	500.00	500.00	500.00	0.99	0.99	-90.67	-0.35	-29.94	29.94	27.95	1.99	15.052	
600.00	600.00	600.00	600.00	1.22	1.22	-90.67	-0.35	-29.94	29.94	27.50	2.44	12.278	
700.00	700.00	700.00	700.00	1.44	1.44	-90.67	-0.35	-29.94	29.94	27.05	2.89	10.367	
800.00	800.00	800.00	800.00	1.67	1.67	-90.67	-0.35	-29.94	29.94	26.60	3.34	8.971	
900.00	900.00	900.00	900.00	1.89	1.89	-90.67	-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	-90.67	-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	-90.67	-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	-90.67	-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	-90.67	-0.35	-29.94	29.94	24.36	5.59	5.361 CC, ES	
1,400.00	1,399.99	1,399.30	1,399.28	3.01	3.01	-156.81	1.00	-31.01	32.23	26.21	6.02	5.355 SF	
1,500.00	1,499.91	1,498.22	1,498.06	3.22	3.23	-153.19	5.01	-34.21	39.21	32.77	6.44	6.090	
1,600.00	1,599.69	1,596.38	1,595.85	3.44	3.46	-149.36	11.64	-39.47	51.02	44.16	6.86	7.440	
1,700.00	1,699.27	1,693.43	1,692.20	3.67	3.69	-146.24	20.76	-46.73	67.69	60.41	7.28	9.299	
1,800.00	1,798.57	1,789.03	1,786.66	3.91	3.94	-143.91	32.24	-55.85	89.15	81.44	7.71	11.566	
1,900.00	1,897.54	1,884.13	1,880.14	4.17	4.22	-142.25	45.88	-66.70	115.05	106.90	8.15	14.119	
2,000.00	1,996.09	1,980.02	1,974.31	4.46	4.52	-141.62	60.04	-77.96	143.40	134.79	8.61	16.663	
2,100.00	2,094.16	2,075.30	2,067.89	4.78	4.83	-141.65	74.11	-89.14	173.71	164.64	9.08	19.140	
2,200.00	2,191.70	2,169.92	2,160.81	5.13	5.15	-142.03	88.08	-100.25	206.00	196.44	9.56	21.548	
2,300.00	2,288.62	2,263.81	2,253.00	5.52	5.48	-142.61	101.95	-111.27	240.26	230.20	10.06	23.889	
2,400.00	2,384.86	2,356.89	2,344.42	5.96	5.81	-143.29	115.69	-122.20	276.53	265.97	10.57	26.167	
2,449.50	2,432.23	2,402.66	2,389.36	6.19	5.98	-143.64	122.45	-127.58	295.24	284.42	10.82	27.274	
2,500.00	2,480.46	2,449.23	2,435.10	6.44	6.15	-144.16	129.33	-133.04	314.59	303.47	11.12	28.299	
2,600.00	2,575.96	2,541.46	2,525.67	6.94	6.49	-145.02	142.95	-143.87	352.96	341.26	11.70	30.160	
2,700.00	2,671.47	2,633.69	2,616.25	7.47	6.84	-145.71	156.57	-154.70	391.38	379.08	12.30	31.816	
2,800.00	2,766.98	2,725.92	2,706.82	8.00	7.19	-146.28	170.19	-165.53	429.85	416.94	12.91	33.297	
2,900.00	2,862.48	2,818.15	2,797.40	8.55	7.54	-146.76	183.81	-176.36	468.34	454.82	13.53	34.625	
3,000.00	2,957.99	2,910.38	2,887.97	9.10	7.90	-147.16	197.43	-187.19	506.86	492.71	14.15	35.820	
3,100.00	3,053.49	3,002.61	2,978.54	9.66	8.26	-147.50	211.05	-198.02	545.39	530.61	14.78	36.900	
3,200.00	3,149.00	3,094.84	3,069.12	10.23	8.62	-147.80	224.67	-208.84	583.95	568.53	15.42	37.879	
3,300.00	3,244.51	3,187.07	3,159.69	10.80	8.99	-148.07	238.29	-219.67	622.51	606.45	16.06	38.769	
3,400.00	3,340.01	3,279.30	3,250.27	11.38	9.35	-148.30	251.90	-230.50	661.08	644.38	16.70	39.582	
3,500.00	3,435.52	3,371.53	3,340.84	11.96	9.72	-148.51	265.52	-241.33	699.66	682.31	17.35	40.327	
3,600.00	3,531.02	3,463.76	3,431.41	12.54	10.09	-148.69	279.14	-252.16	738.25	720.25	18.00	41.010	
3,700.00	3,626.53	3,555.99	3,521.99	13.13	10.46	-148.86	292.76	-262.99	776.84	758.19	18.66	41.640	
3,800.00	3,722.03	3,648.22	3,612.56	13.72	10.83	-149.01	306.38	-273.81	815.44	796.13	19.31	42.222	
3,900.00	3,817.54	3,740.45	3,703.14	14.31	11.21	-149.15	320.00	-284.64	854.04	834.07	19.97	42.760	
4,000.00	3,913.05	3,832.68	3,793.71	14.91	11.58	-149.27	333.62	-295.47	892.65	872.02	20.63	43.260	
4,100.00	4,008.55	3,924.91	3,884.28	15.50	11.95	-149.39	347.24	-306.30	931.26	909.96	21.30	43.725	
4,200.00	4,104.06	4,017.14	3,974.86	16.10	12.33	-149.49	360.86	-317.13	969.87	947.91	21.96	44.159	
4,300.00	4,199.56	4,109.37	4,065.43	16.70	12.70	-149.59	374.48	-327.96	1,008.49	985.86	22.63	44.564	
4,400.00	4,295.07	4,201.60	4,156.01	17.30	13.08	-149.68	388.10	-338.78	1,047.11	1,023.81	23.30	44.943	
4,500.00	4,390.58	4,293.83	4,246.58	17.90	13.46	-149.77	401.72	-349.61	1,085.73	1,061.76	23.97	45.298	
4,600.00	4,486.08	4,386.06	4,337.15	18.50	13.83	-149.84	415.34	-360.44	1,124.35	1,099.71	24.64	45.632	
4,700.00	4,581.59	4,478.29	4,427.73	19.10	14.21	-149.92	428.96	-371.27	1,162.97	1,137.66	25.31	45.947	
4,800.00	4,677.09	4,570.52	4,518.30	19.70	14.59	-149.99	442.58	-382.10	1,201.60	1,175.61	25.98	46.243	
4,900.00	4,772.60	4,662.75	4,608.88	20.31	14.97	-150.05	456.20	-392.93	1,240.22	1,213.57	26.66	46.523	
5,000.00	4,868.10	4,754.98	4,699.45	20.91	15.35	-150.11	469.82	-403.75	1,278.85	1,251.52	27.33	46.787	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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 4-2 - P_BROWN 4-2 - 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	4,963.61	4,847.21	4,790.02	21.51	15.73	-150.17	483.44	-414.58	1,317.48	1,289.47	28.01	47.038	
5,206.16	5,065.00	4,945.13	4,886.18	22.16	16.13	-150.22	497.89	-426.08	1,358.49	1,329.76	28.73	47.289	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	-90.59	-0.72	-69.95	69.96				
100.00	100.00	100.00	100.00	0.10	0.10	-90.59	-0.72	-69.95	69.96	69.76	0.19	366.163	
200.00	200.00	200.00	200.00	0.32	0.32	-90.59	-0.72	-69.95	69.96	69.32	0.64	109.207	
300.00	300.00	300.00	300.00	0.55	0.55	-90.59	-0.72	-69.95	69.96	68.87	1.09	64.173	
400.00	400.00	400.00	400.00	0.77	0.77	-90.59	-0.72	-69.95	69.96	68.42	1.54	45.436	
500.00	500.00	500.00	500.00	0.99	0.99	-90.59	-0.72	-69.95	69.96	67.97	1.99	35.168	
600.00	600.00	600.00	600.00	1.22	1.22	-90.59	-0.72	-69.95	69.96	67.52	2.44	28.686	
700.00	700.00	700.00	700.00	1.44	1.44	-90.59	-0.72	-69.95	69.96	67.07	2.89	24.221	
800.00	800.00	800.00	800.00	1.67	1.67	-90.59	-0.72	-69.95	69.96	66.62	3.34	20.959	
900.00	900.00	900.00	900.00	1.89	1.89	-90.59	-0.72	-69.95	69.96	66.17	3.79	18.471	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.59	-0.72	-69.95	69.96	65.72	4.24	16.511	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.59	-0.72	-69.95	69.96	65.27	4.69	14.928	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.59	-0.72	-69.95	69.96	64.82	5.14	13.621	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.59	-0.72	-69.95	69.96	64.37	5.59	12.525 CC, ES	
1,400.00	1,399.99	1,399.12	1,399.10	3.01	2.99	-159.97	-2.34	-70.50	71.78	65.78	5.99	11.976 SF	
1,500.00	1,499.91	1,497.75	1,497.59	3.22	3.16	-164.46	-7.18	-72.15	77.57	71.20	6.37	12.182	
1,600.00	1,599.69	1,595.44	1,594.91	3.44	3.34	-170.52	-15.13	-74.86	88.09	81.34	6.75	13.057	
1,700.00	1,699.27	1,691.72	1,690.50	3.67	3.54	-176.80	-26.03	-78.57	104.02	96.89	7.13	14.586	
1,800.00	1,798.57	1,786.19	1,783.86	3.91	3.76	177.57	-39.68	-83.21	125.69	118.17	7.52	16.708	
1,900.00	1,897.54	1,878.47	1,874.54	4.17	4.01	172.91	-55.82	-88.70	153.08	145.16	7.92	19.329	
2,000.00	1,996.09	1,968.65	1,962.60	4.46	4.28	169.17	-74.24	-94.97	185.98	177.66	8.32	22.351	
2,100.00	2,094.16	2,061.22	2,052.72	4.78	4.60	166.34	-94.24	-101.77	222.73	213.99	8.74	25.481	
2,200.00	2,191.70	2,152.87	2,141.96	5.13	4.93	164.41	-114.03	-108.51	262.13	252.96	9.17	28.598	
2,300.00	2,288.62	2,243.54	2,230.24	5.52	5.28	163.05	-133.62	-115.17	303.97	294.37	9.60	31.672	
2,400.00	2,384.86	2,333.18	2,317.51	5.96	5.63	162.10	-152.98	-121.76	348.14	338.10	10.04	34.691	
2,449.50	2,432.23	2,377.15	2,360.32	6.19	5.81	161.73	-162.48	-124.99	370.84	360.58	10.25	36.163	
2,500.00	2,480.46	2,421.86	2,403.85	6.44	6.00	161.53	-172.14	-128.28	394.28	383.76	10.52	37.494	
2,600.00	2,575.96	2,510.40	2,490.06	6.94	6.37	161.19	-191.26	-134.79	440.70	429.66	11.04	39.910	
2,700.00	2,671.47	2,598.94	2,576.27	7.47	6.75	160.91	-210.39	-141.29	487.13	475.55	11.58	42.066	
2,800.00	2,766.98	2,687.49	2,662.48	8.00	7.14	160.68	-229.51	-147.80	533.58	521.45	12.13	43.994	
2,900.00	2,862.48	2,776.03	2,748.68	8.55	7.53	160.49	-248.64	-154.31	580.02	567.34	12.68	45.727	
3,000.00	2,957.99	2,864.57	2,834.89	9.10	7.92	160.32	-267.76	-160.82	626.47	613.23	13.25	47.288	
3,100.00	3,053.49	2,953.12	2,921.10	9.66	8.32	160.18	-286.89	-167.32	672.93	659.11	13.82	48.700	
3,200.00	3,149.00	3,041.66	3,007.31	10.23	8.73	160.06	-306.01	-173.83	719.39	704.99	14.39	49.980	
3,300.00	3,244.51	3,130.20	3,093.52	10.80	9.13	159.95	-325.14	-180.34	765.85	750.87	14.97	51.145	
3,400.00	3,340.01	3,218.75	3,179.72	11.38	9.54	159.86	-344.26	-186.85	812.31	796.75	15.56	52.209	
3,500.00	3,435.52	3,307.29	3,265.93	11.96	9.95	159.77	-363.39	-193.36	858.77	842.62	16.15	53.182	
3,600.00	3,531.02	3,395.84	3,352.14	12.54	10.37	159.69	-382.51	-199.86	905.24	888.50	16.74	54.075	
3,700.00	3,626.53	3,484.38	3,438.35	13.13	10.78	159.62	-401.64	-206.37	951.70	934.37	17.34	54.897	
3,800.00	3,722.03	3,572.92	3,524.56	13.72	11.20	159.56	-420.76	-212.88	998.17	980.23	17.93	55.655	
3,900.00	3,817.54	3,661.47	3,610.76	14.31	11.61	159.51	-439.89	-219.39	1,044.64	1,026.10	18.54	56.357	
4,000.00	3,913.05	3,750.01	3,696.97	14.91	12.03	159.45	-459.01	-225.89	1,091.11	1,071.97	19.14	57.008	
4,100.00	4,008.55	3,838.55	3,783.18	15.50	12.45	159.40	-478.14	-232.40	1,137.57	1,117.83	19.75	57.613	
4,200.00	4,104.06	3,927.10	3,869.39	16.10	12.87	159.36	-497.26	-238.91	1,184.04	1,163.69	20.35	58.176	
4,300.00	4,199.56	4,015.64	3,955.60	16.70	13.30	159.32	-516.39	-245.42	1,230.51	1,209.55	20.96	58.702	
4,400.00	4,295.07	4,104.18	4,041.81	17.30	13.72	159.28	-535.51	-251.92	1,276.98	1,255.41	21.57	59.194	
4,500.00	4,390.58	4,192.73	4,128.01	17.90	14.14	159.25	-554.64	-258.43	1,323.46	1,301.27	22.19	59.654	
4,600.00	4,486.08	4,281.27	4,214.22	18.50	14.57	159.21	-573.76	-264.94	1,369.93	1,347.13	22.80	60.086	
4,700.00	4,581.59	4,369.81	4,300.43	19.10	14.99	159.18	-592.89	-271.45	1,416.40	1,392.98	23.41	60.492	
4,800.00	4,677.09	4,458.36	4,386.64	19.70	15.41	159.15	-612.01	-277.95	1,462.87	1,438.84	24.03	60.875	
4,900.00	4,772.60	4,546.90	4,472.85	20.31	15.84	159.13	-631.14	-284.46	1,509.34	1,484.70	24.65	61.236	
5,000.00	4,868.10	4,635.44	4,559.05	20.91	16.27	159.10	-650.26	-290.97	1,555.82	1,530.55	25.27	61.577	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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
5,100.00	4,963.61	4,723.99	4,645.26	21.51	16.69	159.08	-669.39	-297.48	1,602.29	1,576.40	25.89	61.899	
5,206.16	5,065.00	4,817.98	4,736.78	22.16	17.15	159.05	-689.69	-304.39	1,651.62	1,625.08	26.54	62.222	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	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	-90.51	-0.72	-80.03	80.03				
100.00	100.00	100.00	100.00	0.10	0.10	-90.51	-0.72	-80.03	80.03	79.84	0.19	418.885	
200.00	200.00	200.00	200.00	0.32	0.32	-90.51	-0.72	-80.03	80.03	79.39	0.64	124.931	
300.00	300.00	300.00	300.00	0.55	0.55	-90.51	-0.72	-80.03	80.03	78.94	1.09	73.413	
400.00	400.00	400.00	400.00	0.77	0.77	-90.51	-0.72	-80.03	80.03	78.49	1.54	51.978	
500.00	500.00	500.00	500.00	0.99	0.99	-90.51	-0.72	-80.03	80.03	78.04	1.99	40.232	
600.00	600.00	600.00	600.00	1.22	1.22	-90.51	-0.72	-80.03	80.03	77.59	2.44	32.816	
700.00	700.00	700.00	700.00	1.44	1.44	-90.51	-0.72	-80.03	80.03	77.14	2.89	27.708	
800.00	800.00	800.00	800.00	1.67	1.67	-90.51	-0.72	-80.03	80.03	76.69	3.34	23.977	
900.00	900.00	900.00	900.00	1.89	1.89	-90.51	-0.72	-80.03	80.03	76.24	3.79	21.131	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.51	-0.72	-80.03	80.03	75.79	4.24	18.889	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.51	-0.72	-80.03	80.03	75.34	4.69	17.077	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.51	-0.72	-80.03	80.03	74.89	5.14	15.582	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.51	-0.72	-80.03	80.03	74.44	5.59	14.328 CC, ES	
1,400.00	1,399.99	1,398.89	1,398.88	3.01	2.99	-159.33	-1.82	-80.67	81.92	75.92	5.99	13.665 SF	
1,500.00	1,499.91	1,497.41	1,497.33	3.22	3.16	-162.32	-5.13	-82.58	87.75	81.38	6.37	13.774	
1,600.00	1,599.69	1,595.23	1,594.94	3.44	3.35	-166.48	-10.59	-85.73	97.91	91.16	6.75	14.506	
1,700.00	1,699.27	1,691.99	1,691.31	3.67	3.54	-170.99	-18.12	-90.08	112.78	105.65	7.13	15.816	
1,800.00	1,798.57	1,787.38	1,786.06	3.91	3.74	-175.25	-27.60	-95.56	132.60	125.08	7.51	17.646	
1,900.00	1,897.54	1,881.07	1,878.83	4.17	3.97	-178.98	-38.91	-102.10	157.39	149.49	7.90	19.926	
2,000.00	1,996.09	1,972.80	1,969.32	4.46	4.21	-177.91	-51.88	-109.60	187.09	178.80	8.28	22.582	
2,100.00	2,094.16	2,062.30	2,057.25	4.78	4.47	175.36	-66.36	-117.96	221.52	212.85	8.67	25.546	
2,200.00	2,191.70	2,149.34	2,142.36	5.13	4.76	173.27	-82.14	-127.08	260.51	251.45	9.06	28.759	
2,300.00	2,288.62	2,233.73	2,224.46	5.52	5.06	171.55	-99.03	-136.85	303.86	294.41	9.45	32.168	
2,400.00	2,384.86	2,315.30	2,303.38	5.96	5.38	170.13	-116.86	-147.15	351.37	341.54	9.83	35.734	
2,449.50	2,432.23	2,354.59	2,341.24	6.19	5.55	169.51	-125.96	-152.41	376.38	366.35	10.03	37.542	
2,500.00	2,480.46	2,396.70	2,381.73	6.44	5.73	168.98	-135.99	-158.21	402.48	392.22	10.27	39.207	
2,600.00	2,575.96	2,482.05	2,463.78	6.94	6.13	168.08	-156.34	-169.97	454.27	443.52	10.76	42.227	
2,700.00	2,671.47	2,567.40	2,545.83	7.47	6.53	167.37	-176.70	-181.73	506.13	494.87	11.26	44.948	
2,800.00	2,766.98	2,652.75	2,627.88	8.00	6.94	166.79	-197.05	-193.50	558.03	546.26	11.77	47.401	
2,900.00	2,862.48	2,738.10	2,709.93	8.55	7.37	166.31	-217.41	-205.26	609.97	597.68	12.29	49.617	
3,000.00	2,957.99	2,823.45	2,791.98	9.10	7.80	165.90	-237.76	-217.02	661.94	649.12	12.82	51.626	
3,100.00	3,053.49	2,908.81	2,874.03	9.66	8.24	165.56	-258.11	-228.79	713.92	700.57	13.36	53.449	
3,200.00	3,149.00	2,994.16	2,956.07	10.23	8.68	165.26	-278.47	-240.55	765.93	752.03	13.90	55.108	
3,300.00	3,244.51	3,079.51	3,038.12	10.80	9.13	165.00	-298.82	-252.31	817.94	803.50	14.45	56.621	
3,400.00	3,340.01	3,164.86	3,120.17	11.38	9.58	164.77	-319.18	-264.08	869.97	854.97	15.00	58.007	
3,500.00	3,435.52	3,250.21	3,202.22	11.96	10.04	164.56	-339.53	-275.84	922.00	906.45	15.55	59.278	
3,600.00	3,531.02	3,335.56	3,284.27	12.54	10.50	164.38	-359.89	-287.61	974.05	957.93	16.11	60.449	
3,700.00	3,626.53	3,420.91	3,366.32	13.13	10.96	164.21	-380.24	-299.37	1,026.10	1,009.42	16.68	61.528	
3,800.00	3,722.03	3,506.26	3,448.37	13.72	11.42	164.07	-400.59	-311.13	1,078.15	1,060.91	17.24	62.527	
3,900.00	3,817.54	3,591.61	3,530.42	14.31	11.89	163.93	-420.95	-322.90	1,130.21	1,112.40	17.81	63.451	
4,000.00	3,913.05	3,676.97	3,612.47	14.91	12.36	163.81	-441.30	-334.66	1,182.28	1,163.89	18.38	64.309	
4,100.00	4,008.55	3,762.32	3,694.52	15.50	12.83	163.70	-461.66	-346.42	1,234.35	1,215.39	18.96	65.107	
4,200.00	4,104.06	3,847.67	3,776.57	16.10	13.30	163.59	-482.01	-358.19	1,286.42	1,266.88	19.54	65.852	
4,300.00	4,199.56	3,933.02	3,858.62	16.70	13.78	163.50	-502.36	-369.95	1,338.49	1,318.38	20.11	66.547	
4,400.00	4,295.07	4,018.37	3,940.67	17.30	14.25	163.41	-522.72	-381.71	1,390.57	1,369.88	20.69	67.199	
4,500.00	4,390.58	4,103.72	4,022.72	17.90	14.73	163.33	-543.07	-393.48	1,442.65	1,421.37	21.27	67.810	
4,600.00	4,486.08	4,189.07	4,104.77	18.50	15.20	163.25	-563.43	-405.24	1,494.73	1,472.87	21.86	68.383	
4,700.00	4,581.59	4,274.42	4,186.82	19.10	15.68	163.18	-583.78	-417.01	1,546.81	1,524.37	22.44	68.922	
4,800.00	4,677.09	4,359.77	4,268.87	19.70	16.16	163.11	-604.14	-428.77	1,598.90	1,575.87	23.03	69.430	
4,900.00	4,772.60	4,445.13	4,350.92	20.31	16.64	163.05	-624.49	-440.53	1,650.98	1,627.37	23.62	69.909	
5,000.00	4,868.10	4,530.48	4,432.97	20.91	17.12	162.99	-644.84	-452.30	1,703.07	1,678.86	24.20	70.362	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_BROWN 5-2S - P_BROWN 5-2S - PLAN #1 3-16-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	4,963.61	4,615.83	4,515.02	21.51	17.60	162.94	-665.20	-464.06	1,755.16	1,730.36	24.79	70.791	
5,206.16	5,065.00	4,706.44	4,602.12	22.16	18.11	162.88	-686.81	-476.55	1,810.45	1,785.03	25.42	71.222	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	-90.40	-0.35	-50.09	50.09				
100.00	100.00	100.00	100.00	0.10	0.10	-90.40	-0.35	-50.09	50.09	49.90	0.19	262.165	
200.00	200.00	200.00	200.00	0.32	0.32	-90.40	-0.35	-50.09	50.09	49.45	0.64	78.190	
300.00	300.00	300.00	300.00	0.55	0.55	-90.40	-0.35	-50.09	50.09	49.00	1.09	45.947	
400.00	400.00	400.00	400.00	0.77	0.77	-90.40	-0.35	-50.09	50.09	48.55	1.54	32.531	
500.00	500.00	500.00	500.00	0.99	0.99	-90.40	-0.35	-50.09	50.09	48.10	1.99	25.180	
600.00	600.00	600.00	600.00	1.22	1.22	-90.40	-0.35	-50.09	50.09	47.65	2.44	20.538	
700.00	700.00	700.00	700.00	1.44	1.44	-90.40	-0.35	-50.09	50.09	47.20	2.89	17.342	
800.00	800.00	800.00	800.00	1.67	1.67	-90.40	-0.35	-50.09	50.09	46.75	3.34	15.006	
900.00	900.00	900.00	900.00	1.89	1.89	-90.40	-0.35	-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	-90.40	-0.35	-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	-90.40	-0.35	-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	-90.40	-0.35	-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	-90.40	-0.35	-50.09	50.09	44.50	5.59	8.967	
1,400.00	1,399.99	1,401.36	1,401.33	3.01	3.00	-159.97	-1.46	-48.68	49.94	43.94	6.00	8.319	
1,481.23	1,481.16	1,483.56	1,483.43	3.18	3.15	-164.21	-3.98	-45.46	49.81	43.49	6.32	7.882 CC	
1,500.00	1,499.91	1,502.53	1,502.36	3.22	3.19	-165.54	-4.77	-44.46	49.82	43.43	6.39	7.794 ES	
1,600.00	1,599.69	1,603.34	1,602.77	3.44	3.39	-174.66	-10.26	-37.46	50.64	43.85	6.79	7.458 SF	
1,700.00	1,699.27	1,703.60	1,702.27	3.67	3.61	173.57	-17.87	-27.76	53.81	46.60	7.21	7.460	
1,800.00	1,798.57	1,803.15	1,800.57	3.91	3.86	161.02	-27.56	-15.42	60.70	53.02	7.68	7.906	
1,900.00	1,897.54	1,901.83	1,897.41	4.17	4.15	149.63	-39.24	-0.54	72.09	63.89	8.20	8.793	
2,000.00	1,996.09	1,999.55	1,992.62	4.46	4.47	140.39	-52.80	16.75	88.03	79.26	8.78	10.028	
2,100.00	2,094.16	2,097.11	2,087.40	4.78	4.84	134.28	-67.10	34.96	107.63	98.22	9.40	11.446	
2,200.00	2,191.70	2,194.44	2,181.95	5.13	5.23	130.86	-81.36	53.13	129.65	119.58	10.06	12.885	
2,300.00	2,288.62	2,291.48	2,276.21	5.52	5.63	129.10	-95.57	71.25	153.54	142.78	10.76	14.273	
2,400.00	2,384.86	2,388.15	2,370.13	5.96	6.05	128.40	-109.73	89.29	179.08	167.59	11.49	15.586	
2,449.50	2,432.23	2,435.85	2,416.47	6.19	6.26	128.31	-116.72	98.20	192.30	180.44	11.87	16.207	
2,500.00	2,480.46	2,484.46	2,463.68	6.44	6.47	128.46	-123.84	107.27	205.99	193.72	12.27	16.787	
2,600.00	2,575.96	2,580.71	2,557.18	6.94	6.91	128.69	-137.95	125.24	233.10	220.01	13.09	17.804	
2,700.00	2,671.47	2,676.96	2,650.69	7.47	7.35	128.88	-152.05	143.21	260.21	246.28	13.93	18.675	
2,800.00	2,766.98	2,773.21	2,744.19	8.00	7.80	129.03	-166.15	161.18	287.33	272.53	14.79	19.425	
2,900.00	2,862.48	2,869.46	2,837.69	8.55	8.26	129.15	-180.25	179.15	314.44	298.78	15.66	20.075	
3,000.00	2,957.99	2,965.72	2,931.19	9.10	8.72	129.25	-194.35	197.11	341.56	325.01	16.55	20.643	
3,100.00	3,053.49	3,061.97	3,024.70	9.66	9.18	129.34	-208.45	215.08	368.67	351.24	17.44	21.141	
3,200.00	3,149.00	3,158.22	3,118.20	10.23	9.65	129.42	-222.55	233.05	395.79	377.45	18.34	21.581	
3,300.00	3,244.51	3,254.47	3,211.70	10.80	10.12	129.49	-236.66	251.02	422.91	403.66	19.25	21.972	
3,400.00	3,340.01	3,350.72	3,305.20	11.38	10.59	129.55	-250.76	268.99	450.03	429.87	20.16	22.321	
3,500.00	3,435.52	3,446.97	3,398.70	11.96	11.06	129.60	-264.86	286.96	477.15	456.07	21.08	22.634	
3,600.00	3,531.02	3,543.23	3,492.21	12.54	11.54	129.64	-278.96	304.93	504.27	482.26	22.01	22.916	
3,700.00	3,626.53	3,639.48	3,585.71	13.13	12.02	129.69	-293.06	322.89	531.39	508.45	22.93	23.171	
3,800.00	3,722.03	3,735.73	3,679.21	13.72	12.50	129.72	-307.16	340.86	558.51	534.64	23.87	23.402	
3,900.00	3,817.54	3,831.98	3,772.71	14.31	12.98	129.76	-321.27	358.83	585.63	560.83	24.80	23.614	
4,000.00	3,913.05	3,928.23	3,866.22	14.91	13.46	129.79	-335.37	376.80	612.75	587.01	25.74	23.807	
4,100.00	4,008.55	4,024.48	3,959.72	15.50	13.94	129.82	-349.47	394.77	639.87	613.19	26.68	23.984	
4,200.00	4,104.06	4,120.74	4,053.22	16.10	14.42	129.84	-363.57	412.74	666.99	639.37	27.62	24.147	
4,300.00	4,199.56	4,216.99	4,146.72	16.70	14.91	129.87	-377.67	430.70	694.11	665.54	28.57	24.298	
4,400.00	4,295.07	4,313.24	4,240.22	17.30	15.40	129.89	-391.77	448.67	721.23	691.72	29.51	24.438	
4,500.00	4,390.58	4,409.49	4,333.73	17.90	15.88	129.91	-405.87	466.64	748.35	717.89	30.46	24.567	
4,600.00	4,486.08	4,505.74	4,427.23	18.50	16.37	129.93	-419.98	484.61	775.47	744.06	31.41	24.688	
4,700.00	4,581.59	4,601.99	4,520.73	19.10	16.86	129.95	-434.08	502.58	802.59	770.23	32.36	24.800	
4,800.00	4,677.09	4,698.25	4,614.23	19.70	17.34	129.97	-448.18	520.55	829.72	796.40	33.31	24.905	
4,900.00	4,772.60	4,794.50	4,707.74	20.31	17.83	129.98	-462.28	538.52	856.84	822.57	34.27	25.004	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	4,868.10	4,890.75	4,801.24	20.91	18.32	130.00	-476.38	556.48	883.96	848.74	35.22	25.096	
5,100.00	4,963.61	4,987.00	4,894.74	21.51	18.81	130.01	-490.48	574.45	911.08	874.90	36.18	25.183	
5,206.16	5,065.00	5,089.18	4,994.00	22.16	19.33	130.02	-505.45	593.53	939.87	902.68	37.19	25.269	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.34	-0.35	-59.88	59.88				
100.00	100.00	100.00	100.00	0.10	0.10	-90.34	-0.35	-59.88	59.88	59.69	0.19	313.424	
200.00	200.00	200.00	200.00	0.32	0.32	-90.34	-0.35	-59.88	59.88	59.24	0.64	93.477	
300.00	300.00	300.00	300.00	0.55	0.55	-90.34	-0.35	-59.88	59.88	58.79	1.09	54.930	
400.00	400.00	400.00	400.00	0.77	0.77	-90.34	-0.35	-59.88	59.88	58.34	1.54	38.892	
500.00	500.00	500.00	500.00	0.99	0.99	-90.34	-0.35	-59.88	59.88	57.89	1.99	30.103	
600.00	600.00	600.00	600.00	1.22	1.22	-90.34	-0.35	-59.88	59.88	57.44	2.44	24.554	
700.00	700.00	700.00	700.00	1.44	1.44	-90.34	-0.35	-59.88	59.88	56.99	2.89	20.732	
800.00	800.00	800.00	800.00	1.67	1.67	-90.34	-0.35	-59.88	59.88	56.54	3.34	17.940	
900.00	900.00	900.00	900.00	1.89	1.89	-90.34	-0.35	-59.88	59.88	56.09	3.79	15.811	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.34	-0.35	-59.88	59.88	55.64	4.24	14.133	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.34	-0.35	-59.88	59.88	55.19	4.69	12.777	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.34	-0.35	-59.88	59.88	54.74	5.14	11.659	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.34	-0.35	-59.88	59.88	54.29	5.59	10.721 CC	
1,400.00	1,399.99	1,401.00	1,400.99	3.01	2.99	-159.49	-1.36	-59.01	60.26	54.26	6.00	10.042 ES	
1,500.00	1,499.91	1,501.86	1,501.76	3.22	3.18	-163.67	-4.40	-56.41	61.61	55.23	6.38	9.650	
1,600.00	1,599.69	1,602.42	1,602.11	3.44	3.37	-170.16	-9.43	-52.09	64.54	57.77	6.78	9.526 SF	
1,700.00	1,699.27	1,702.57	1,701.82	3.67	3.58	-178.14	-16.44	-46.08	69.88	62.70	7.18	9.735	
1,800.00	1,798.57	1,802.14	1,800.70	3.91	3.80	173.44	-25.36	-38.42	78.38	70.78	7.60	10.312	
1,900.00	1,897.54	1,901.02	1,898.54	4.17	4.04	165.52	-36.16	-29.15	90.54	82.48	8.05	11.241	
2,000.00	1,996.09	1,999.07	1,995.18	4.46	4.31	158.64	-48.76	-18.34	106.50	97.95	8.55	12.462	
2,100.00	2,094.16	2,096.18	2,090.43	4.78	4.61	152.92	-63.10	-6.04	126.20	117.12	9.08	13.895	
2,200.00	2,191.70	2,192.23	2,184.13	5.13	4.95	148.28	-79.08	7.67	149.46	139.79	9.67	15.463	
2,300.00	2,288.62	2,287.11	2,276.16	5.52	5.32	144.53	-96.61	22.72	176.09	165.79	10.30	17.095	
2,400.00	2,384.86	2,380.72	2,366.36	5.96	5.73	141.48	-115.61	39.02	205.92	194.93	10.99	18.736	
2,449.50	2,432.23	2,426.57	2,410.31	6.19	5.94	140.18	-125.52	47.52	221.82	210.47	11.35	19.538	
2,500.00	2,480.46	2,473.05	2,454.70	6.44	6.17	139.09	-135.98	56.50	238.55	226.80	11.76	20.290	
2,600.00	2,575.96	2,565.62	2,542.68	6.94	6.66	137.02	-157.83	75.24	272.43	259.84	12.59	21.630	
2,700.00	2,671.47	2,659.23	2,631.56	7.47	7.17	135.34	-180.12	94.37	306.69	293.22	13.47	22.769	
2,800.00	2,766.98	2,752.84	2,720.44	8.00	7.70	133.99	-202.42	113.51	341.13	326.76	14.36	23.747	
2,900.00	2,862.48	2,846.45	2,809.32	8.55	8.24	132.89	-224.72	132.64	375.70	360.42	15.28	24.591	
3,000.00	2,957.99	2,940.06	2,898.20	9.10	8.79	131.97	-247.01	151.77	410.38	394.17	16.21	25.323	
3,100.00	3,053.49	3,033.67	2,987.08	9.66	9.35	131.20	-269.31	170.90	445.14	427.99	17.15	25.962	
3,200.00	3,149.00	3,127.28	3,075.96	10.23	9.92	130.54	-291.61	190.03	479.95	461.86	18.10	26.522	
3,300.00	3,244.51	3,220.89	3,164.83	10.80	10.49	129.97	-313.90	209.16	514.82	495.76	19.06	27.016	
3,400.00	3,340.01	3,314.50	3,253.71	11.38	11.07	129.47	-336.20	228.30	549.73	529.70	20.02	27.454	
3,500.00	3,435.52	3,408.11	3,342.59	11.96	11.65	129.03	-358.50	247.43	584.67	563.67	21.00	27.844	
3,600.00	3,531.02	3,501.71	3,431.47	12.54	12.23	128.64	-380.79	266.56	619.63	597.65	21.98	28.194	
3,700.00	3,626.53	3,595.32	3,520.35	13.13	12.82	128.29	-403.09	285.69	654.62	631.66	22.96	28.508	
3,800.00	3,722.03	3,688.93	3,609.23	13.72	13.41	127.98	-425.39	304.82	689.63	665.67	23.95	28.792	
3,900.00	3,817.54	3,782.54	3,698.11	14.31	14.01	127.69	-447.68	323.95	724.65	699.70	24.95	29.049	
4,000.00	3,913.05	3,876.15	3,786.99	14.91	14.60	127.44	-469.98	343.09	759.69	733.74	25.94	29.284	
4,100.00	4,008.55	3,969.76	3,875.87	15.50	15.20	127.20	-492.28	362.22	794.74	767.79	26.94	29.498	
4,200.00	4,104.06	4,063.37	3,964.75	16.10	15.80	126.99	-514.58	381.35	829.80	801.85	27.95	29.694	
4,300.00	4,199.56	4,156.98	4,053.62	16.70	16.40	126.79	-536.87	400.48	864.87	835.92	28.95	29.874	
4,400.00	4,295.07	4,250.59	4,142.50	17.30	17.00	126.61	-559.17	419.61	899.94	869.99	29.96	30.040	
4,500.00	4,390.58	4,344.20	4,231.38	17.90	17.60	126.44	-581.47	438.74	935.03	904.06	30.97	30.194	
4,600.00	4,486.08	4,437.80	4,320.26	18.50	18.20	126.28	-603.76	457.88	970.12	938.14	31.98	30.337	
4,700.00	4,581.59	4,531.41	4,409.14	19.10	18.81	126.14	-626.06	477.01	1,005.22	972.23	32.99	30.469	
4,800.00	4,677.09	4,625.02	4,498.02	19.70	19.41	126.00	-648.36	496.14	1,040.32	1,006.32	34.01	30.593	
4,900.00	4,772.60	4,718.63	4,586.90	20.31	20.02	125.88	-670.65	515.27	1,075.43	1,040.41	35.02	30.708	
5,000.00	4,868.10	4,812.24	4,675.78	20.91	20.62	125.76	-692.95	534.40	1,110.54	1,074.50	36.04	30.815	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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
5,100.00	4,963.61	4,905.85	4,764.66	21.51	21.23	125.65	-715.25	553.53	1,145.66	1,108.60	37.06	30.916	
5,206.16	5,065.00	5,005.22	4,859.01	22.16	21.88	125.53	-738.92	573.84	1,182.94	1,144.80	38.14	31.017	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.93	0.01	10.07	10.07				
100.00	100.00	100.00	100.00	0.10	0.10	89.93	0.01	10.07	10.07	9.88	0.19	52.725	
200.00	200.00	200.00	200.00	0.32	0.32	89.93	0.01	10.07	10.07	9.43	0.64	15.725	
300.00	300.00	300.00	300.00	0.55	0.55	89.93	0.01	10.07	10.07	8.98	1.09	9.240	
400.00	400.00	400.00	400.00	0.77	0.77	89.93	0.01	10.07	10.07	8.53	1.54	6.542	
500.00	500.00	500.00	500.00	0.99	0.99	89.93	0.01	10.07	10.07	8.08	1.99	5.064	
600.00	600.00	600.00	600.00	1.22	1.22	89.93	0.01	10.07	10.07	7.63	2.44	4.131	
700.00	700.00	700.00	700.00	1.44	1.44	89.93	0.01	10.07	10.07	7.18	2.89	3.488	
800.00	800.00	800.00	800.00	1.67	1.67	89.93	0.01	10.07	10.07	6.74	3.34	3.018	
900.00	900.00	900.00	900.00	1.89	1.89	89.93	0.01	10.07	10.07	6.29	3.79	2.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.93	0.01	10.07	10.07	5.84	4.24	2.378	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.93	0.01	10.07	10.07	5.39	4.69	2.149	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.93	0.01	10.07	10.07	4.94	5.14	1.961	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	89.93	0.01	10.07	10.07	4.49	5.59	1.803 CC, ES	
1,400.00	1,399.99	1,399.64	1,399.62	3.01	3.00	25.40	-0.08	11.80	10.61	4.61	6.01	1.767 SF	
1,500.00	1,499.91	1,499.22	1,499.06	3.22	3.21	33.19	-0.37	16.99	12.40	5.99	6.41	1.934	
1,600.00	1,599.69	1,598.66	1,598.12	3.44	3.42	41.95	-0.86	25.60	15.72	8.90	6.82	2.305	
1,700.00	1,699.27	1,697.93	1,696.65	3.67	3.65	49.24	-1.53	37.62	20.73	13.49	7.25	2.861	
1,800.00	1,798.57	1,796.94	1,794.45	3.91	3.91	54.57	-2.39	53.00	27.45	19.75	7.70	3.566	
1,900.00	1,897.54	1,895.64	1,891.35	4.17	4.20	58.30	-3.43	71.68	35.82	27.64	8.18	4.377	
2,000.00	1,996.09	1,993.97	1,987.20	4.46	4.53	60.90	-4.65	93.59	45.80	37.08	8.72	5.254	
2,100.00	2,094.16	2,091.88	2,081.84	4.78	4.92	62.74	-6.05	118.65	57.35	48.04	9.31	6.163	
2,200.00	2,191.70	2,189.32	2,175.11	5.13	5.36	64.05	-7.63	146.79	70.42	60.46	9.96	7.071	
2,300.00	2,288.62	2,287.32	2,268.03	5.52	5.86	65.20	-9.36	177.87	84.67	73.98	10.69	7.920	
2,400.00	2,384.86	2,386.33	2,361.78	5.96	6.40	67.22	-11.14	209.66	98.24	86.71	11.53	8.519	
2,449.50	2,432.23	2,435.35	2,408.20	6.19	6.67	68.51	-12.02	225.41	104.65	92.66	11.99	8.726	
2,500.00	2,480.46	2,485.36	2,455.55	6.44	6.96	69.91	-12.92	241.47	111.13	98.64	12.49	8.898	
2,600.00	2,575.96	2,584.40	2,549.33	6.94	7.54	72.25	-14.69	273.27	124.13	110.62	13.51	9.191	
2,700.00	2,671.47	2,683.44	2,643.10	7.47	8.13	74.14	-16.47	305.07	137.29	122.73	14.56	9.431	
2,800.00	2,766.98	2,782.48	2,736.88	8.00	8.73	75.70	-18.25	336.88	150.57	134.94	15.64	9.629	
2,900.00	2,862.48	2,881.52	2,830.65	8.55	9.35	77.01	-20.02	368.68	163.95	147.21	16.74	9.793	
3,000.00	2,957.99	2,980.55	2,924.43	9.10	9.97	78.12	-21.80	400.48	177.40	159.53	17.86	9.931	
3,100.00	3,053.49	3,079.59	3,018.20	9.66	10.59	79.07	-23.58	432.29	190.90	171.90	19.00	10.049	
3,200.00	3,149.00	3,178.63	3,111.98	10.23	11.23	79.90	-25.35	464.09	204.45	184.30	20.15	10.149	
3,300.00	3,244.51	3,277.67	3,205.75	10.80	11.86	80.62	-27.13	495.89	218.03	196.73	21.30	10.235	
3,400.00	3,340.01	3,376.70	3,299.53	11.38	12.50	81.26	-28.91	527.70	231.64	209.17	22.47	10.309	
3,500.00	3,435.52	3,475.74	3,393.31	11.96	13.14	81.83	-30.68	559.50	245.28	221.64	23.64	10.375	
3,600.00	3,531.02	3,574.78	3,487.08	12.54	13.79	82.34	-32.46	591.30	258.94	234.12	24.82	10.432	
3,700.00	3,626.53	3,673.82	3,580.86	13.13	14.43	82.80	-34.24	623.11	272.62	246.62	26.01	10.483	
3,800.00	3,722.03	3,772.85	3,674.63	13.72	15.08	83.21	-36.01	654.91	286.32	259.12	27.20	10.528	
3,900.00	3,817.54	3,871.89	3,768.41	14.31	15.73	83.59	-37.79	686.72	300.02	271.63	28.39	10.568	
4,000.00	3,913.05	3,970.93	3,862.18	14.91	16.38	83.93	-39.57	718.52	313.74	284.16	29.59	10.604	
4,100.00	4,008.55	4,069.97	3,955.96	15.50	17.04	84.25	-41.34	750.32	327.47	296.69	30.79	10.637	
4,200.00	4,104.06	4,169.01	4,049.73	16.10	17.69	84.54	-43.12	782.13	341.21	309.22	31.99	10.667	
4,300.00	4,199.56	4,268.04	4,143.51	16.70	18.35	84.80	-44.90	813.93	354.96	321.76	33.19	10.694	
4,400.00	4,295.07	4,367.08	4,237.29	17.30	19.00	85.05	-46.67	845.73	368.71	334.31	34.40	10.718	
4,500.00	4,390.58	4,466.12	4,331.06	17.90	19.66	85.28	-48.45	877.54	382.47	346.86	35.61	10.741	
4,600.00	4,486.08	4,565.16	4,424.84	18.50	20.32	85.49	-50.23	909.34	396.23	359.41	36.82	10.762	
4,700.00	4,581.59	4,664.19	4,518.61	19.10	20.98	85.69	-52.01	941.14	410.00	371.97	38.03	10.781	
4,800.00	4,677.09	4,763.23	4,612.39	19.70	21.64	85.88	-53.78	972.95	423.78	384.53	39.24	10.798	
4,900.00	4,772.60	4,862.27	4,706.16	20.31	22.30	86.05	-55.56	1,004.75	437.56	397.10	40.46	10.815	
5,000.00	4,868.10	4,961.31	4,799.94	20.91	22.96	86.21	-57.34	1,036.55	451.34	409.66	41.68	10.830	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	4,963.61	5,060.34	4,893.71	21.51	23.62	86.37	-59.11	1,068.36	465.12	422.23	42.89	10.844	
5,206.16	5,065.00	5,165.48	4,993.27	22.16	24.32	86.52	-61.00	1,102.12	479.76	435.58	44.19	10.858	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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
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	-90.00	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	
1,400.00	1,399.99	1,400.26	1,400.24	3.01	3.01	-154.15	1.12	-8.72	9.95	3.93	6.02	1.654	
1,486.16	1,486.09	1,486.61	1,486.48	3.19	3.20	-145.11	3.87	-5.39	9.83	3.45	6.38	1.540 CC	
1,500.00	1,499.91	1,500.48	1,500.31	3.22	3.23	-143.14	4.46	-4.67	9.84	3.40	6.44	1.527 ES	
1,600.00	1,599.69	1,600.59	1,600.03	3.44	3.46	-125.50	10.03	2.08	10.44	3.56	6.88	1.517 SF	
1,700.00	1,699.27	1,700.54	1,699.24	3.67	3.70	-106.23	17.80	11.48	12.63	5.27	7.35	1.717	
1,800.00	1,798.57	1,800.30	1,797.76	3.91	3.96	-90.95	27.75	23.53	16.78	8.91	7.87	2.133	
1,900.00	1,897.54	1,899.81	1,895.43	4.17	4.25	-80.66	39.84	38.17	22.74	14.33	8.41	2.704	
2,000.00	1,996.09	1,999.02	1,992.10	4.46	4.59	-73.94	54.03	55.36	30.29	21.31	8.98	3.371	
2,100.00	2,094.16	2,097.89	2,087.61	4.78	4.97	-69.45	70.29	75.05	39.26	29.66	9.60	4.089	
2,200.00	2,191.70	2,196.37	2,181.81	5.13	5.40	-66.33	88.56	97.18	49.55	39.28	10.27	4.825	
2,300.00	2,288.62	2,294.43	2,274.58	5.52	5.89	-64.07	108.80	121.68	61.10	50.10	10.99	5.558	
2,400.00	2,384.86	2,392.02	2,365.76	5.96	6.44	-62.38	130.93	148.48	73.86	62.08	11.78	6.269	
2,449.50	2,432.23	2,440.14	2,410.28	6.19	6.74	-61.69	142.56	162.57	80.61	68.41	12.20	6.608	
2,500.00	2,480.46	2,489.07	2,455.23	6.44	7.06	-60.98	154.88	177.49	87.96	75.32	12.63	6.962	
2,600.00	2,575.96	2,586.65	2,544.02	6.94	7.73	-59.07	180.64	208.68	104.04	90.54	13.50	7.707	
2,700.00	2,671.47	2,685.24	2,633.58	7.47	8.45	-57.53	206.89	240.47	120.50	106.11	14.39	8.374	
2,800.00	2,766.98	2,783.83	2,723.14	8.00	9.18	-56.36	233.13	272.26	137.02	121.72	15.30	8.957	
2,900.00	2,862.48	2,882.42	2,812.70	8.55	9.93	-55.45	259.38	304.05	153.58	137.36	16.22	9.468	
3,000.00	2,957.99	2,981.02	2,902.26	9.10	10.70	-54.71	285.63	335.83	170.18	153.02	17.16	9.917	
3,100.00	3,053.49	3,079.61	2,991.82	9.66	11.47	-54.10	311.88	367.62	186.80	168.69	18.11	10.315	
3,200.00	3,149.00	3,178.20	3,081.38	10.23	12.25	-53.60	338.13	399.41	203.43	184.36	19.07	10.669	
3,300.00	3,244.51	3,276.79	3,170.94	10.80	13.03	-53.17	364.37	431.19	220.08	200.04	20.04	10.984	
3,400.00	3,340.01	3,375.38	3,260.50	11.38	13.83	-52.80	390.62	462.98	236.74	215.73	21.01	11.268	
3,500.00	3,435.52	3,473.97	3,350.06	11.96	14.62	-52.47	416.87	494.77	253.41	231.42	21.99	11.523	
3,600.00	3,531.02	3,572.57	3,439.62	12.54	15.42	-52.19	443.12	526.55	270.08	247.10	22.98	11.755	
3,700.00	3,626.53	3,671.16	3,529.18	13.13	16.23	-51.94	469.37	558.34	286.76	262.79	23.97	11.965	
3,800.00	3,722.03	3,769.75	3,618.74	13.72	17.03	-51.72	495.61	590.13	303.44	278.48	24.96	12.156	
3,900.00	3,817.54	3,868.34	3,708.30	14.31	17.84	-51.52	521.86	621.91	320.13	294.17	25.96	12.332	
4,000.00	3,913.05	3,966.93	3,797.86	14.91	18.65	-51.35	548.11	653.70	336.82	309.86	26.96	12.493	
4,100.00	4,008.55	4,065.53	3,887.42	15.50	19.46	-51.18	574.36	685.49	353.52	325.55	27.97	12.641	
4,200.00	4,104.06	4,164.12	3,976.98	16.10	20.28	-51.04	600.61	717.28	370.22	341.24	28.97	12.778	
4,300.00	4,199.56	4,262.71	4,066.54	16.70	21.09	-50.90	626.85	749.06	386.92	356.93	29.98	12.905	
4,400.00	4,295.07	4,361.30	4,156.10	17.30	21.91	-50.78	653.10	780.85	403.62	372.62	30.99	13.022	
4,500.00	4,390.58	4,459.89	4,245.66	17.90	22.73	-50.66	679.35	812.64	420.32	388.31	32.01	13.132	
4,600.00	4,486.08	4,558.49	4,335.22	18.50	23.54	-50.56	705.60	844.42	437.02	404.00	33.02	13.234	
4,700.00	4,581.59	4,657.08	4,424.78	19.10	24.36	-50.46	731.85	876.21	453.73	419.69	34.04	13.330	
4,800.00	4,677.09	4,755.67	4,514.34	19.70	25.18	-50.37	758.09	908.00	470.44	435.38	35.06	13.419	
4,900.00	4,772.60	4,854.26	4,603.90	20.31	26.01	-50.29	784.34	939.78	487.14	451.07	36.08	13.503	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	
5,000.00	4,868.10	4,952.85	4,693.46	20.91	26.83	-50.21	810.59	971.57	503.85	466.76	37.10	13.582	
5,100.00	4,963.61	5,051.45	4,783.02	21.51	27.65	-50.14	836.84	1,003.36	520.56	482.45	38.12	13.656	
5,206.16	5,065.00	5,156.11	4,878.10	22.16	28.52	-50.06	864.70	1,037.10	538.30	499.10	39.20	13.731	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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	-90.46	-0.72	-90.10	90.10				
100.00	100.00	100.00	100.00	0.10	0.10	-90.46	-0.72	-90.10	90.10	89.91	0.19	471.608	
200.00	200.00	200.00	200.00	0.32	0.32	-90.46	-0.72	-90.10	90.10	89.46	0.64	140.655	
300.00	300.00	300.00	300.00	0.55	0.55	-90.46	-0.72	-90.10	90.10	89.01	1.09	82.653	
400.00	400.00	400.00	400.00	0.77	0.77	-90.46	-0.72	-90.10	90.10	88.56	1.54	58.521	
500.00	500.00	500.00	500.00	0.99	0.99	-90.46	-0.72	-90.10	90.10	88.11	1.99	45.296	
600.00	600.00	600.00	600.00	1.22	1.22	-90.46	-0.72	-90.10	90.10	87.66	2.44	36.946	
700.00	700.00	700.00	700.00	1.44	1.44	-90.46	-0.72	-90.10	90.10	87.21	2.89	31.196	
800.00	800.00	800.00	800.00	1.67	1.67	-90.46	-0.72	-90.10	90.10	86.76	3.34	26.994	
900.00	900.00	900.00	900.00	1.89	1.89	-90.46	-0.72	-90.10	90.10	86.31	3.79	23.790	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.46	-0.72	-90.10	90.10	85.86	4.24	21.266	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.46	-0.72	-90.10	90.10	85.41	4.69	19.226	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.46	-0.72	-90.10	90.10	84.97	5.14	17.543	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.46	-0.72	-90.10	90.10	84.52	5.59	16.131 CC, ES	
1,400.00	1,399.99	1,396.87	1,396.85	3.01	3.00	-158.53	-0.86	-91.73	93.00	87.00	6.00	15.496 SF	
1,500.00	1,499.91	1,493.21	1,493.07	3.22	3.19	-159.48	-1.30	-96.59	101.71	95.32	6.39	15.907	
1,600.00	1,599.69	1,588.50	1,588.01	3.44	3.40	-160.73	-2.01	-104.55	116.22	109.44	6.78	17.131	
1,700.00	1,699.27	1,682.25	1,681.11	3.67	3.61	-162.01	-2.99	-115.46	136.48	129.31	7.17	19.032	
1,800.00	1,798.57	1,773.99	1,771.83	3.91	3.85	-163.17	-4.21	-129.06	162.38	154.83	7.55	21.498	
1,900.00	1,897.54	1,863.32	1,859.70	4.17	4.10	-164.14	-5.65	-145.08	193.79	185.86	7.93	24.437	
2,000.00	1,996.09	1,949.87	1,944.31	4.46	4.38	-164.92	-7.27	-163.20	230.50	222.20	8.30	27.769	
2,100.00	2,094.16	2,035.83	2,027.80	4.78	4.69	-165.55	-9.10	-183.56	272.18	263.51	8.67	31.395	
2,200.00	2,191.70	2,125.25	2,114.51	5.13	5.05	-166.11	-11.05	-205.33	316.80	307.76	9.05	35.019	
2,300.00	2,288.62	2,213.49	2,200.07	5.52	5.41	-166.59	-12.98	-226.80	363.72	354.30	9.42	38.603	
2,400.00	2,384.86	2,300.48	2,284.43	5.96	5.78	-167.00	-14.88	-247.97	412.91	403.12	9.80	42.152	
2,449.50	2,432.23	2,343.06	2,325.72	6.19	5.97	-167.19	-15.81	-258.33	438.09	428.11	9.98	43.893	
2,500.00	2,480.46	2,386.33	2,367.68	6.44	6.16	-167.46	-16.75	-268.86	464.06	453.85	10.21	45.471	
2,600.00	2,575.96	2,472.02	2,450.77	6.94	6.55	-167.91	-18.63	-289.71	515.50	504.84	10.66	48.370	
2,700.00	2,671.47	2,557.71	2,533.87	7.47	6.95	-168.28	-20.50	-310.56	566.96	555.84	11.12	51.003	
2,800.00	2,766.98	2,643.40	2,616.96	8.00	7.35	-168.58	-22.37	-331.42	618.43	606.85	11.58	53.399	
2,900.00	2,862.48	2,729.09	2,700.06	8.55	7.76	-168.84	-24.24	-352.27	669.92	657.87	12.05	55.586	
3,000.00	2,957.99	2,814.79	2,783.15	9.10	8.17	-169.07	-26.11	-373.12	721.41	708.88	12.53	57.588	
3,100.00	3,053.49	2,900.48	2,866.24	9.66	8.59	-169.26	-27.98	-393.97	772.91	759.91	13.01	59.424	
3,200.00	3,149.00	2,986.17	2,949.34	10.23	9.01	-169.43	-29.85	-414.83	824.42	810.93	13.49	61.111	
3,300.00	3,244.51	3,071.86	3,032.43	10.80	9.44	-169.58	-31.72	-435.68	875.93	861.95	13.98	62.667	
3,400.00	3,340.01	3,157.55	3,115.53	11.38	9.86	-169.71	-33.59	-456.53	927.45	912.98	14.47	64.105	
3,500.00	3,435.52	3,243.24	3,198.62	11.96	10.29	-169.83	-35.46	-477.39	978.96	964.00	14.96	65.437	
3,600.00	3,531.02	3,328.93	3,281.72	12.54	10.72	-169.93	-37.34	-498.24	1,030.48	1,015.03	15.46	66.674	
3,700.00	3,626.53	3,414.62	3,364.81	13.13	11.15	-170.03	-39.21	-519.09	1,082.01	1,066.06	15.95	67.824	
3,800.00	3,722.03	3,500.32	3,447.90	13.72	11.59	-170.12	-41.08	-539.94	1,133.53	1,117.08	16.45	68.897	
3,900.00	3,817.54	3,586.01	3,531.00	14.31	12.02	-170.20	-42.95	-560.80	1,185.06	1,168.11	16.95	69.899	
4,000.00	3,913.05	3,671.70	3,614.09	14.91	12.46	-170.27	-44.82	-581.65	1,236.59	1,219.13	17.46	70.836	
4,100.00	4,008.55	3,757.39	3,697.19	15.50	12.89	-170.34	-46.69	-602.50	1,288.12	1,270.16	17.96	71.714	
4,200.00	4,104.06	3,843.08	3,780.28	16.10	13.33	-170.40	-48.56	-623.36	1,339.65	1,321.18	18.47	72.540	
4,300.00	4,199.56	3,928.77	3,863.38	16.70	13.77	-170.46	-50.43	-644.21	1,391.18	1,372.21	18.98	73.316	
4,400.00	4,295.07	4,014.46	3,946.47	17.30	14.21	-170.51	-52.30	-665.06	1,442.72	1,423.23	19.48	74.047	
4,500.00	4,390.58	4,100.16	4,029.56	17.90	14.65	-170.56	-54.17	-685.91	1,494.25	1,474.26	19.99	74.737	
4,600.00	4,486.08	4,185.85	4,112.66	18.50	15.09	-170.61	-56.05	-706.77	1,545.79	1,525.28	20.50	75.389	
4,700.00	4,581.59	4,271.54	4,195.75	19.10	15.54	-170.65	-57.92	-727.62	1,597.32	1,576.31	21.02	76.006	
4,800.00	4,677.09	4,357.23	4,278.85	19.70	15.98	-170.70	-59.79	-748.47	1,648.86	1,627.33	21.53	76.590	
4,900.00	4,772.60	4,442.92	4,361.94	20.31	16.42	-170.73	-61.66	-769.32	1,700.40	1,678.35	22.04	77.145	
5,000.00	4,868.10	4,528.61	4,445.04	20.91	16.86	-170.77	-63.53	-790.18	1,751.93	1,729.38	22.56	77.671	

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 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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								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	4,963.61	4,614.30	4,528.13	21.51	17.31	-170.80	-65.40	-811.03	1,803.47	1,780.40	23.07	78.172	
5,206.16	5,065.00	4,705.27	4,616.34	22.16	17.78	-170.84	-67.39	-833.17	1,858.19	1,834.57	23.62	78.677	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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)	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	-90.50	-0.35	-40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	-90.50	-0.35	-40.01	40.01	39.82	0.19	209.442	
200.00	200.00	200.00	200.00	0.32	0.32	-90.50	-0.35	-40.01	40.01	39.37	0.64	62.465	
300.00	300.00	300.00	300.00	0.55	0.55	-90.50	-0.35	-40.01	40.01	38.92	1.09	36.706	
400.00	400.00	400.00	400.00	0.77	0.77	-90.50	-0.35	-40.01	40.01	38.47	1.54	25.989	
500.00	500.00	500.00	500.00	0.99	0.99	-90.50	-0.35	-40.01	40.01	38.03	1.99	20.116	
600.00	600.00	600.00	600.00	1.22	1.22	-90.50	-0.35	-40.01	40.01	37.58	2.44	16.408	
700.00	700.00	700.00	700.00	1.44	1.44	-90.50	-0.35	-40.01	40.01	37.13	2.89	13.854	
800.00	800.00	800.00	800.00	1.67	1.67	-90.50	-0.35	-40.01	40.01	36.68	3.34	11.988	
900.00	900.00	900.00	900.00	1.89	1.89	-90.50	-0.35	-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	-90.50	-0.35	-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	-90.50	-0.35	-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	-90.50	-0.35	-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	-90.50	-0.35	-40.01	40.01	34.43	5.59	7.164 CC, ES	
1,400.00	1,399.99	1,399.04	1,399.03	3.01	3.01	-158.02	0.26	-41.14	42.36	36.35	6.01	7.043 SF	
1,500.00	1,499.91	1,497.75	1,497.66	3.22	3.22	-157.51	2.10	-44.51	49.40	42.98	6.43	7.688	
1,600.00	1,599.69	1,595.81	1,595.51	3.44	3.44	-156.91	5.13	-50.07	61.11	54.27	6.84	8.940	
1,700.00	1,699.27	1,692.91	1,692.21	3.67	3.66	-156.36	9.31	-57.74	77.44	70.19	7.24	10.690	
1,800.00	1,798.57	1,788.74	1,787.40	3.91	3.89	-155.90	14.59	-67.43	98.33	90.68	7.65	12.851	
1,900.00	1,897.54	1,883.02	1,880.76	4.17	4.14	-155.51	20.90	-79.01	123.70	115.64	8.06	15.349	
2,000.00	1,996.09	1,975.50	1,971.98	4.46	4.40	-155.18	28.16	-92.32	153.46	144.99	8.47	18.121	
2,100.00	2,094.16	2,065.92	2,060.80	4.78	4.69	-154.88	36.27	-107.21	187.50	178.62	8.88	21.112	
2,200.00	2,191.70	2,154.33	2,147.23	5.13	4.98	-154.61	45.18	-123.55	225.70	216.40	9.30	24.275	
2,300.00	2,288.62	2,245.44	2,236.09	5.52	5.32	-154.47	54.79	-141.19	266.90	257.17	9.73	27.427	
2,400.00	2,384.86	2,335.54	2,323.97	5.96	5.66	-154.51	64.30	-158.64	310.26	300.09	10.17	30.502	
2,449.50	2,432.23	2,379.74	2,367.09	6.19	5.83	-154.56	68.96	-167.19	332.51	322.12	10.39	31.996	
2,500.00	2,480.46	2,424.70	2,410.94	6.44	6.01	-154.78	73.71	-175.90	355.47	344.82	10.65	33.377	
2,600.00	2,575.96	2,513.73	2,497.78	6.94	6.37	-155.14	83.10	-193.14	400.96	389.79	11.17	35.895	
2,700.00	2,671.47	2,602.76	2,584.62	7.47	6.73	-155.42	92.50	-210.37	446.46	434.76	11.70	38.154	
2,800.00	2,766.98	2,691.79	2,671.46	8.00	7.11	-155.66	101.89	-227.61	491.96	479.72	12.24	40.185	
2,900.00	2,862.48	2,780.82	2,758.30	8.55	7.49	-155.85	111.29	-244.85	537.47	524.68	12.79	42.019	
3,000.00	2,957.99	2,869.85	2,845.14	9.10	7.87	-156.01	120.68	-262.09	582.99	569.64	13.35	43.679	
3,100.00	3,053.49	2,958.89	2,931.98	9.66	8.26	-156.15	130.07	-279.32	628.51	614.60	13.91	45.186	
3,200.00	3,149.00	3,047.92	3,018.82	10.23	8.65	-156.27	139.47	-296.56	674.03	659.55	14.48	46.559	
3,300.00	3,244.51	3,136.95	3,105.66	10.80	9.04	-156.38	148.86	-313.80	719.55	704.50	15.05	47.814	
3,400.00	3,340.01	3,225.98	3,192.50	11.38	9.44	-156.47	158.26	-331.04	765.07	749.45	15.63	48.963	
3,500.00	3,435.52	3,315.01	3,279.33	11.96	9.84	-156.55	167.65	-348.27	810.60	794.39	16.21	50.019	
3,600.00	3,531.02	3,404.04	3,366.17	12.54	10.24	-156.63	177.05	-365.51	856.12	839.33	16.79	50.992	
3,700.00	3,626.53	3,493.07	3,453.01	13.13	10.64	-156.69	186.44	-382.75	901.65	884.28	17.38	51.890	
3,800.00	3,722.03	3,582.10	3,539.85	13.72	11.04	-156.75	195.84	-399.99	947.18	929.21	17.97	52.721	
3,900.00	3,817.54	3,671.13	3,626.69	14.31	11.45	-156.81	205.23	-417.22	992.71	974.15	18.56	53.493	
4,000.00	3,913.05	3,760.16	3,713.53	14.91	11.86	-156.86	214.63	-434.46	1,038.24	1,019.09	19.15	54.210	
4,100.00	4,008.55	3,849.19	3,800.37	15.50	12.27	-156.90	224.02	-451.70	1,083.77	1,064.02	19.75	54.879	
4,200.00	4,104.06	3,938.22	3,887.21	16.10	12.68	-156.94	233.41	-468.94	1,129.30	1,108.95	20.35	55.503	
4,300.00	4,199.56	4,027.25	3,974.05	16.70	13.09	-156.98	242.81	-486.17	1,174.83	1,153.88	20.95	56.087	
4,400.00	4,295.07	4,116.28	4,060.89	17.30	13.50	-157.02	252.20	-503.41	1,220.36	1,198.82	21.55	56.635	
4,500.00	4,390.58	4,205.31	4,147.73	17.90	13.91	-157.05	261.60	-520.65	1,265.90	1,243.74	22.15	57.149	
4,600.00	4,486.08	4,294.34	4,234.57	18.50	14.32	-157.08	270.99	-537.89	1,311.43	1,288.67	22.75	57.633	
4,700.00	4,581.59	4,383.37	4,321.40	19.10	14.74	-157.11	280.39	-555.12	1,356.96	1,333.60	23.36	58.088	
4,800.00	4,677.09	4,472.40	4,408.24	19.70	15.15	-157.14	289.78	-572.36	1,402.49	1,378.53	23.97	58.518	
4,900.00	4,772.60	4,561.43	4,495.08	20.31	15.57	-157.16	299.18	-589.60	1,448.03	1,423.45	24.57	58.924	
5,000.00	4,868.10	4,650.46	4,581.92	20.91	15.98	-157.19	308.57	-606.84	1,493.56	1,468.38	25.18	59.308	

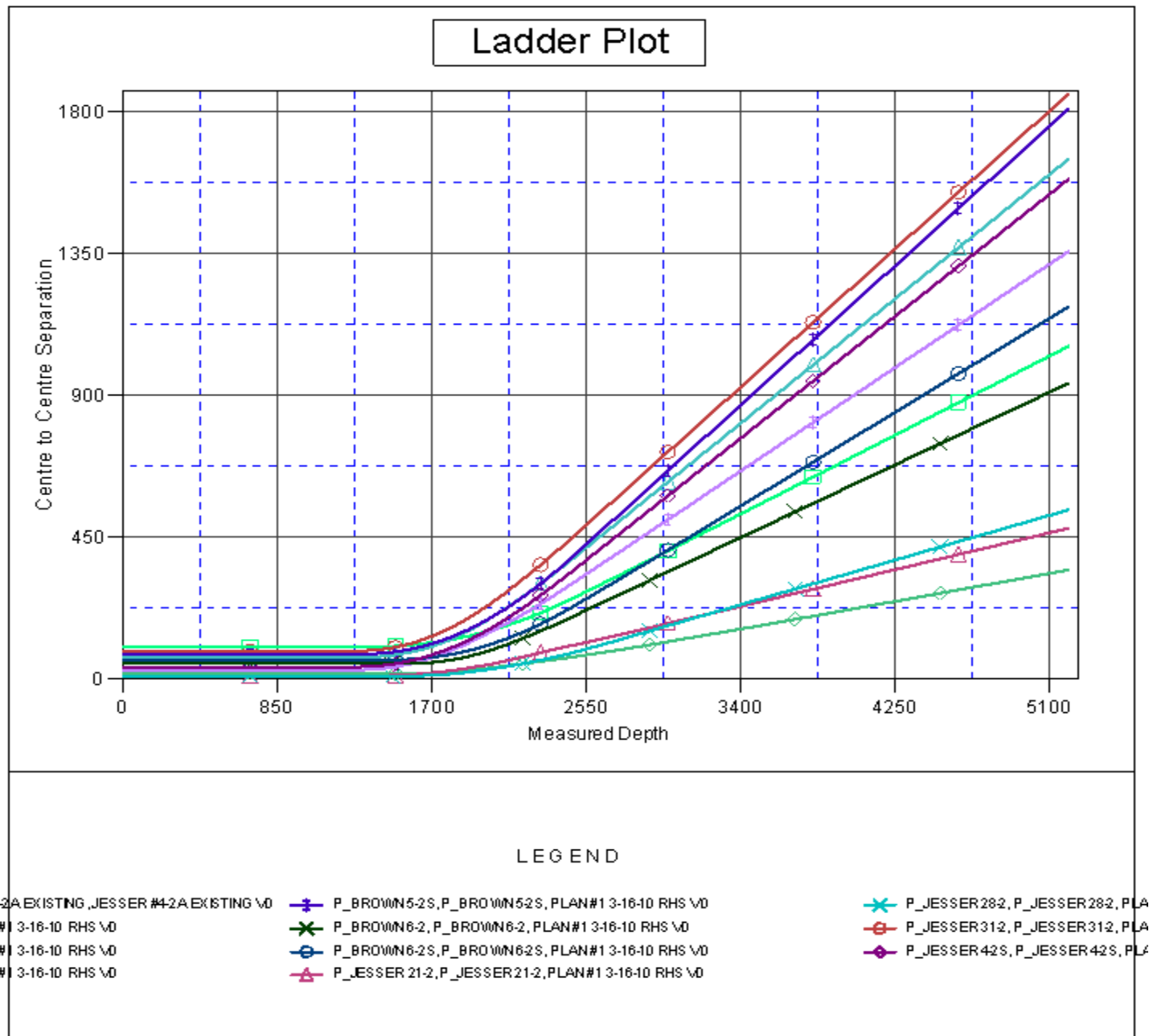
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 3-16-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_JESSER 18-2 PAD - P_JESSER 4-2S - P_JESSER 4-2S - PLAN #1 3-16-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	4,963.61	4,739.50	4,668.76	21.51	16.40	-157.21	317.97	-624.07	1,539.09	1,513.30	25.79	59.672	
5,206.16	5,065.00	4,834.01	4,760.95	22.16	16.84	-157.23	327.94	-642.37	1,587.43	1,560.99	26.44	60.038	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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 3-2S
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: 0.49°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_BROWN 3-2S
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 3-2S	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_BROWN 3-2S	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 3-2S
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: 0.49°

