



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_HIGHWAY 160 17-2 pad**

**P\_HIGHWAY 160 24-2**

**P\_HIGHWAY 160 24-2**

**Plan: PLAN #1 3-17-10 RHS**

## **Standard Planning Report**

**17 March, 2010**

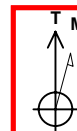




Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_HIGHWAY 160 17-2 pad  
Well: P\_HIGHWAY 160 24-2  
Wellbore: P\_HIGHWAY 160 24-2  
Section: SECTION 2 T1N R66W  
SHL: 1496 FNL 1629 FEL  
Design: PLAN #1 3-17-10 RHS  
Latitude: 40° 4' 59.711 N  
Longitude: 104° 44' 26.376 W  
GL: 5104.00  
KB: WELL @ 5119.00ft (Original Well Elev)



Weatherford®



Azimuths to True North  
Magnetic North: 8.99°

Magnetic Field  
Strength: 53096.4nT  
Dip Angle: 66.84°  
Date: 3/17/2010  
Model: IGRF2010

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4267.00	4345.36	PARKMAN
4757.00	4850.10	SUSSEX
7237.00	7360.72	NIO A
7557.00	7650.72	CODELL
8017.00	8140.72	JSAND

#### CASING DETAILS

TVD	MD	Name	Size
1100.00	1100.00	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	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1894.07	13.88	163.24	1887.30	-80.11	24.12	2.00	163.24	83.67	Start 3772.58 hold at 1894.07 MD
5666.65	13.88	163.24	5549.70	-946.77	285.08	0.00	0.00	988.76	Start Drop -2.00
6360.72	0.00	0.00	6237.00	-1026.88	309.21	2.00	180.00	1072.43	Start 1915.00 hold at 6360.72 MD
8275.72	0.00	0.00	8152.00	-1026.88	309.21	0.00	0.00	1072.43	TD at 8275.72

#### LEGEND

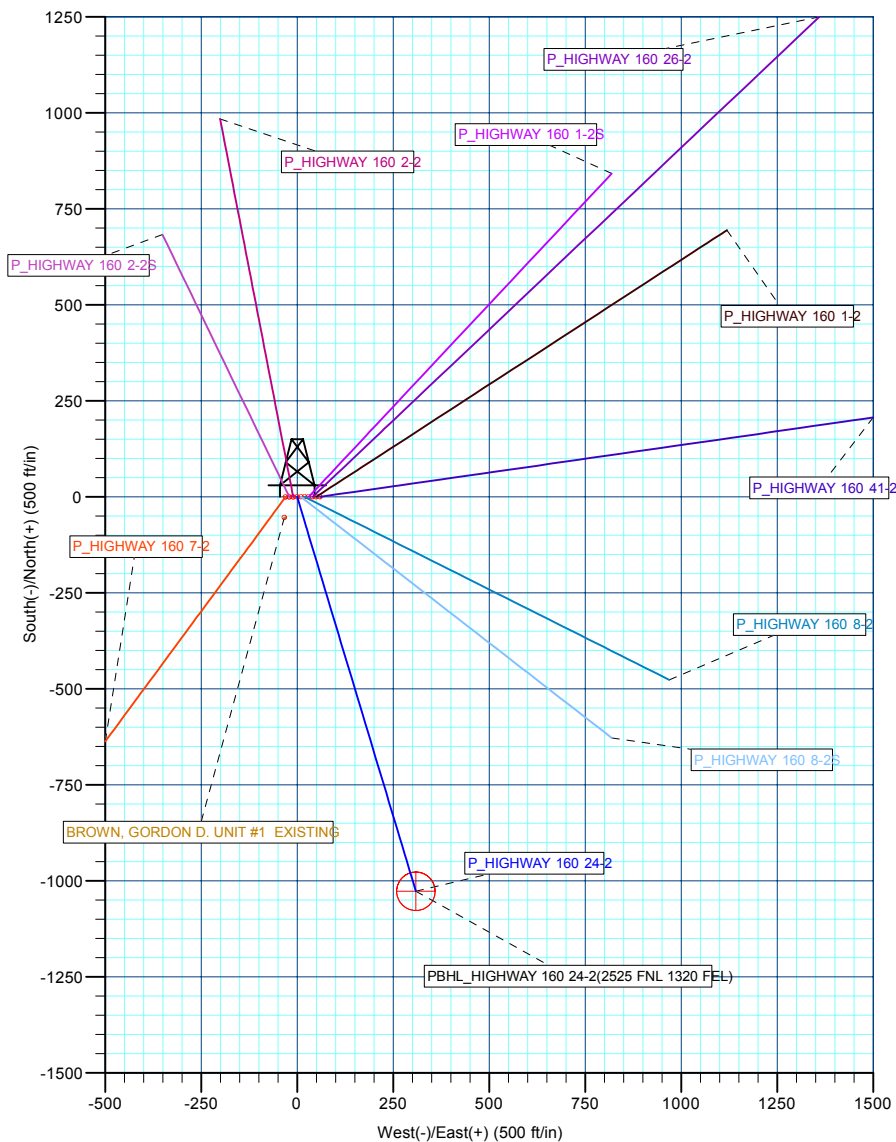
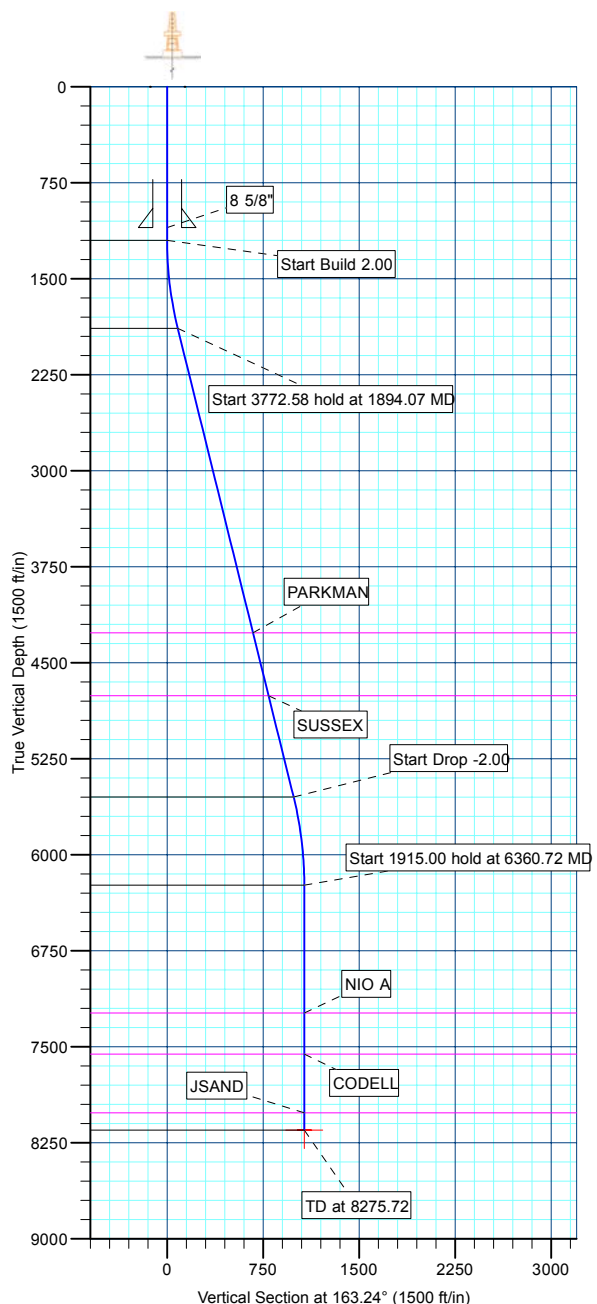
BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING V0  
P\_HIGHWAY 160 1-2, P\_HIGHWAY 160 1-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 1-2S, P\_HIGHWAY 160 1-2S, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 2-2, P\_HIGHWAY 160 2-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 2-2S, P\_HIGHWAY 160 2-2S, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 26-2, P\_HIGHWAY 160 26-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 41-2, P\_HIGHWAY 160 41-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 7-2, P\_HIGHWAY 160 7-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 8-2, P\_HIGHWAY 160 8-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 8-2S, P\_HIGHWAY 160 8-2S, PLAN #1 3-17-10 RHS V0  
PLAN #1 3-17-10 RHS

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

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8152.00	-1026.88	309.21	40° 4' 49.562 N	104° 44' 22.398 W	Circle (Radius: 50.00)

#### WELL DETAILS: P\_HIGHWAY 160 24-2

+N/-S	+E/-W	Northing	Ground Level: Easting	5104.00 Latitude	Longitude	Slot
0.00	0.00	1274083.56	3212469.54	40° 4' 59.711 N	104° 44' 26.376 W	



Plan: PLAN #1 3-17-10 RHS (P\_HIGHWAY 160 24-2/P\_HIGHWAY 160 24-2)

Created By: Robert H. Scott Date: 14:49, March 17 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>North Reference:</b>	True
<b>Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 24-2		
<b>Design:</b>	PLAN #1 3-17-10 RHS		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site						WELD_HIGHWAY 160 17-2 pad, SECTION 2 T1N R66W											
Site Position:						Northing:			1,274,084.36 ft			Latitude:			40° 4' 59.714 N		
From:			Lat/Long			Easting:			3,212,519.34 ft			Longitude:			104° 44' 25.735 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.49 °		

Well	P_HIGHWAY 160 24-2					
Well Position	+N/-S	-0.38 ft	Northing:	1,274,083.56 ft	Latitude:	40° 4' 59.711 N
	+E/-W	-49.81 ft	Easting:	3,212,469.54 ft	Longitude:	104° 44' 26.376 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,104.00 ft

<b>Wellbore</b>	P_HIGHWAY 160 24-2				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/17/2010	8.99	66.84	53,096

<b>Design</b>	PLAN #1 3-17-10 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	163.24

<b>Plan Sections</b>										
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	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,894.07	13.88	163.24	1,887.30	-80.11	24.12	2.00	2.00	0.00	163.24	
5,666.65	13.88	163.24	5,549.70	-946.77	285.08	0.00	0.00	0.00	0.00	
6,360.72	0.00	0.00	6,237.00	-1,026.88	309.21	2.00	-2.00	0.00	180.00	
8,275.72	0.00	0.00	8,152.00	-1,026.88	309.21	0.00	0.00	0.00	0.00	PBHL_HIGHWAY 1

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>North Reference:</b>	True
<b>Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 24-2		
<b>Design:</b>	PLAN #1 3-17-10 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)
<b>Start Build 2.00</b>									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	2.00	163.24	1,299.98	-1.67	0.50	1.75	2.00	2.00	0.00
1,400.00	4.00	163.24	1,399.84	-6.68	2.01	6.98	2.00	2.00	0.00
1,500.00	6.00	163.24	1,499.45	-15.03	4.52	15.69	2.00	2.00	0.00
1,600.00	8.00	163.24	1,598.70	-26.70	8.04	27.88	2.00	2.00	0.00
1,700.00	10.00	163.24	1,697.47	-41.67	12.55	43.52	2.00	2.00	0.00
1,800.00	12.00	163.24	1,795.62	-59.94	18.05	62.60	2.00	2.00	0.00
<b>Start 3772.58 hold at 1894.07 MD</b>									
1,894.07	13.88	163.24	1,887.30	-80.11	24.12	83.67	2.00	2.00	0.00
1,900.00	13.88	163.24	1,893.06	-81.48	24.53	85.09	0.00	0.00	0.00
2,000.00	13.88	163.24	1,990.14	-104.45	31.45	109.08	0.00	0.00	0.00
2,100.00	13.88	163.24	2,087.22	-127.42	38.37	133.07	0.00	0.00	0.00
2,200.00	13.88	163.24	2,184.29	-150.39	45.29	157.06	0.00	0.00	0.00
2,300.00	13.88	163.24	2,281.37	-173.37	52.20	181.06	0.00	0.00	0.00
2,400.00	13.88	163.24	2,378.45	-196.34	59.12	205.05	0.00	0.00	0.00
2,500.00	13.88	163.24	2,475.53	-219.31	66.04	229.04	0.00	0.00	0.00
2,600.00	13.88	163.24	2,572.61	-242.28	72.95	253.03	0.00	0.00	0.00
2,700.00	13.88	163.24	2,669.69	-265.26	79.87	277.02	0.00	0.00	0.00
2,800.00	13.88	163.24	2,766.77	-288.23	86.79	301.01	0.00	0.00	0.00
2,900.00	13.88	163.24	2,863.85	-311.20	93.71	325.00	0.00	0.00	0.00
3,000.00	13.88	163.24	2,960.93	-334.17	100.62	348.99	0.00	0.00	0.00
3,100.00	13.88	163.24	3,058.01	-357.15	107.54	372.99	0.00	0.00	0.00
3,200.00	13.88	163.24	3,155.09	-380.12	114.46	396.98	0.00	0.00	0.00
3,300.00	13.88	163.24	3,252.17	-403.09	121.37	420.97	0.00	0.00	0.00
3,400.00	13.88	163.24	3,349.25	-426.06	128.29	444.96	0.00	0.00	0.00
3,500.00	13.88	163.24	3,446.33	-449.04	135.21	468.95	0.00	0.00	0.00
3,600.00	13.88	163.24	3,543.41	-472.01	142.13	492.94	0.00	0.00	0.00
3,700.00	13.88	163.24	3,640.49	-494.98	149.04	516.93	0.00	0.00	0.00
3,800.00	13.88	163.24	3,737.57	-517.95	155.96	540.93	0.00	0.00	0.00
3,900.00	13.88	163.24	3,834.65	-540.93	162.88	564.92	0.00	0.00	0.00
4,000.00	13.88	163.24	3,931.72	-563.90	169.80	588.91	0.00	0.00	0.00
4,100.00	13.88	163.24	4,028.80	-586.87	176.71	612.90	0.00	0.00	0.00
4,200.00	13.88	163.24	4,125.88	-609.84	183.63	636.89	0.00	0.00	0.00
4,300.00	13.88	163.24	4,222.96	-632.82	190.55	660.88	0.00	0.00	0.00
<b>PARKMAN</b>									
4,345.36	13.88	163.24	4,267.00	-643.24	193.69	671.76	0.00	0.00	0.00
4,400.00	13.88	163.24	4,320.04	-655.79	197.46	684.87	0.00	0.00	0.00
4,500.00	13.88	163.24	4,417.12	-678.76	204.38	708.86	0.00	0.00	0.00
4,600.00	13.88	163.24	4,514.20	-701.73	211.30	732.86	0.00	0.00	0.00
4,700.00	13.88	163.24	4,611.28	-724.71	218.22	756.85	0.00	0.00	0.00
4,800.00	13.88	163.24	4,708.36	-747.68	225.13	780.84	0.00	0.00	0.00
<b>SUSSEX</b>									
4,850.10	13.88	163.24	4,757.00	-759.19	228.60	792.86	0.00	0.00	0.00
4,900.00	13.88	163.24	4,805.44	-770.65	232.05	804.83	0.00	0.00	0.00
5,000.00	13.88	163.24	4,902.52	-793.62	238.97	828.82	0.00	0.00	0.00
5,100.00	13.88	163.24	4,999.60	-816.60	245.89	852.81	0.00	0.00	0.00
5,200.00	13.88	163.24	5,096.68	-839.57	252.80	876.80	0.00	0.00	0.00
5,300.00	13.88	163.24	5,193.76	-862.54	259.72	900.80	0.00	0.00	0.00
5,400.00	13.88	163.24	5,290.84	-885.51	266.64	924.79	0.00	0.00	0.00
5,500.00	13.88	163.24	5,387.92	-908.49	273.55	948.78	0.00	0.00	0.00
5,600.00	13.88	163.24	5,485.00	-931.46	280.47	972.77	0.00	0.00	0.00
<b>Start Drop -2.00</b>									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>North Reference:</b>	True
<b>Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 24-2		
<b>Design:</b>	PLAN #1 3-17-10 RHS		

#### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,666.65	13.88	163.24	5,549.70	-946.77	285.08	988.76	0.00	0.00	0.00
5,700.00	13.21	163.24	5,582.12	-954.25	287.33	996.57	2.00	-2.00	0.00
5,800.00	11.21	163.24	5,679.85	-974.51	293.43	1,017.73	2.00	-2.00	0.00
5,900.00	9.21	163.24	5,778.26	-991.49	298.55	1,035.46	2.00	-2.00	0.00
6,000.00	7.21	163.24	5,877.23	-1,005.17	302.67	1,049.75	2.00	-2.00	0.00
6,100.00	5.21	163.24	5,976.64	-1,015.53	305.79	1,060.57	2.00	-2.00	0.00
6,200.00	3.21	163.24	6,076.36	-1,022.57	307.91	1,067.92	2.00	-2.00	0.00
6,300.00	1.21	163.24	6,176.28	-1,026.27	309.02	1,071.78	2.00	-2.00	0.00
<b>Start 1915.00 hold at 6360.72 MD</b>									
6,360.72	0.00	0.00	6,237.00	-1,026.88	309.21	1,072.43	2.00	-2.00	0.00
6,400.00	0.00	0.00	6,276.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
6,500.00	0.00	0.00	6,376.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
6,600.00	0.00	0.00	6,476.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
6,700.00	0.00	0.00	6,576.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
6,800.00	0.00	0.00	6,676.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
6,900.00	0.00	0.00	6,776.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,000.00	0.00	0.00	6,876.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,100.00	0.00	0.00	6,976.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,200.00	0.00	0.00	7,076.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,300.00	0.00	0.00	7,176.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
<b>NIO A</b>									
7,360.72	0.00	0.00	7,237.00	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,400.00	0.00	0.00	7,276.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,500.00	0.00	0.00	7,376.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,600.00	0.00	0.00	7,476.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
<b>CODELL</b>									
7,680.72	0.00	0.00	7,557.00	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,700.00	0.00	0.00	7,576.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,800.00	0.00	0.00	7,676.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
7,900.00	0.00	0.00	7,776.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
8,000.00	0.00	0.00	7,876.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
8,100.00	0.00	0.00	7,976.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
<b>JSAND</b>									
8,140.72	0.00	0.00	8,017.00	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
8,200.00	0.00	0.00	8,076.28	-1,026.88	309.21	1,072.43	0.00	0.00	0.00
<b>PBHL_HIGHWAY 160 24-2(2525 FNL 1320 FEL)</b>									
8,275.72	0.00	0.00	8,152.00	-1,026.88	309.21	1,072.43	0.00	0.00	0.00

#### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_HIGHWAY 160	0.00	0.00	8,152.00	-1,026.88	309.21	1,273,059.36	3,212,787.52	40° 4' 49.562 N	104° 44' 22.398 W
- plan hits target center									
- Circle (radius 50.00)									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>North Reference:</b>	True
<b>Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 24-2		
<b>Design:</b>	PLAN #1 3-17-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,100.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,345.36	4,267.00	PARKMAN				
4,850.10	4,757.00	SUSSEX				
7,360.72	7,237.00	NIO A				
7,680.72	7,557.00	CODELL				
8,140.72	8,017.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,200.00	1,200.00	0.00	0.00	Start Build 2.00	
1,894.07	1,887.30	-80.11	24.12	Start 3772.58 hold at 1894.07 MD	
5,666.65	5,549.70	-946.77	285.08	Start Drop -2.00	
6,360.72	6,237.00	-1,026.88	309.21	Start 1915.00 hold at 6360.72 MD	
8,275.72	8,152.00	-1,026.88	309.21	TD at 8275.72	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_HIGHWAY 160 17-2 pad  
P\_HIGHWAY 160 24-2**

**P\_HIGHWAY 160 24-2  
PLAN #1 3-17-10 RHS**

## **Anticollision Report**

**17 March, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 3-17-10 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 3/17/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,275.72	PLAN #1 3-17-10 RHS (P_HIGHWAY 160	MWD	MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
WELD_HIGHWAY 160 17-2 pad						
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,689.72	1,672.33	47.06	-21.41	0.687	Level 1, CC
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,700.00	1,682.47	47.09	-21.80	0.684	Level 1, ES, SF
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,200.00	1,200.00	49.81	44.67	9.698	CC, ES
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,300.00	1,298.48	50.83	45.29	9.165	SF
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,200.00	1,200.00	29.94	24.80	5.830	CC, ES
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,300.00	1,299.40	30.44	24.89	5.484	SF
P_HIGHWAY 160 2-2 - P_HIGHWAY 160 2-2 - PLAN #1	1,200.00	1,200.00	10.08	4.94	1.963	CC, ES, SF
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,200.00	1,200.00	20.15	15.01	3.923	CC, ES
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,300.00	1,299.69	21.36	15.81	3.847	SF
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	300.00	300.00	40.01	38.92	36.705	CC, ES
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	600.00	595.93	52.37	49.93	21.505	SF
P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN	1,200.00	1,200.00	59.88	54.75	11.659	CC, ES
P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN	1,400.00	1,395.55	65.12	59.20	11.013	SF
P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1	1,200.00	1,200.00	30.22	25.09	5.884	CC, ES
P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1	1,300.00	1,299.34	31.75	26.22	5.743	SF
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,200.00	1,200.00	19.87	14.73	3.868	CC, ES
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,300.00	1,299.37	20.93	15.40	3.782	SF
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,200.00	1,200.00	10.07	4.94	1.961	CC, ES
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,300.00	1,299.79	10.64	5.10	1.923	SF

Offset Design		WELD_HIGHWAY 160 17-2 pad - BROWN, GORDON D. UNIT #1 EXISTING - BROWN, GORDON D.								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			
0.00	0.00	0.00	0.00	0.00	0.00	-148.34	-53.55	-33.02	64.67						
100.00	100.00	85.00	85.00	0.10	1.70	-148.34	-53.55	-33.02	62.91	61.11	1.80	35.036			
200.00	200.00	185.00	185.00	0.32	5.40	-148.34	-53.55	-33.02	62.91	57.19	5.72	10.998			
300.00	300.00	285.00	285.00	0.55	9.40	-148.34	-53.55	-33.02	62.91	52.96	9.95	6.326			
400.00	400.00	385.00	385.00	0.77	13.40	-148.34	-53.55	-33.02	62.91	48.74	14.17	4.440			
500.00	500.00	485.00	485.00	0.99	17.40	-148.34	-53.55	-33.02	62.91	44.52	18.39	3.420			
600.00	600.00	585.00	585.00	1.22	21.40	-148.34	-53.55	-33.02	62.91	40.29	22.62	2.781			
700.00	700.00	685.00	685.00	1.44	25.40	-148.34	-53.55	-33.02	62.91	36.07	26.84	2.344			
800.00	800.00	785.00	785.00	1.67	29.40	-148.34	-53.55	-33.02	62.91	31.84	31.07	2.025			

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



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
900.00	900.00	885.00	885.00	1.89	33.40	-148.34	-53.55	-33.02	62.91	27.62	35.29	1.782	
1,000.00	1,000.00	985.00	985.00	2.12	37.40	-148.34	-53.55	-33.02	62.91	23.39	39.52	1.592	
1,100.00	1,100.00	1,085.00	1,085.00	2.34	41.40	-148.34	-53.55	-33.02	62.91	19.17	43.74	1.438 Level 3	
1,200.00	1,200.00	1,185.00	1,185.00	2.57	45.40	-148.34	-53.55	-33.02	62.91	14.94	47.97	1.311 Level 3	
1,300.00	1,299.98	1,284.98	1,284.98	2.76	49.40	49.64	-53.55	-33.02	61.77	9.61	52.15	1.184 Level 2	
1,400.00	1,399.84	1,384.84	1,384.84	2.94	53.39	53.60	-53.55	-33.02	58.51	2.23	56.29	1.040 Level 2	
1,500.00	1,499.45	1,484.45	1,484.45	3.13	57.38	61.15	-53.55	-33.02	53.79	-6.64	60.43	0.890 Level 1	
1,600.00	1,598.70	1,583.70	1,583.70	3.34	61.35	73.72	-53.55	-33.02	49.06	-15.58	64.64	0.759 Level 1	
1,689.72	1,687.33	1,672.33	1,672.33	3.56	64.89	90.00	-53.55	-33.02	47.06	-21.41	68.46	0.687 Level 1, CC	
1,700.00	1,697.47	1,682.47	1,682.47	3.58	65.30	92.12	-53.55	-33.02	47.09	-21.80	68.89	0.684 Level 1, ES, SF	
1,800.00	1,795.62	1,780.62	1,780.62	3.86	69.22	113.43	-53.55	-33.02	51.47	-21.39	72.86	0.706 Level 1	
1,894.07	1,887.30	1,872.30	1,872.30	4.17	72.89	130.85	-53.55	-33.02	63.01	-13.07	76.09	0.828 Level 1	
1,900.00	1,893.06	1,878.06	1,878.06	4.19	73.12	131.80	-53.55	-33.02	63.97	-12.32	76.29	0.838 Level 1	
2,000.00	1,990.14	1,975.14	1,975.14	4.56	77.01	144.25	-53.55	-33.02	82.14	2.28	79.86	1.029 Level 2	
2,100.00	2,087.22	2,072.22	2,072.22	4.96	80.89	152.04	-53.55	-33.02	102.73	19.13	83.60	1.229 Level 2	
2,200.00	2,184.29	2,169.29	2,169.29	5.38	84.77	157.20	-53.55	-33.02	124.54	37.10	87.44	1.424 Level 3	
2,300.00	2,281.37	2,266.37	2,266.37	5.81	88.65	160.81	-53.55	-33.02	147.03	55.68	91.35	1.610	
2,400.00	2,378.45	2,363.45	2,363.45	6.26	92.54	163.47	-53.55	-33.02	169.94	74.64	95.30	1.783	
2,500.00	2,475.53	2,460.53	2,460.53	6.71	96.42	165.49	-53.55	-33.02	193.10	93.84	99.26	1.945	
2,600.00	2,572.61	2,557.61	2,557.61	7.17	100.30	167.08	-53.55	-33.02	216.45	113.20	103.25	2.096	
2,700.00	2,669.69	2,654.69	2,654.69	7.64	104.19	168.36	-53.55	-33.02	239.93	132.68	107.25	2.237	
2,800.00	2,766.77	2,751.77	2,751.77	8.12	108.07	169.41	-53.55	-33.02	263.49	152.24	111.25	2.368	
2,900.00	2,863.85	2,848.85	2,848.85	8.60	111.95	170.29	-53.55	-33.02	287.13	171.87	115.26	2.491	
3,000.00	2,960.93	2,945.93	2,945.93	9.08	115.84	171.03	-53.55	-33.02	310.82	191.54	119.28	2.606	
3,100.00	3,058.01	3,043.01	3,043.01	9.57	119.72	171.67	-53.55	-33.02	334.56	211.25	123.30	2.713	
3,200.00	3,155.09	3,140.09	3,140.09	10.06	123.60	172.23	-53.55	-33.02	358.33	231.00	127.33	2.814	
3,300.00	3,252.17	3,237.17	3,237.17	10.55	127.49	172.72	-53.55	-33.02	382.12	250.77	131.35	2.909	
3,400.00	3,349.25	3,334.25	3,334.25	11.04	131.37	173.15	-53.55	-33.02	405.94	270.56	135.38	2.998	
3,500.00	3,446.33	3,431.33	3,431.33	11.54	135.25	173.53	-53.55	-33.02	429.78	290.37	139.41	3.083	
3,600.00	3,543.41	3,528.41	3,528.41	12.04	139.14	173.87	-53.55	-33.02	453.63	310.19	143.45	3.162	
3,700.00	3,640.49	3,625.49	3,625.49	12.54	143.02	174.18	-53.55	-33.02	477.50	330.02	147.48	3.238	
3,800.00	3,737.57	3,722.57	3,722.57	13.04	146.90	174.45	-53.55	-33.02	501.38	349.86	151.52	3.309	
3,900.00	3,834.65	3,819.65	3,819.65	13.54	150.79	174.71	-53.55	-33.02	525.27	369.72	155.56	3.377	
4,000.00	3,931.72	3,916.72	3,916.72	14.04	154.67	174.94	-53.55	-33.02	549.17	389.58	159.59	3.441	
4,100.00	4,028.80	4,013.80	4,013.80	14.54	158.55	175.15	-53.55	-33.02	573.08	409.45	163.63	3.502	
4,200.00	4,125.88	4,110.88	4,110.88	15.05	162.44	175.34	-53.55	-33.02	596.99	429.32	167.67	3.560	
4,300.00	4,222.96	4,207.96	4,207.96	15.55	166.32	175.52	-53.55	-33.02	620.91	449.20	171.71	3.616	
4,400.00	4,320.04	4,305.04	4,305.04	16.06	170.20	175.69	-53.55	-33.02	644.84	469.08	175.76	3.669	
4,500.00	4,417.12	4,402.12	4,402.12	16.56	174.08	175.84	-53.55	-33.02	668.77	488.97	179.80	3.720	
4,600.00	4,514.20	4,499.20	4,499.20	17.07	177.97	175.99	-53.55	-33.02	692.70	508.86	183.84	3.768	
4,700.00	4,611.28	4,596.28	4,596.28	17.57	181.85	176.12	-53.55	-33.02	716.64	528.76	187.88	3.814	
4,800.00	4,708.36	4,693.36	4,693.36	18.08	185.73	176.25	-53.55	-33.02	740.58	548.65	191.93	3.859	
4,900.00	4,805.44	4,790.44	4,790.44	18.59	189.62	176.37	-53.55	-33.02	764.52	568.55	195.97	3.901	
5,000.00	4,902.52	4,887.52	4,887.52	19.10	193.50	176.48	-53.55	-33.02	788.47	588.46	200.02	3.942	
5,100.00	4,999.60	4,984.60	4,984.60	19.61	197.38	176.58	-53.55	-33.02	812.42	608.36	204.06	3.981	
5,200.00	5,096.68	5,081.68	5,081.68	20.11	201.27	176.68	-53.55	-33.02	836.37	628.27	208.11	4.019	
5,300.00	5,193.76	5,178.76	5,178.76	20.62	205.15	176.77	-53.55	-33.02	860.33	648.18	212.15	4.055	
5,400.00	5,290.84	5,275.84	5,275.84	21.13	209.03	176.86	-53.55	-33.02	884.28	668.09	216.20	4.090	
5,500.00	5,387.92	5,372.92	5,372.92	21.64	212.92	176.94	-53.55	-33.02	908.24	688.00	220.24	4.124	
5,600.00	5,485.00	5,470.00	5,470.00	22.15	216.80	177.02	-53.55	-33.02	932.20	707.91	224.29	4.156	
5,666.65	5,549.70	5,534.70	5,534.70	22.49	219.39	177.07	-53.55	-33.02	948.17	721.19	226.99	4.177	
5,700.00	5,582.12	5,567.12	5,567.12	22.64	220.68	177.10	-53.55	-33.02	955.98	727.09	228.89	4.177	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - BROWN, GORDON D. UNIT #1 EXISTING - BROWN, GORDON D.												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-UNKNOWN												<b>Offset Well Error:</b>	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
5,800.00	5,679.85	5,664.85	5,664.85	22.97	224.59	177.19	-53.55	-33.02	977.11	742.57	234.53	4.166	
5,900.00	5,778.26	5,763.26	5,763.26	23.28	228.53	177.25	-53.55	-33.02	994.82	754.80	240.02	4.145	
6,000.00	5,877.23	5,862.23	5,862.23	23.54	232.49	177.31	-53.55	-33.02	1,009.09	763.82	245.27	4.114	
6,100.00	5,976.64	5,961.64	5,961.64	23.76	236.47	177.34	-53.55	-33.02	1,019.90	769.63	250.27	4.075	
6,200.00	6,076.36	6,061.36	6,061.36	23.95	240.45	177.37	-53.55	-33.02	1,027.24	772.26	254.99	4.029	
6,300.00	6,176.28	6,161.28	6,161.28	24.09	244.45	177.38	-53.55	-33.02	1,031.10	771.70	259.41	3.975	
6,360.72	6,237.00	6,222.00	6,222.00	24.17	246.88	-19.37	-53.55	-33.02	1,031.75	769.80	261.94	3.939	
6,400.00	6,276.28	6,261.28	6,261.28	24.21	248.45	-19.37	-53.55	-33.02	1,031.75	768.16	263.58	3.914	
6,500.00	6,376.28	6,361.28	6,361.28	24.32	252.45	-19.37	-53.55	-33.02	1,031.75	763.99	267.75	3.853	
6,600.00	6,476.28	6,461.28	6,461.28	24.42	256.45	-19.37	-53.55	-33.02	1,031.75	759.83	271.92	3.794	
6,700.00	6,576.28	6,561.28	6,561.28	24.53	260.45	-19.37	-53.55	-33.02	1,031.75	755.66	276.09	3.737	
6,800.00	6,676.28	6,661.28	6,661.28	24.63	264.45	-19.37	-53.55	-33.02	1,031.75	751.48	280.26	3.681	
6,900.00	6,776.28	6,761.28	6,761.28	24.74	268.45	-19.37	-53.55	-33.02	1,031.75	747.31	284.43	3.627	
7,000.00	6,876.28	6,861.28	6,861.28	24.85	272.45	-19.37	-53.55	-33.02	1,031.75	743.14	288.61	3.575	
7,100.00	6,976.28	6,961.28	6,961.28	24.96	276.45	-19.37	-53.55	-33.02	1,031.75	738.96	292.78	3.524	
7,200.00	7,076.28	7,061.28	7,061.28	25.08	280.45	-19.37	-53.55	-33.02	1,031.75	734.79	296.96	3.474	
7,300.00	7,176.28	7,161.28	7,161.28	25.19	284.45	-19.37	-53.55	-33.02	1,031.75	730.61	301.14	3.426	
7,400.00	7,276.28	7,261.28	7,261.28	25.31	288.45	-19.37	-53.55	-33.02	1,031.75	726.43	305.32	3.379	
7,500.00	7,376.28	7,361.28	7,361.28	25.43	292.45	-19.37	-53.55	-33.02	1,031.75	722.25	309.50	3.334	
7,600.00	7,476.28	7,461.28	7,461.28	25.55	296.45	-19.37	-53.55	-33.02	1,031.75	718.07	313.68	3.289	
7,700.00	7,576.28	7,561.28	7,561.28	25.67	300.45	-19.37	-53.55	-33.02	1,031.75	713.89	317.86	3.246	
7,800.00	7,676.28	7,661.28	7,661.28	25.79	304.45	-19.37	-53.55	-33.02	1,031.75	709.70	322.04	3.204	
7,900.00	7,776.28	7,761.28	7,761.28	25.91	308.45	-19.37	-53.55	-33.02	1,031.75	705.52	326.23	3.163	
8,000.00	7,876.28	7,861.28	7,861.28	26.04	312.45	-19.37	-53.55	-33.02	1,031.75	701.33	330.41	3.123	
8,100.00	7,976.28	7,961.28	7,961.28	26.17	316.45	-19.37	-53.55	-33.02	1,031.75	697.15	334.60	3.084	
8,200.00	8,076.28	8,061.28	8,061.28	26.29	320.45	-19.37	-53.55	-33.02	1,031.75	692.96	338.78	3.045	
8,275.72	8,152.00	8,137.00	8,137.00	26.39	323.48	-19.37	-53.55	-33.02	1,031.75	689.79	341.96	3.017	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	89.57	0.38	49.81	49.81				
100.00	100.00	100.00	100.00	0.10	0.10	89.57	0.38	49.81	49.81	49.62	0.19	260.705	
200.00	200.00	200.00	200.00	0.32	0.32	89.57	0.38	49.81	49.81	49.17	0.64	77.754	
300.00	300.00	300.00	300.00	0.55	0.55	89.57	0.38	49.81	49.81	48.72	1.09	45.691	
400.00	400.00	400.00	400.00	0.77	0.77	89.57	0.38	49.81	49.81	48.27	1.54	32.350	
500.00	500.00	500.00	500.00	0.99	0.99	89.57	0.38	49.81	49.81	47.82	1.99	25.039	
600.00	600.00	600.00	600.00	1.22	1.22	89.57	0.38	49.81	49.81	47.37	2.44	20.424	
700.00	700.00	700.00	700.00	1.44	1.44	89.57	0.38	49.81	49.81	46.92	2.89	17.245	
800.00	800.00	800.00	800.00	1.67	1.67	89.57	0.38	49.81	49.81	46.47	3.34	14.923	
900.00	900.00	900.00	900.00	1.89	1.89	89.57	0.38	49.81	49.81	46.02	3.79	13.151	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.57	0.38	49.81	49.81	45.57	4.24	11.756	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.57	0.38	49.81	49.81	45.12	4.69	10.628	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.57	0.38	49.81	49.81	44.67	5.14	9.698 CC, ES	
1,300.00	1,299.98	1,298.48	1,298.46	2.76	2.78	-76.54	1.30	51.23	50.83	45.29	5.55	9.165 SF	
1,400.00	1,399.84	1,396.51	1,396.36	2.94	3.00	-84.35	4.05	55.46	54.62	48.69	5.93	9.212	
1,500.00	1,499.45	1,493.65	1,493.14	3.13	3.22	-94.78	8.56	62.42	62.83	56.51	6.33	9.931	
1,600.00	1,598.70	1,589.48	1,588.28	3.34	3.45	-105.00	14.77	71.98	76.92	70.18	6.74	11.411	
1,700.00	1,697.47	1,683.59	1,681.30	3.58	3.69	-113.33	22.55	83.96	97.39	90.22	7.17	13.581	
1,800.00	1,795.62	1,775.63	1,771.77	3.86	3.96	-119.49	31.76	98.15	124.08	116.46	7.62	16.281	
1,894.07	1,887.30	1,860.04	1,854.21	4.17	4.24	-123.66	41.59	113.30	154.47	146.40	8.07	19.152	
1,900.00	1,893.06	1,865.28	1,859.32	4.19	4.26	-123.92	42.25	114.31	156.54	148.45	8.10	19.338	
2,000.00	1,990.14	1,952.82	1,944.19	4.56	4.59	-127.20	53.92	132.30	193.30	184.68	8.61	22.441	
2,100.00	2,087.22	2,038.56	2,026.63	4.96	4.94	-129.14	66.72	152.02	232.98	223.82	9.16	25.445	
2,200.00	2,184.29	2,128.36	2,112.49	5.38	5.36	-130.42	81.04	174.08	274.42	264.68	9.74	28.175	
2,300.00	2,281.37	2,219.20	2,199.34	5.81	5.80	-131.37	95.55	196.43	315.98	305.64	10.35	30.542	
2,400.00	2,378.45	2,310.04	2,286.19	6.26	6.26	-132.10	110.06	218.78	357.60	346.63	10.97	32.597	
2,500.00	2,475.53	2,400.89	2,373.04	6.71	6.73	-132.68	124.56	241.13	399.26	387.65	11.61	34.388	
2,600.00	2,572.61	2,491.73	2,459.89	7.17	7.21	-133.15	139.07	263.47	440.95	428.68	12.26	35.955	
2,700.00	2,669.69	2,582.57	2,546.74	7.64	7.71	-133.54	153.58	285.82	482.65	469.73	12.93	37.333	
2,800.00	2,766.77	2,673.42	2,633.58	8.12	8.20	-133.87	168.08	308.17	524.38	510.77	13.60	38.552	
2,900.00	2,863.85	2,764.26	2,720.43	8.60	8.71	-134.15	182.59	330.52	566.11	551.83	14.28	39.635	
3,000.00	2,960.93	2,855.10	2,807.28	9.08	9.22	-134.39	197.10	352.87	607.85	592.88	14.97	40.602	
3,100.00	3,058.01	2,945.95	2,894.13	9.57	9.73	-134.60	211.60	375.22	649.60	633.94	15.67	41.468	
3,200.00	3,155.09	3,036.79	2,980.98	10.06	10.25	-134.78	226.11	397.57	691.36	675.00	16.36	42.248	
3,300.00	3,252.17	3,127.63	3,067.82	10.55	10.77	-134.95	240.61	419.92	733.12	716.05	17.07	42.953	
3,400.00	3,349.25	3,218.48	3,154.67	11.04	11.30	-135.09	255.12	442.26	774.89	757.11	17.78	43.592	
3,500.00	3,446.33	3,309.32	3,241.52	11.54	11.82	-135.22	269.63	464.61	816.66	798.17	18.49	44.174	
3,600.00	3,543.41	3,400.16	3,328.37	12.04	12.35	-135.34	284.13	486.96	858.43	839.23	19.20	44.706	
3,700.00	3,640.49	3,491.01	3,415.22	12.54	12.88	-135.45	298.64	509.31	900.21	880.29	19.92	45.193	
3,800.00	3,737.57	3,581.85	3,502.07	13.04	13.41	-135.55	313.15	531.66	941.99	921.35	20.64	45.640	
3,900.00	3,834.65	3,672.69	3,588.91	13.54	13.94	-135.64	327.65	554.01	983.77	962.41	21.36	46.053	
4,000.00	3,931.72	3,763.54	3,675.76	14.04	14.48	-135.72	342.16	576.36	1,025.55	1,003.46	22.09	46.434	
4,100.00	4,028.80	3,854.38	3,762.61	14.54	15.01	-135.79	356.67	598.71	1,067.33	1,044.52	22.81	46.788	
4,200.00	4,125.88	3,945.22	3,849.46	15.05	15.55	-135.86	371.17	621.05	1,109.12	1,085.58	23.54	47.116	
4,300.00	4,222.96	4,036.07	3,936.31	15.55	16.08	-135.93	385.68	643.40	1,150.91	1,126.64	24.27	47.422	
4,400.00	4,320.04	4,126.91	4,023.15	16.06	16.62	-135.99	400.19	665.75	1,192.69	1,167.69	25.00	47.707	
4,500.00	4,417.12	4,217.75	4,110.00	16.56	17.16	-136.04	414.69	688.10	1,234.48	1,208.75	25.73	47.974	
4,600.00	4,514.20	4,308.60	4,196.85	17.07	17.70	-136.10	429.20	710.45	1,276.27	1,249.81	26.47	48.224	
4,700.00	4,611.28	4,399.44	4,283.70	17.57	18.24	-136.15	443.71	732.80	1,318.06	1,290.86	27.20	48.458	
4,800.00	4,708.36	4,490.28	4,370.55	18.08	18.78	-136.19	458.21	755.15	1,359.86	1,331.92	27.94	48.679	
4,900.00	4,805.44	4,581.13	4,457.40	18.59	19.32	-136.24	472.72	777.50	1,401.65	1,372.98	28.67	48.886	
5,000.00	4,902.52	4,671.97	4,544.24	19.10	19.86	-136.28	487.23	799.84	1,443.44	1,414.03	29.41	49.082	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	4,762.81	4,631.09	19.61	20.40	-136.32	501.73	822.19	1,485.23	1,455.09	30.15	49.267	
5,200.00	5,096.68	4,853.66	4,717.94	20.11	20.94	-136.35	516.24	844.54	1,527.03	1,496.14	30.89	49.442	
5,300.00	5,193.76	4,944.50	4,804.79	20.62	21.48	-136.39	530.75	866.89	1,568.82	1,537.20	31.62	49.608	
5,400.00	5,290.84	5,035.34	4,891.64	21.13	22.03	-136.42	545.25	889.24	1,610.62	1,578.25	32.36	49.765	
5,500.00	5,387.92	5,126.19	4,978.49	21.64	22.57	-136.45	559.76	911.59	1,652.41	1,619.31	33.10	49.914	
5,600.00	5,485.00	5,217.03	5,065.33	22.15	23.11	-136.48	574.27	933.94	1,694.21	1,660.36	33.85	50.056	
5,666.65	5,549.70	5,277.58	5,123.22	22.49	23.47	-136.50	583.93	948.83	1,722.06	1,687.72	34.34	50.147	
5,700.00	5,582.12	5,307.93	5,152.24	22.64	23.66	-136.71	588.78	956.30	1,735.87	1,701.24	34.63	50.123	
5,800.00	5,679.85	5,399.63	5,239.90	22.97	24.21	-137.26	603.42	978.86	1,775.73	1,740.29	35.44	50.098	
5,900.00	5,778.26	5,492.26	5,328.46	23.28	24.76	-137.69	618.22	1,001.65	1,813.23	1,777.01	36.22	50.058	
6,000.00	5,877.23	5,638.71	5,468.93	23.54	25.52	-137.89	640.74	1,036.35	1,847.71	1,810.62	37.10	49.810	
6,100.00	5,976.64	5,852.97	5,677.67	23.76	26.34	-137.94	666.93	1,076.69	1,874.66	1,836.68	37.98	49.355	
6,200.00	6,076.36	6,075.57	5,897.72	23.95	26.97	-137.98	685.06	1,104.62	1,892.79	1,854.05	38.74	48.862	
6,300.00	6,176.28	6,303.38	6,124.87	24.09	27.39	-138.02	693.92	1,118.28	1,901.74	1,862.41	39.33	48.350	
6,360.72	6,237.00	6,415.52	6,237.00	24.17	27.51	25.20	694.71	1,119.50	1,902.76	1,863.17	39.59	48.063	
6,400.00	6,276.28	6,454.80	6,276.28	24.21	27.55	25.20	694.71	1,119.50	1,902.76	1,863.05	39.70	47.928	
6,500.00	6,376.28	6,554.80	6,376.28	24.32	27.66	25.20	694.71	1,119.50	1,902.76	1,862.78	39.98	47.594	
6,600.00	6,476.28	6,654.80	6,476.28	24.42	27.77	25.20	694.71	1,119.50	1,902.76	1,862.50	40.26	47.262	
6,700.00	6,576.28	6,754.80	6,576.28	24.53	27.88	25.20	694.71	1,119.50	1,902.76	1,862.21	40.54	46.930	
6,800.00	6,676.28	6,854.80	6,676.28	24.63	27.99	25.20	694.71	1,119.50	1,902.76	1,861.92	40.83	46.600	
6,900.00	6,776.28	6,954.80	6,776.28	24.74	28.11	25.20	694.71	1,119.50	1,902.76	1,861.63	41.12	46.271	
7,000.00	6,876.28	7,054.80	6,876.28	24.85	28.22	25.20	694.71	1,119.50	1,902.76	1,861.34	41.41	45.944	
7,100.00	6,976.28	7,154.80	6,976.28	24.96	28.34	25.20	694.71	1,119.50	1,902.76	1,861.04	41.71	45.618	
7,200.00	7,076.28	7,254.80	7,076.28	25.08	28.46	25.20	694.71	1,119.50	1,902.76	1,860.75	42.01	45.294	
7,300.00	7,176.28	7,354.80	7,176.28	25.19	28.58	25.20	694.71	1,119.50	1,902.76	1,860.44	42.31	44.972	
7,400.00	7,276.28	7,454.80	7,276.28	25.31	28.70	25.20	694.71	1,119.50	1,902.76	1,860.14	42.61	44.651	
7,500.00	7,376.28	7,554.80	7,376.28	25.43	28.82	25.20	694.71	1,119.50	1,902.76	1,859.83	42.92	44.332	
7,600.00	7,476.28	7,654.80	7,476.28	25.55	28.94	25.20	694.71	1,119.50	1,902.76	1,859.53	43.23	44.016	
7,700.00	7,576.28	7,754.80	7,576.28	25.67	29.07	25.20	694.71	1,119.50	1,902.76	1,859.21	43.54	43.701	
7,800.00	7,676.28	7,854.80	7,676.28	25.79	29.19	25.20	694.71	1,119.50	1,902.76	1,858.90	43.85	43.388	
7,900.00	7,776.28	7,954.80	7,776.28	25.91	29.32	25.20	694.71	1,119.50	1,902.76	1,858.58	44.17	43.078	
8,000.00	7,876.28	8,054.80	7,876.28	26.04	29.45	25.20	694.71	1,119.50	1,902.76	1,858.27	44.49	42.770	
8,100.00	7,976.28	8,154.80	7,976.28	26.17	29.58	25.20	694.71	1,119.50	1,902.76	1,857.95	44.81	42.464	
8,200.00	8,076.28	8,254.80	8,076.28	26.29	29.71	25.20	694.71	1,119.50	1,902.76	1,857.62	45.13	42.160	
8,275.72	8,152.00	8,330.52	8,152.00	26.39	29.80	25.20	694.71	1,119.50	1,902.76	1,857.38	45.38	41.931	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN #1 3-17-10 f												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	29.94	29.94				
100.00	100.00	100.00	100.00	0.10	0.10	90.00	0.00	29.94	29.94	29.75	0.19	156.711	
200.00	200.00	200.00	200.00	0.32	0.32	90.00	0.00	29.94	29.94	29.30	0.64	46.738	
300.00	300.00	300.00	300.00	0.55	0.55	90.00	0.00	29.94	29.94	28.85	1.09	27.465	
400.00	400.00	400.00	400.00	0.77	0.77	90.00	0.00	29.94	29.94	28.40	1.54	19.446	
500.00	500.00	500.00	500.00	0.99	0.99	90.00	0.00	29.94	29.94	27.95	1.99	15.051	
600.00	600.00	600.00	600.00	1.22	1.22	90.00	0.00	29.94	29.94	27.50	2.44	12.277	
700.00	700.00	700.00	700.00	1.44	1.44	90.00	0.00	29.94	29.94	27.05	2.89	10.366	
800.00	800.00	800.00	800.00	1.67	1.67	90.00	0.00	29.94	29.94	26.60	3.34	8.970	
900.00	900.00	900.00	900.00	1.89	1.89	90.00	0.00	29.94	29.94	26.15	3.79	7.905	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.00	0.00	29.94	29.94	25.70	4.24	7.067	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	90.00	0.00	29.94	29.94	25.25	4.69	6.389	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	90.00	0.00	29.94	29.94	24.80	5.14	5.830 CC, ES	
1,300.00	1,299.98	1,299.40	1,299.39	2.76	2.79	-78.14	0.94	30.82	30.44	24.89	5.55	5.484 SF	
1,400.00	1,399.84	1,398.41	1,398.32	2.94	3.01	-91.42	3.76	33.46	33.17	27.23	5.94	5.584	
1,500.00	1,499.45	1,496.65	1,496.35	3.13	3.22	-107.85	8.40	37.81	40.82	34.48	6.34	6.437	
1,600.00	1,598.70	1,593.74	1,593.04	3.34	3.45	-121.52	14.79	43.80	55.07	48.32	6.75	8.161	
1,700.00	1,697.47	1,689.32	1,687.99	3.58	3.68	-130.83	22.84	51.34	75.87	68.72	7.16	10.603	
1,800.00	1,795.62	1,783.07	1,780.81	3.86	3.93	-136.82	32.41	60.31	102.64	95.07	7.57	13.562	
1,894.07	1,887.30	1,869.31	1,865.89	4.17	4.17	-140.51	42.68	69.94	132.80	124.83	7.96	16.675	
1,900.00	1,893.06	1,874.68	1,871.18	4.19	4.19	-140.72	43.36	70.58	134.85	126.86	7.99	16.875	
2,000.00	1,990.14	1,964.51	1,959.42	4.56	4.46	-143.37	55.64	82.08	170.69	162.23	8.46	20.168	
2,100.00	2,087.22	2,052.95	2,045.87	4.96	4.76	-144.82	69.20	94.79	208.69	199.74	8.96	23.303	
2,200.00	2,184.29	2,139.93	2,130.47	5.38	5.08	-145.59	83.96	108.62	248.65	239.19	9.47	26.270	
2,300.00	2,281.37	2,225.40	2,213.13	5.81	5.43	-145.96	99.82	123.49	290.47	280.48	9.99	29.074	
2,400.00	2,378.45	2,309.32	2,293.80	6.26	5.80	-146.06	116.71	139.32	334.07	323.54	10.53	31.727	
2,500.00	2,475.53	2,391.66	2,372.42	6.71	6.19	-146.00	134.53	156.02	379.39	368.31	11.08	34.234	
2,600.00	2,572.61	2,472.37	2,448.97	7.17	6.61	-145.83	153.20	173.52	426.39	414.74	11.65	36.606	
2,700.00	2,669.69	2,552.97	2,524.87	7.64	7.06	-145.58	173.00	192.07	475.00	462.78	12.23	38.852	
2,800.00	2,766.77	2,640.03	2,606.65	8.12	7.57	-145.33	194.79	212.49	524.17	511.33	12.84	40.831	
2,900.00	2,863.85	2,727.09	2,688.42	8.60	8.08	-145.12	216.58	232.92	573.34	559.88	13.46	42.608	
3,000.00	2,960.93	2,814.15	2,770.20	9.08	8.61	-144.95	238.38	253.34	622.51	608.43	14.08	44.205	
3,100.00	3,058.01	2,901.21	2,851.97	9.57	9.15	-144.80	260.17	273.77	671.69	656.97	14.72	45.646	
3,200.00	3,155.09	2,988.27	2,933.75	10.06	9.70	-144.67	281.97	294.19	720.87	705.51	15.35	46.947	
3,300.00	3,252.17	3,075.33	3,015.52	10.55	10.25	-144.55	303.76	314.62	770.05	754.05	16.00	48.130	
3,400.00	3,349.25	3,162.39	3,097.30	11.04	10.81	-144.45	325.55	335.04	819.24	802.59	16.65	49.208	
3,500.00	3,446.33	3,249.45	3,179.07	11.54	11.37	-144.37	347.35	355.47	868.43	851.13	17.30	50.194	
3,600.00	3,543.41	3,336.51	3,260.85	12.04	11.93	-144.29	369.14	375.89	917.62	899.66	17.96	51.098	
3,700.00	3,640.49	3,423.57	3,342.62	12.54	12.50	-144.22	390.93	396.31	966.81	948.19	18.62	51.929	
3,800.00	3,737.57	3,510.63	3,424.40	13.04	13.07	-144.15	412.73	416.74	1,016.00	996.72	19.28	52.696	
3,900.00	3,834.65	3,597.69	3,506.17	13.54	13.65	-144.09	434.52	437.16	1,065.19	1,045.24	19.95	53.404	
4,000.00	3,931.72	3,684.74	3,587.95	14.04	14.22	-144.04	456.32	457.59	1,114.38	1,093.77	20.61	54.060	
4,100.00	4,028.80	3,771.80	3,669.72	14.54	14.80	-143.99	478.11	478.01	1,163.58	1,142.29	21.28	54.670	
4,200.00	4,125.88	3,858.86	3,751.50	15.05	15.38	-143.95	499.90	498.44	1,212.77	1,190.81	21.96	55.237	
4,300.00	4,222.96	3,945.92	3,833.27	15.55	15.96	-143.91	521.70	518.86	1,261.96	1,239.33	22.63	55.767	
4,400.00	4,320.04	4,032.98	3,915.05	16.06	16.55	-143.87	543.49	539.29	1,311.16	1,287.85	23.30	56.262	
4,500.00	4,417.12	4,120.04	3,996.82	16.56	17.13	-143.83	565.29	559.71	1,360.35	1,336.37	23.98	56.725	
4,600.00	4,514.20	4,207.10	4,078.60	17.07	17.71	-143.80	587.08	580.14	1,409.55	1,384.89	24.66	57.160	
4,700.00	4,611.28	4,294.16	4,160.37	17.57	18.30	-143.77	608.87	600.56	1,458.75	1,433.41	25.34	57.569	
4,800.00	4,708.36	4,381.22	4,242.15	18.08	18.89	-143.74	630.67	620.99	1,507.94	1,481.92	26.02	57.954	
4,900.00	4,805.44	4,468.28	4,323.92	18.59	19.48	-143.71	652.46	641.41	1,557.14	1,530.44	26.70	58.317	
5,000.00	4,902.52	4,555.34	4,405.70	19.10	20.06	-143.69	674.25	661.84	1,606.34	1,578.95	27.38	58.659	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN #1 3-17-10 f												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	4,642.40	4,487.47	19.61	20.65	-143.67	696.05	682.26	1,655.53	1,627.47	28.07	58.983	
5,200.00	5,096.68	4,729.45	4,569.25	20.11	21.24	-143.64	717.84	702.68	1,704.73	1,675.98	28.75	59.290	
5,300.00	5,193.76	4,816.51	4,651.02	20.62	21.83	-143.62	739.64	723.11	1,753.93	1,724.49	29.44	59.581	
5,400.00	5,290.84	4,903.57	4,732.80	21.13	22.42	-143.60	761.43	743.53	1,803.13	1,773.00	30.12	59.858	
5,500.00	5,387.92	4,990.63	4,814.57	21.64	23.02	-143.58	783.22	763.96	1,852.32	1,821.51	30.81	60.120	
5,600.00	5,485.00	5,077.69	4,896.35	22.15	23.61	-143.57	805.02	784.38	1,901.52	1,870.02	31.50	60.370	
5,666.65	5,549.70	5,135.72	4,950.85	22.49	24.00	-143.55	819.54	798.00	1,934.31	1,902.36	31.96	60.530	
5,700.00	5,582.12	5,164.83	4,978.19	22.64	24.20	-143.77	826.83	804.83	1,950.58	1,918.34	32.24	60.497	
5,800.00	5,679.85	5,226.37	5,036.00	22.97	24.62	-144.35	842.24	819.26	1,997.90	1,964.95	32.95	60.638	
5,900.00	5,778.26	5,226.37	5,036.00	23.28	24.62	-144.98	842.24	819.26	2,045.64	2,012.26	33.38	61.277	
6,000.00	5,877.23	5,226.37	5,036.00	23.54	24.62	-145.62	842.24	819.26	2,094.62	2,060.85	33.77	62.024	
6,100.00	5,976.64	5,226.37	5,036.00	23.76	24.62	-146.27	842.24	819.26	2,144.71	2,110.60	34.11	62.878	
6,200.00	6,076.36	5,226.37	5,036.00	23.95	24.62	-146.92	842.24	819.26	2,195.75	2,161.36	34.40	63.836	
6,300.00	6,176.28	5,226.37	5,036.00	24.09	24.62	-147.58	842.24	819.26	2,247.64	2,213.01	34.63	64.899	
6,360.72	6,237.00	5,226.37	5,036.00	24.17	24.62	15.26	842.24	819.26	2,279.51	2,244.76	34.76	65.587	
6,400.00	6,276.28	5,226.37	5,036.00	24.21	24.62	15.26	842.24	819.26	2,300.45	2,265.63	34.81	66.078	
6,500.00	6,376.28	5,226.37	5,036.00	24.32	24.62	15.26	842.24	819.26	2,355.87	2,320.91	34.96	67.395	
6,600.00	6,476.28	5,226.37	5,036.00	24.42	24.62	15.26	842.24	819.26	2,414.16	2,379.06	35.10	68.780	
6,700.00	6,576.28	5,226.37	5,036.00	24.53	24.62	15.26	842.24	819.26	2,475.12	2,439.88	35.24	70.227	
6,800.00	6,676.28	5,226.37	5,036.00	24.63	24.62	15.26	842.24	819.26	2,538.56	2,503.17	35.39	71.728	
6,900.00	6,776.28	5,226.37	5,036.00	24.74	24.62	15.26	842.24	819.26	2,604.29	2,568.75	35.54	73.278	
7,000.00	6,876.28	5,226.37	5,036.00	24.85	24.62	15.26	842.24	819.26	2,672.15	2,636.46	35.69	74.872	
7,100.00	6,976.28	5,226.37	5,036.00	24.96	24.62	15.26	842.24	819.26	2,741.98	2,706.14	35.84	76.505	
7,200.00	7,076.28	5,226.37	5,036.00	25.08	24.62	15.26	842.24	819.26	2,813.63	2,777.64	35.99	78.171	
7,300.00	7,176.28	5,226.37	5,036.00	25.19	24.62	15.26	842.24	819.26	2,886.96	2,850.82	36.15	79.866	
7,400.00	7,276.28	5,226.37	5,036.00	25.31	24.62	15.26	842.24	819.26	2,961.86	2,925.56	36.30	81.587	
7,500.00	7,376.28	5,226.37	5,036.00	25.43	24.62	15.26	842.24	819.26	3,038.20	3,001.74	36.46	83.330	
7,600.00	7,476.28	5,226.37	5,036.00	25.55	24.62	15.26	842.24	819.26	3,115.88	3,079.27	36.62	85.092	
7,700.00	7,576.28	5,226.37	5,036.00	25.67	24.62	15.26	842.24	819.26	3,194.81	3,158.03	36.78	86.869	
7,800.00	7,676.28	5,226.37	5,036.00	25.79	24.62	15.26	842.24	819.26	3,274.88	3,237.94	36.94	88.659	
7,900.00	7,776.28	5,226.37	5,036.00	25.91	24.62	15.26	842.24	819.26	3,356.02	3,318.92	37.10	90.460	
8,000.00	7,876.28	5,226.37	5,036.00	26.04	24.62	15.26	842.24	819.26	3,438.16	3,400.90	37.26	92.269	
8,100.00	7,976.28	5,226.37	5,036.00	26.17	24.62	15.26	842.24	819.26	3,521.22	3,483.80	37.43	94.083	
8,200.00	8,076.28	5,226.37	5,036.00	26.29	24.62	15.26	842.24	819.26	3,605.14	3,567.55	37.59	95.902	
8,275.72	8,152.00	5,226.37	5,036.00	26.39	24.62	15.26	842.24	819.26	3,669.23	3,631.51	37.72	97.281	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-92.07	-0.36	-10.07	10.08				
100.00	100.00	100.00	100.00	0.10	0.10	-92.07	-0.36	-10.07	10.08	9.89	0.19	52.760	
200.00	200.00	200.00	200.00	0.32	0.32	-92.07	-0.36	-10.07	10.08	9.44	0.64	15.735	
300.00	300.00	300.00	300.00	0.55	0.55	-92.07	-0.36	-10.07	10.08	8.99	1.09	9.247	
400.00	400.00	400.00	400.00	0.77	0.77	-92.07	-0.36	-10.07	10.08	8.54	1.54	6.547	
500.00	500.00	500.00	500.00	0.99	0.99	-92.07	-0.36	-10.07	10.08	8.09	1.99	5.067	
600.00	600.00	600.00	600.00	1.22	1.22	-92.07	-0.36	-10.07	10.08	7.64	2.44	4.133	
700.00	700.00	700.00	700.00	1.44	1.44	-92.07	-0.36	-10.07	10.08	7.19	2.89	3.490	
800.00	800.00	800.00	800.00	1.67	1.67	-92.07	-0.36	-10.07	10.08	6.74	3.34	3.020	
900.00	900.00	900.00	900.00	1.89	1.89	-92.07	-0.36	-10.07	10.08	6.29	3.79	2.661	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-92.07	-0.36	-10.07	10.08	5.84	4.24	2.379	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-92.07	-0.36	-10.07	10.08	5.39	4.69	2.151	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-92.07	-0.36	-10.07	10.08	4.94	5.14	1.963 CC, ES, SF	
1,300.00	1,299.98	1,299.82	1,299.80	2.76	2.79	122.16	1.34	-10.40	11.32	5.76	5.55	2.038	
1,400.00	1,399.84	1,398.93	1,398.77	2.94	3.01	150.94	6.41	-11.38	18.77	12.83	5.94	3.159	
1,500.00	1,499.45	1,496.60	1,496.07	3.13	3.24	166.04	14.70	-12.99	34.66	28.34	6.32	5.485	
1,600.00	1,598.70	1,592.20	1,590.97	3.34	3.47	172.77	25.95	-15.17	58.05	51.36	6.69	8.674	
1,700.00	1,697.47	1,685.11	1,682.79	3.58	3.71	176.13	39.86	-17.86	88.25	81.20	7.06	12.507	
1,800.00	1,795.62	1,774.80	1,770.95	3.86	3.97	178.03	56.06	-20.99	124.86	117.45	7.41	16.850	
1,894.07	1,887.30	1,856.12	1,850.40	4.17	4.23	179.15	73.08	-24.29	164.84	157.11	7.73	21.317	
1,900.00	1,893.06	1,861.41	1,855.56	4.19	4.25	179.21	74.25	-24.51	167.52	159.76	7.76	21.595	
2,000.00	1,990.14	1,950.62	1,942.48	4.56	4.56	179.99	93.97	-28.33	212.64	204.47	8.18	26.011	
2,100.00	2,087.22	2,039.83	2,029.39	4.96	4.89	-179.50	113.70	-32.15	257.79	249.19	8.60	29.970	
2,200.00	2,184.29	2,129.04	2,116.31	5.38	5.23	-179.14	133.43	-35.96	302.95	293.91	9.04	33.525	
2,300.00	2,281.37	2,218.25	2,203.23	5.81	5.58	-178.88	153.16	-39.78	348.12	338.64	9.48	36.727	
2,400.00	2,378.45	2,307.46	2,290.14	6.26	5.94	-178.68	172.88	-43.60	393.29	383.36	9.93	39.621	
2,500.00	2,475.53	2,396.67	2,377.06	6.71	6.31	-178.52	192.61	-47.42	438.46	428.08	10.38	42.243	
2,600.00	2,572.61	2,485.88	2,463.97	7.17	6.68	-178.38	212.34	-51.23	483.64	472.80	10.84	44.626	
2,700.00	2,669.69	2,575.09	2,550.89	7.64	7.06	-178.28	232.06	-55.05	528.82	517.52	11.30	46.800	
2,800.00	2,766.77	2,664.29	2,637.81	8.12	7.45	-178.18	251.79	-58.87	573.99	562.23	11.76	48.789	
2,900.00	2,863.85	2,753.50	2,724.72	8.60	7.84	-178.11	271.52	-62.69	619.17	606.94	12.23	50.613	
3,000.00	2,960.93	2,842.71	2,811.64	9.08	8.23	-178.04	291.24	-66.50	664.36	651.65	12.70	52.293	
3,100.00	3,058.01	2,931.92	2,898.56	9.57	8.63	-177.98	310.97	-70.32	709.54	696.36	13.18	53.842	
3,200.00	3,155.09	3,021.13	2,985.47	10.06	9.02	-177.93	330.70	-74.14	754.72	741.06	13.65	55.274	
3,300.00	3,252.17	3,110.34	3,072.39	10.55	9.42	-177.88	350.43	-77.96	799.90	785.77	14.13	56.603	
3,400.00	3,349.25	3,199.55	3,159.31	11.04	9.83	-177.84	370.15	-81.77	845.08	830.47	14.61	57.837	
3,500.00	3,446.33	3,288.76	3,246.22	11.54	10.23	-177.80	389.88	-85.59	890.27	875.17	15.09	58.987	
3,600.00	3,543.41	3,377.97	3,333.14	12.04	10.63	-177.77	409.61	-89.41	935.45	919.88	15.58	60.060	
3,700.00	3,640.49	3,467.17	3,420.06	12.54	11.04	-177.74	429.33	-93.23	980.63	964.58	16.06	61.064	
3,800.00	3,737.57	3,556.38	3,506.97	13.04	11.45	-177.71	449.06	-97.04	1,025.82	1,009.27	16.54	62.004	
3,900.00	3,834.65	3,645.59	3,593.89	13.54	11.86	-177.69	468.79	-100.86	1,071.00	1,053.97	17.03	62.887	
4,000.00	3,931.72	3,734.80	3,680.81	14.04	12.27	-177.66	488.52	-104.68	1,116.19	1,098.67	17.52	63.718	
4,100.00	4,028.80	3,824.01	3,767.72	14.54	12.68	-177.64	508.24	-108.50	1,161.37	1,143.37	18.01	64.500	
4,200.00	4,125.88	3,913.22	3,854.64	15.05	13.09	-177.62	527.97	-112.31	1,206.56	1,188.06	18.49	65.238	
4,300.00	4,222.96	4,002.43	3,941.56	15.55	13.50	-177.60	547.70	-116.13	1,251.74	1,232.76	18.98	65.935	
4,400.00	4,320.04	4,091.64	4,028.47	16.06	13.91	-177.59	567.42	-119.95	1,296.92	1,277.45	19.47	66.594	
4,500.00	4,417.12	4,180.85	4,115.39	16.56	14.32	-177.57	587.15	-123.77	1,342.11	1,322.14	19.97	67.219	
4,600.00	4,514.20	4,270.06	4,202.31	17.07	14.74	-177.55	606.88	-127.58	1,387.29	1,366.84	20.46	67.812	
4,700.00	4,611.28	4,359.26	4,289.22	17.57	15.15	-177.54	626.61	-131.40	1,432.48	1,411.53	20.95	68.375	
4,800.00	4,708.36	4,448.47	4,376.14	18.08	15.57	-177.53	646.33	-135.22	1,477.66	1,456.22	21.44	68.911	
4,900.00	4,805.44	4,537.68	4,463.06	18.59	15.98	-177.51	666.06	-139.04	1,522.85	1,500.91	21.94	69.421	
5,000.00	4,902.52	4,626.89	4,549.97	19.10	16.40	-177.50	685.79	-142.85	1,568.03	1,545.60	22.43	69.907	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	4,999.60	4,716.10	4,636.89	19.61	16.81	-177.49	705.51	-146.67	1,613.22	1,590.30	22.92	70.371	
5,200.00	5,096.68	4,805.31	4,723.81	20.11	17.23	-177.48	725.24	-150.49	1,658.40	1,634.99	23.42	70.814	
5,300.00	5,193.76	4,894.52	4,810.72	20.62	17.64	-177.47	744.97	-154.31	1,703.59	1,679.68	23.91	71.238	
5,400.00	5,290.84	4,983.73	4,897.64	21.13	18.06	-177.46	764.70	-158.12	1,748.78	1,724.37	24.41	71.643	
5,500.00	5,387.92	5,072.94	4,984.56	21.64	18.48	-177.45	784.42	-161.94	1,793.96	1,769.06	24.91	72.032	
5,600.00	5,485.00	5,162.14	5,071.47	22.15	18.90	-177.45	804.15	-165.76	1,839.15	1,813.74	25.40	72.404	
5,666.65	5,549.70	5,221.60	5,129.40	22.49	19.17	-177.44	817.30	-168.30	1,869.26	1,843.53	25.73	72.644	
5,700.00	5,582.12	5,251.44	5,158.47	22.64	19.31	-177.45	823.90	-169.58	1,884.16	1,858.20	25.96	72.590	
5,800.00	5,679.85	5,341.92	5,246.63	22.97	19.74	-177.48	843.90	-173.45	1,926.73	1,900.14	26.59	72.452	
5,900.00	5,778.26	5,433.83	5,336.18	23.28	20.17	-177.50	864.23	-177.38	1,966.12	1,938.92	27.20	72.287	
6,000.00	5,877.23	5,527.05	5,427.00	23.54	20.60	-177.52	884.84	-181.37	2,002.28	1,974.51	27.77	72.101	
6,100.00	5,976.64	5,621.48	5,519.01	23.76	21.05	-177.52	905.72	-185.41	2,035.17	2,006.87	28.31	71.895	
6,200.00	6,076.36	5,888.46	5,781.09	23.95	21.97	-177.48	955.21	-194.99	2,061.96	2,032.83	29.13	70.775	
6,300.00	6,176.28	6,244.09	6,135.31	24.09	22.70	-177.47	983.74	-200.51	2,073.99	2,044.01	29.98	69.184	
6,360.72	6,237.00	6,345.79	6,237.00	24.17	22.83	-14.22	984.29	-200.62	2,074.79	2,044.53	30.26	68.569	
6,400.00	6,276.28	6,385.07	6,276.28	24.21	22.88	-14.22	984.29	-200.62	2,074.79	2,044.39	30.40	68.257	
6,500.00	6,376.28	6,485.07	6,376.28	24.32	23.00	-14.22	984.29	-200.62	2,074.79	2,044.03	30.76	67.455	
6,600.00	6,476.28	6,585.07	6,476.28	24.42	23.13	-14.22	984.29	-200.62	2,074.79	2,043.67	31.12	66.661	
6,700.00	6,576.28	6,685.07	6,576.28	24.53	23.27	-14.22	984.29	-200.62	2,074.79	2,043.30	31.49	65.881	
6,800.00	6,676.28	6,785.07	6,676.28	24.63	23.40	-14.22	984.29	-200.62	2,074.79	2,042.93	31.86	65.115	
6,900.00	6,776.28	6,885.07	6,776.28	24.74	23.53	-14.22	984.29	-200.62	2,074.79	2,042.55	32.24	64.362	
7,000.00	6,876.28	6,985.07	6,876.28	24.85	23.67	-14.22	984.29	-200.62	2,074.79	2,042.18	32.61	63.623	
7,100.00	6,976.28	7,085.07	6,976.28	24.96	23.81	-14.22	984.29	-200.62	2,074.79	2,041.80	32.99	62.897	
7,200.00	7,076.28	7,185.07	7,076.28	25.08	23.95	-14.22	984.29	-200.62	2,074.79	2,041.42	33.37	62.184	
7,300.00	7,176.28	7,285.07	7,176.28	25.19	24.09	-14.22	984.29	-200.62	2,074.79	2,041.04	33.75	61.484	
7,400.00	7,276.28	7,385.07	7,276.28	25.31	24.23	-14.22	984.29	-200.62	2,074.79	2,040.66	34.13	60.796	
7,500.00	7,376.28	7,485.07	7,376.28	25.43	24.37	-14.22	984.29	-200.62	2,074.79	2,040.28	34.51	60.121	
7,600.00	7,476.28	7,585.07	7,476.28	25.55	24.51	-14.22	984.29	-200.62	2,074.79	2,039.89	34.90	59.458	
7,700.00	7,576.28	7,685.07	7,576.28	25.67	24.66	-14.22	984.29	-200.62	2,074.79	2,039.51	35.28	58.807	
7,800.00	7,676.28	7,785.07	7,676.28	25.79	24.80	-14.22	984.29	-200.62	2,074.79	2,039.12	35.67	58.167	
7,900.00	7,776.28	7,885.07	7,776.28	25.91	24.95	-14.22	984.29	-200.62	2,074.79	2,038.73	36.06	57.540	
8,000.00	7,876.28	7,985.07	7,876.28	26.04	25.10	-14.22	984.29	-200.62	2,074.79	2,038.34	36.45	56.923	
8,100.00	7,976.28	8,085.07	7,976.28	26.17	25.25	-14.22	984.29	-200.62	2,074.79	2,037.95	36.84	56.317	
8,200.00	8,076.28	8,185.07	8,076.28	26.29	25.40	-14.22	984.29	-200.62	2,074.79	2,037.56	37.23	55.722	
8,213.51	8,089.78	8,198.57	8,089.78	26.31	25.42	-14.22	984.29	-200.62	2,074.79	2,037.50	37.29	55.643	
8,275.72	8,152.00	8,215.79	8,107.00	26.39	25.45	-14.22	984.29	-200.62	2,075.28	2,037.84	37.44	55.429	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN #1 3-17-10 f													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	-91.04	-0.36	-20.15	20.15				
100.00	100.00	100.00	100.00	0.10	0.10	-91.04	-0.36	-20.15	20.15	19.96	0.19	105.468	
200.00	200.00	200.00	200.00	0.32	0.32	-91.04	-0.36	-20.15	20.15	19.51	0.64	31.455	
300.00	300.00	300.00	300.00	0.55	0.55	-91.04	-0.36	-20.15	20.15	19.06	1.09	18.484	
400.00	400.00	400.00	400.00	0.77	0.77	-91.04	-0.36	-20.15	20.15	18.61	1.54	13.087	
500.00	500.00	500.00	500.00	0.99	0.99	-91.04	-0.36	-20.15	20.15	18.16	1.99	10.130	
600.00	600.00	600.00	600.00	1.22	1.22	-91.04	-0.36	-20.15	20.15	17.71	2.44	8.262	
700.00	700.00	700.00	700.00	1.44	1.44	-91.04	-0.36	-20.15	20.15	17.26	2.89	6.976	
800.00	800.00	800.00	800.00	1.67	1.67	-91.04	-0.36	-20.15	20.15	16.81	3.34	6.037	
900.00	900.00	900.00	900.00	1.89	1.89	-91.04	-0.36	-20.15	20.15	16.36	3.79	5.320	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-91.04	-0.36	-20.15	20.15	15.91	4.24	4.756	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-91.04	-0.36	-20.15	20.15	15.46	4.69	4.300	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-91.04	-0.36	-20.15	20.15	15.01	5.14	3.923 CC, ES	
1,300.00	1,299.98	1,299.69	1,299.68	2.76	2.79	113.38	0.81	-20.71	21.36	15.81	5.55	3.847 SF	
1,400.00	1,399.84	1,398.86	1,398.77	2.94	3.01	130.78	4.29	-22.40	26.79	20.85	5.94	4.509	
1,500.00	1,499.45	1,496.99	1,496.69	3.13	3.23	146.53	10.02	-25.17	38.95	32.62	6.32	6.158	
1,600.00	1,598.70	1,593.58	1,592.89	3.34	3.46	156.53	17.87	-28.97	58.22	51.52	6.70	8.688	
1,700.00	1,697.47	1,688.18	1,686.85	3.58	3.69	162.42	27.68	-33.71	84.04	76.97	7.07	11.887	
1,800.00	1,795.62	1,780.36	1,778.13	3.86	3.93	165.99	39.25	-39.30	115.91	108.48	7.43	15.597	
1,894.07	1,887.30	1,864.51	1,861.16	4.17	4.17	168.14	51.54	-45.25	151.09	143.33	7.76	19.461	
1,900.00	1,893.06	1,869.73	1,866.30	4.19	4.18	168.26	52.36	-45.64	153.47	145.68	7.79	19.705	
2,000.00	1,990.14	1,956.76	1,951.82	4.56	4.45	169.83	66.90	-52.67	194.70	186.50	8.20	23.746	
2,100.00	2,087.22	2,042.00	2,035.19	4.96	4.73	170.85	82.85	-60.38	238.06	229.44	8.61	27.634	
2,200.00	2,184.29	2,131.55	2,122.58	5.38	5.05	171.59	100.47	-68.90	282.45	273.40	9.05	31.214	
2,300.00	2,281.37	2,221.11	2,209.97	5.81	5.39	172.13	118.09	-77.42	326.87	317.38	9.49	34.445	
2,400.00	2,378.45	2,310.66	2,297.36	6.26	5.73	172.54	135.71	-85.94	371.31	361.37	9.94	37.366	
2,500.00	2,475.53	2,400.22	2,384.75	6.71	6.08	172.87	153.32	-94.46	415.76	405.37	10.39	40.016	
2,600.00	2,572.61	2,489.77	2,472.14	7.17	6.44	173.13	170.94	-102.98	460.22	449.37	10.85	42.423	
2,700.00	2,669.69	2,579.33	2,559.53	7.64	6.81	173.34	188.56	-111.50	504.69	493.38	11.31	44.620	
2,800.00	2,766.77	2,668.88	2,646.92	8.12	7.18	173.52	206.18	-120.02	549.16	537.38	11.78	46.630	
2,900.00	2,863.85	2,758.44	2,734.31	8.60	7.56	173.68	223.80	-128.54	593.64	581.39	12.25	48.475	
3,000.00	2,960.93	2,847.99	2,821.70	9.08	7.94	173.81	241.42	-137.06	638.11	625.40	12.72	50.172	
3,100.00	3,058.01	2,937.55	2,909.10	9.57	8.33	173.92	259.04	-145.58	682.60	669.40	13.19	51.738	
3,200.00	3,155.09	3,027.10	2,996.49	10.06	8.71	174.02	276.66	-154.10	727.08	713.41	13.67	53.186	
3,300.00	3,252.17	3,116.65	3,083.88	10.55	9.11	174.11	294.28	-162.62	771.56	757.41	14.15	54.528	
3,400.00	3,349.25	3,206.21	3,171.27	11.04	9.50	174.19	311.90	-171.14	816.05	801.42	14.63	55.776	
3,500.00	3,446.33	3,295.76	3,258.66	11.54	9.89	174.26	329.52	-179.66	860.53	845.42	15.11	56.938	
3,600.00	3,543.41	3,385.32	3,346.05	12.04	10.29	174.33	347.14	-188.18	905.02	889.42	15.60	58.021	
3,700.00	3,640.49	3,474.87	3,433.44	12.54	10.69	174.39	364.76	-196.70	949.51	933.43	16.08	59.035	
3,800.00	3,737.57	3,564.43	3,520.83	13.04	11.09	174.44	382.38	-205.22	994.00	977.43	16.57	59.985	
3,900.00	3,834.65	3,653.98	3,608.22	13.54	11.49	174.49	400.00	-213.74	1,038.49	1,021.43	17.06	60.876	
4,000.00	3,931.72	3,743.54	3,695.61	14.04	11.89	174.53	417.62	-222.26	1,082.98	1,065.43	17.55	61.714	
4,100.00	4,028.80	3,833.09	3,783.00	14.54	12.29	174.57	435.24	-230.78	1,127.47	1,109.43	18.04	62.503	
4,200.00	4,125.88	3,922.65	3,870.39	15.05	12.70	174.61	452.86	-239.30	1,171.96	1,153.43	18.53	63.248	
4,300.00	4,222.96	4,012.20	3,957.78	15.55	13.10	174.65	470.48	-247.82	1,216.45	1,197.43	19.02	63.951	
4,400.00	4,320.04	4,101.76	4,045.17	16.06	13.51	174.68	488.10	-256.34	1,260.94	1,241.43	19.51	64.616	
4,500.00	4,417.12	4,191.31	4,132.56	16.56	13.91	174.71	505.72	-264.86	1,305.43	1,285.43	20.01	65.247	
4,600.00	4,514.20	4,280.87	4,219.95	17.07	14.32	174.74	523.34	-273.38	1,349.93	1,329.43	20.50	65.844	
4,700.00	4,611.28	4,370.42	4,307.34	17.57	14.73	174.76	540.96	-281.90	1,394.42	1,373.42	21.00	66.412	
4,800.00	4,708.36	4,459.98	4,394.73	18.08	15.14	174.79	558.58	-290.42	1,438.91	1,417.42	21.49	66.952	
4,900.00	4,805.44	4,549.53	4,482.12	18.59	15.54	174.81	576.20	-298.94	1,483.41	1,461.42	21.99	67.466	
5,000.00	4,902.52	4,639.09	4,569.51	19.10	15.95	174.83	593.82	-307.46	1,527.90	1,505.42	22.48	67.956	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN #1 3-17-10 f												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	4,999.60	4,728.64	4,656.90	19.61	16.36	174.86	611.44	-315.98	1,572.39	1,549.41	22.98	68.423	
5,200.00	5,096.68	4,818.20	4,744.29	20.11	16.77	174.88	629.06	-324.50	1,616.89	1,593.41	23.48	68.869	
5,300.00	5,193.76	4,907.75	4,831.68	20.62	17.18	174.89	646.68	-333.02	1,661.38	1,637.40	23.98	69.296	
5,400.00	5,290.84	4,997.31	4,919.07	21.13	17.59	174.91	664.30	-341.54	1,705.87	1,681.40	24.47	69.704	
5,500.00	5,387.92	5,086.86	5,006.46	21.64	18.00	174.93	681.92	-350.06	1,750.37	1,725.40	24.97	70.095	
5,600.00	5,485.00	5,092.54	5,012.00	22.15	18.03	174.93	683.04	-350.60	1,796.82	1,771.55	25.27	71.116	
5,666.65	5,549.70	5,092.54	5,012.00	22.49	18.03	174.93	683.04	-350.60	1,830.16	1,804.70	25.45	71.903	
5,700.00	5,582.12	5,092.54	5,012.00	22.64	18.03	174.96	683.04	-350.60	1,847.35	1,821.75	25.60	72.162	
5,800.00	5,679.85	5,092.54	5,012.00	22.97	18.03	175.07	683.04	-350.60	1,899.54	1,873.54	26.00	73.068	
5,900.00	5,778.26	5,092.54	5,012.00	23.28	18.03	175.18	683.04	-350.60	1,952.58	1,926.23	26.35	74.094	
6,000.00	5,877.23	5,092.54	5,012.00	23.54	18.03	175.28	683.04	-350.60	2,006.34	1,979.68	26.67	75.240	
6,100.00	5,976.64	5,092.54	5,012.00	23.76	18.03	175.39	683.04	-350.60	2,060.70	2,033.77	26.94	76.502	
6,200.00	6,076.36	5,092.54	5,012.00	23.95	18.03	175.49	683.04	-350.60	2,115.56	2,088.39	27.16	77.881	
6,300.00	6,176.28	5,092.54	5,012.00	24.09	18.03	175.60	683.04	-350.60	2,170.80	2,143.45	27.35	79.377	
6,360.72	6,237.00	5,092.54	5,012.00	24.17	18.03	-21.10	683.04	-350.60	2,204.49	2,177.05	27.44	80.325	
6,400.00	6,276.28	5,092.54	5,012.00	24.21	18.03	-21.10	683.04	-350.60	2,226.56	2,199.05	27.51	80.925	
6,500.00	6,376.28	5,092.54	5,012.00	24.32	18.03	-21.10	683.04	-350.60	2,284.82	2,257.14	27.68	82.543	
6,600.00	6,476.28	5,092.54	5,012.00	24.42	18.03	-21.10	683.04	-350.60	2,345.91	2,318.06	27.85	84.238	
6,700.00	6,576.28	5,092.54	5,012.00	24.53	18.03	-21.10	683.04	-350.60	2,409.59	2,381.57	28.02	86.002	
6,800.00	6,676.28	5,092.54	5,012.00	24.63	18.03	-21.10	683.04	-350.60	2,475.68	2,447.49	28.19	87.825	
6,900.00	6,776.28	5,092.54	5,012.00	24.74	18.03	-21.10	683.04	-350.60	2,543.98	2,515.62	28.36	89.700	
7,000.00	6,876.28	5,092.54	5,012.00	24.85	18.03	-21.10	683.04	-350.60	2,614.33	2,585.79	28.53	91.620	
7,100.00	6,976.28	5,092.54	5,012.00	24.96	18.03	-21.10	683.04	-350.60	2,686.55	2,657.84	28.71	93.578	
7,200.00	7,076.28	5,092.54	5,012.00	25.08	18.03	-21.10	683.04	-350.60	2,760.51	2,731.62	28.89	95.569	
7,300.00	7,176.28	5,092.54	5,012.00	25.19	18.03	-21.10	683.04	-350.60	2,836.07	2,807.00	29.06	97.586	
7,400.00	7,276.28	5,092.54	5,012.00	25.31	18.03	-21.10	683.04	-350.60	2,913.10	2,883.86	29.24	99.626	
7,500.00	7,376.28	5,092.54	5,012.00	25.43	18.03	-21.10	683.04	-350.60	2,991.48	2,962.07	29.42	101.683	
7,600.00	7,476.28	5,092.54	5,012.00	25.55	18.03	-21.10	683.04	-350.60	3,071.13	3,041.53	29.60	103.754	
7,700.00	7,576.28	5,092.54	5,012.00	25.67	18.03	-21.10	683.04	-350.60	3,151.93	3,122.15	29.78	105.835	
7,800.00	7,676.28	5,092.54	5,012.00	25.79	18.03	-21.10	683.04	-350.60	3,233.81	3,203.85	29.96	107.923	
7,900.00	7,776.28	5,092.54	5,012.00	25.91	18.03	-21.10	683.04	-350.60	3,316.69	3,286.54	30.15	110.016	
8,000.00	7,876.28	5,092.54	5,012.00	26.04	18.03	-21.10	683.04	-350.60	3,400.48	3,370.15	30.33	112.110	
8,100.00	7,976.28	5,092.54	5,012.00	26.17	18.03	-21.10	683.04	-350.60	3,485.13	3,454.61	30.52	114.203	
8,200.00	8,076.28	5,092.54	5,012.00	26.29	18.03	-21.10	683.04	-350.60	3,570.57	3,539.87	30.70	116.293	
8,275.72	8,152.00	5,092.54	5,012.00	26.39	18.03	-21.10	683.04	-350.60	3,635.76	3,604.92	30.84	117.873	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	90.00	0.00	40.01	40.01	39.82	0.19	209.437	
200.00	200.00	200.00	200.00	0.32	0.32	90.00	0.00	40.01	40.01	39.37	0.64	62.464	
300.00	300.00	300.00	300.00	0.55	0.55	90.00	0.00	40.01	40.01	38.92	1.09	36.705 CC, ES	
400.00	400.00	398.96	398.94	0.77	0.76	88.37	1.18	41.25	41.28	39.75	1.53	26.923	
500.00	500.00	497.68	497.52	0.99	0.99	84.05	4.69	44.96	45.27	43.30	1.98	22.877	
600.00	600.00	595.93	595.41	1.22	1.23	78.39	10.50	51.10	52.37	49.93	2.44	21.505 SF	
700.00	700.00	693.49	692.26	1.44	1.50	72.71	18.56	59.60	62.90	60.00	2.90	21.667	
800.00	800.00	790.14	787.75	1.67	1.80	67.77	28.77	70.38	77.01	73.63	3.38	22.772	
900.00	900.00	885.68	881.61	1.89	2.14	63.78	41.03	83.33	94.68	90.81	3.87	24.464	
1,000.00	1,000.00	979.91	973.55	2.12	2.53	60.68	55.23	98.31	115.82	111.46	4.37	26.515	
1,100.00	1,100.00	1,072.67	1,063.34	2.34	2.96	58.27	71.23	115.20	140.32	135.44	4.88	28.778	
1,200.00	1,200.00	1,163.80	1,150.77	2.57	3.44	56.41	88.88	133.84	168.04	162.65	5.39	31.159	
1,300.00	1,299.98	1,252.90	1,235.43	2.76	3.95	-108.12	107.99	154.01	199.39	193.78	5.61	35.538	
1,400.00	1,399.84	1,339.46	1,316.81	2.94	4.50	-109.66	128.27	175.42	234.90	228.88	6.02	39.034	
1,500.00	1,499.45	1,423.20	1,394.64	3.13	5.08	-111.22	149.49	197.83	274.62	268.19	6.43	42.708	
1,600.00	1,598.70	1,503.87	1,468.75	3.34	5.67	-112.66	171.41	220.97	318.55	311.69	6.85	46.487	
1,700.00	1,697.47	1,588.83	1,546.12	3.58	6.34	-114.14	195.55	246.45	365.91	358.60	7.31	50.032	
1,800.00	1,795.62	1,674.64	1,624.24	3.86	7.02	-115.54	219.97	272.23	415.13	407.33	7.81	53.177	
1,894.07	1,887.30	1,754.19	1,696.65	4.17	7.66	-116.74	242.61	296.13	463.13	454.83	8.30	55.810	
1,900.00	1,893.06	1,759.16	1,701.18	4.19	7.70	-116.88	244.03	297.62	466.20	457.87	8.33	55.958	
2,000.00	1,990.14	1,843.08	1,777.58	4.56	8.37	-118.93	267.91	322.83	518.40	509.49	8.91	58.198	
2,100.00	2,087.22	1,927.00	1,853.97	4.96	9.05	-120.62	291.79	348.04	571.00	561.49	9.51	60.026	
2,200.00	2,184.29	2,010.92	1,930.37	5.38	9.73	-122.03	315.67	373.26	623.91	613.77	10.14	61.528	
2,300.00	2,281.37	2,094.83	2,006.76	5.81	10.42	-123.22	339.55	398.47	677.05	666.26	10.79	62.773	
2,400.00	2,378.45	2,178.75	2,083.16	6.26	11.10	-124.24	363.43	423.68	730.38	718.93	11.45	63.815	
2,500.00	2,475.53	2,262.67	2,159.56	6.71	11.79	-125.13	387.32	448.89	783.85	771.73	12.12	64.696	
2,600.00	2,572.61	2,346.59	2,235.95	7.17	12.48	-125.90	411.20	474.10	837.44	824.64	12.80	65.449	
2,700.00	2,669.69	2,430.51	2,312.35	7.64	13.16	-126.58	435.08	499.31	891.12	877.64	13.48	66.096	
2,800.00	2,766.77	2,514.42	2,388.74	8.12	13.85	-127.18	458.96	524.52	944.89	930.71	14.18	66.657	
2,900.00	2,863.85	2,598.34	2,465.14	8.60	14.54	-127.72	482.84	549.73	998.72	983.85	14.87	67.147	
3,000.00	2,960.93	2,682.26	2,541.53	9.08	15.23	-128.21	506.72	574.94	1,052.61	1,037.03	15.58	67.576	
3,100.00	3,058.01	2,766.18	2,617.93	9.57	15.92	-128.64	530.61	600.15	1,106.55	1,090.26	16.28	67.957	
3,200.00	3,155.09	2,850.09	2,694.32	10.06	16.62	-129.04	554.49	625.37	1,160.53	1,143.53	16.99	68.295	
3,300.00	3,252.17	2,934.01	2,770.72	10.55	17.31	-129.40	578.37	650.58	1,214.54	1,196.84	17.71	68.597	
3,400.00	3,349.25	3,017.93	2,847.12	11.04	18.00	-129.73	602.25	675.79	1,268.59	1,250.17	18.42	68.869	
3,500.00	3,446.33	3,101.85	2,923.51	11.54	18.69	-130.04	626.13	701.00	1,322.67	1,303.53	19.14	69.114	
3,600.00	3,543.41	3,185.77	2,999.91	12.04	19.39	-130.32	650.01	726.21	1,376.76	1,356.91	19.86	69.336	
3,700.00	3,640.49	3,269.68	3,076.30	12.54	20.08	-130.58	673.90	751.42	1,430.89	1,410.31	20.58	69.538	
3,800.00	3,737.57	3,353.60	3,152.70	13.04	20.77	-130.82	697.78	776.63	1,485.03	1,463.73	21.30	69.723	
3,900.00	3,834.65	3,437.52	3,229.09	13.54	21.47	-131.04	721.66	801.84	1,539.19	1,517.16	22.02	69.892	
4,000.00	3,931.72	3,521.44	3,305.49	14.04	22.16	-131.25	745.54	827.05	1,593.36	1,570.61	22.75	70.047	
4,100.00	4,028.80	3,605.36	3,381.88	14.54	22.85	-131.44	769.42	852.26	1,647.55	1,624.07	23.47	70.190	
4,200.00	4,125.88	3,689.27	3,458.28	15.05	23.55	-131.63	793.30	877.47	1,701.75	1,677.55	24.20	70.323	
4,300.00	4,222.96	3,773.19	3,534.68	15.55	24.24	-131.80	817.19	902.69	1,755.96	1,731.03	24.93	70.445	
4,400.00	4,320.04	3,857.11	3,611.07	16.06	24.94	-131.96	841.07	927.90	1,810.18	1,784.52	25.65	70.559	
4,500.00	4,417.12	3,941.03	3,687.47	16.56	25.63	-132.11	864.95	953.11	1,864.41	1,838.03	26.38	70.665	
4,600.00	4,514.20	4,024.95	3,763.86	17.07	26.33	-132.25	888.83	978.32	1,918.65	1,891.54	27.11	70.764	
4,700.00	4,611.28	4,108.86	3,840.26	17.57	27.02	-132.39	912.71	1,003.53	1,972.90	1,945.06	27.84	70.857	
4,800.00	4,708.36	4,192.78	3,916.65	18.08	27.72	-132.52	936.59	1,028.74	2,027.16	1,998.58	28.57	70.944	
4,900.00	4,805.44	4,276.70	3,993.05	18.59	28.41	-132.64	960.48	1,053.95	2,081.42	2,052.11	29.31	71.025	
5,000.00	4,902.52	4,360.62	4,069.45	19.10	29.11	-132.75	984.36	1,079.16	2,135.69	2,105.65	30.04	71.102	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	4,444.53	4,145.84	19.61	29.80	-132.86	1,008.24	1,104.37	2,189.96	2,159.19	30.77	71.174	
5,200.00	5,096.68	4,528.45	4,222.24	20.11	30.50	-132.97	1,032.12	1,129.58	2,244.24	2,212.74	31.50	71.242	
5,300.00	5,193.76	4,612.37	4,298.63	20.62	31.19	-133.07	1,056.00	1,154.80	2,298.53	2,266.29	32.23	71.306	
5,400.00	5,290.84	4,696.29	4,375.03	21.13	31.89	-133.16	1,079.88	1,180.01	2,352.81	2,319.85	32.97	71.367	
5,500.00	5,387.92	4,780.21	4,451.42	21.64	32.58	-133.25	1,103.77	1,205.22	2,407.11	2,373.41	33.70	71.424	
5,600.00	5,485.00	4,864.12	4,527.82	22.15	33.28	-133.34	1,127.65	1,230.43	2,461.41	2,426.97	34.44	71.479	
5,666.65	5,549.70	4,920.06	4,578.74	22.49	33.74	-133.39	1,143.56	1,247.23	2,497.60	2,462.67	34.92	71.514	
5,700.00	5,582.12	4,948.12	4,604.28	22.64	33.97	-133.73	1,151.55	1,255.66	2,515.60	2,480.33	35.27	71.331	
5,800.00	5,679.85	5,033.16	4,681.70	22.97	34.68	-134.64	1,175.75	1,281.21	2,568.19	2,531.96	36.23	70.886	
5,900.00	5,778.26	5,119.45	4,760.26	23.28	35.39	-135.42	1,200.31	1,307.13	2,618.69	2,581.53	37.16	70.468	
6,000.00	5,877.23	5,206.89	4,839.86	23.54	36.12	-136.10	1,225.19	1,333.40	2,667.03	2,628.98	38.05	70.087	
6,100.00	5,976.64	5,295.38	4,920.41	23.76	36.85	-136.66	1,250.37	1,359.99	2,713.17	2,674.27	38.90	69.751	
6,200.00	6,076.36	5,384.80	5,001.82	23.95	37.59	-137.12	1,275.82	1,386.85	2,757.06	2,717.37	39.69	69.466	
6,300.00	6,176.28	5,474.44	5,084.85	24.09	41.69	-136.21	1,442.55	1,562.86	2,788.73	2,746.45	42.28	65.966	
6,360.72	6,237.00	6,658.56	6,237.00	24.17	42.26	27.07	1,458.27	1,579.45	2,790.97	2,748.00	42.97	64.950	
6,400.00	6,276.28	6,697.84	6,276.28	24.21	42.29	27.07	1,458.27	1,579.45	2,790.97	2,747.90	43.07	64.805	
6,500.00	6,376.28	6,797.84	6,376.28	24.32	42.35	27.07	1,458.27	1,579.45	2,790.97	2,747.65	43.32	64.430	
6,600.00	6,476.28	6,897.84	6,476.28	24.42	42.42	27.07	1,458.27	1,579.45	2,790.97	2,747.39	43.57	64.054	
6,700.00	6,576.28	6,997.84	6,576.28	24.53	42.49	27.07	1,458.27	1,579.45	2,790.97	2,747.14	43.83	63.678	
6,800.00	6,676.28	7,097.84	6,676.28	24.63	42.57	27.07	1,458.27	1,579.45	2,790.97	2,746.88	44.09	63.302	
6,900.00	6,776.28	7,197.84	6,776.28	24.74	42.64	27.07	1,458.27	1,579.45	2,790.97	2,746.61	44.35	62.926	
7,000.00	6,876.28	7,297.84	6,876.28	24.85	42.71	27.07	1,458.27	1,579.45	2,790.97	2,746.35	44.62	62.550	
7,100.00	6,976.28	7,397.84	6,976.28	24.96	42.79	27.07	1,458.27	1,579.45	2,790.97	2,746.08	44.89	62.175	
7,200.00	7,076.28	7,497.84	7,076.28	25.08	42.86	27.07	1,458.27	1,579.45	2,790.97	2,745.80	45.16	61.800	
7,300.00	7,176.28	7,597.84	7,176.28	25.19	42.94	27.07	1,458.27	1,579.45	2,790.97	2,745.53	45.44	61.426	
7,400.00	7,276.28	7,697.84	7,276.28	25.31	43.02	27.07	1,458.27	1,579.45	2,790.97	2,745.25	45.71	61.053	
7,500.00	7,376.28	7,797.84	7,376.28	25.43	43.10	27.07	1,458.27	1,579.45	2,790.97	2,744.97	45.99	60.681	
7,600.00	7,476.28	7,897.84	7,476.28	25.55	43.18	27.07	1,458.27	1,579.45	2,790.97	2,744.69	46.28	60.309	
7,700.00	7,576.28	7,997.84	7,576.28	25.67	43.26	27.07	1,458.27	1,579.45	2,790.97	2,744.40	46.56	59.939	
7,800.00	7,676.28	8,097.84	7,676.28	25.79	43.34	27.07	1,458.27	1,579.45	2,790.97	2,744.11	46.85	59.570	
7,900.00	7,776.28	8,197.84	7,776.28	25.91	43.42	27.07	1,458.27	1,579.45	2,790.97	2,743.82	47.14	59.203	
8,000.00	7,876.28	8,297.84	7,876.28	26.04	43.51	27.07	1,458.27	1,579.45	2,790.97	2,743.53	47.44	58.837	
8,100.00	7,976.28	8,397.84	7,976.28	26.17	43.59	27.07	1,458.27	1,579.45	2,790.97	2,743.23	47.73	58.472	
8,200.00	8,076.28	8,497.84	8,076.28	26.29	43.68	27.07	1,458.27	1,579.45	2,790.97	2,742.94	48.03	58.109	
8,232.98	8,109.26	8,530.82	8,109.26	26.34	43.71	27.07	1,458.27	1,579.45	2,790.97	2,742.84	48.13	57.989	
8,275.72	8,152.00	8,542.56	8,121.00	26.39	43.72	27.07	1,458.27	1,579.45	2,791.14	2,742.93	48.21	57.893	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	89.65	0.36	59.88	59.88				
100.00	100.00	100.00	100.00	0.10	0.10	89.65	0.36	59.88	59.88	59.69	0.19	313.428	
200.00	200.00	200.00	200.00	0.32	0.32	89.65	0.36	59.88	59.88	59.24	0.64	93.479	
300.00	300.00	300.00	300.00	0.55	0.55	89.65	0.36	59.88	59.88	58.79	1.09	54.931	
400.00	400.00	400.00	400.00	0.77	0.77	89.65	0.36	59.88	59.88	58.34	1.54	38.893	
500.00	500.00	500.00	500.00	0.99	0.99	89.65	0.36	59.88	59.88	57.89	1.99	30.103	
600.00	600.00	600.00	600.00	1.22	1.22	89.65	0.36	59.88	59.88	57.44	2.44	24.554	
700.00	700.00	700.00	700.00	1.44	1.44	89.65	0.36	59.88	59.88	56.99	2.89	20.733	
800.00	800.00	800.00	800.00	1.67	1.67	89.65	0.36	59.88	59.88	56.54	3.34	17.940	
900.00	900.00	900.00	900.00	1.89	1.89	89.65	0.36	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	89.65	0.36	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	89.65	0.36	59.88	59.88	55.19	4.69	12.778	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.65	0.36	59.88	59.88	54.75	5.14	11.659 CC, ES	
1,300.00	1,299.98	1,297.92	1,297.90	2.76	2.78	-75.32	0.60	61.54	61.11	55.57	5.54	11.031	
1,400.00	1,399.84	1,395.55	1,395.40	2.94	2.98	-80.06	1.31	66.48	65.12	59.20	5.91	11.013 SF	
1,500.00	1,499.45	1,492.59	1,492.08	3.13	3.19	-86.67	2.48	74.66	72.66	66.36	6.30	11.529	
1,600.00	1,598.70	1,588.77	1,587.57	3.34	3.42	-93.71	4.10	85.95	84.52	77.80	6.72	12.581	
1,700.00	1,697.47	1,683.81	1,681.51	3.58	3.67	-100.11	6.15	100.22	101.14	93.97	7.17	14.113	
1,800.00	1,795.62	1,777.46	1,773.56	3.86	3.95	-105.40	8.60	117.30	122.62	114.96	7.65	16.018	
1,894.07	1,887.30	1,864.09	1,858.16	4.17	4.24	-109.32	11.24	135.73	147.15	138.99	8.16	18.035	
1,900.00	1,893.06	1,869.50	1,863.42	4.19	4.26	-109.56	11.42	136.97	148.83	140.63	8.19	18.167	
2,000.00	1,990.14	1,960.09	1,951.21	4.56	4.60	-112.73	14.60	159.11	178.84	170.06	8.78	20.361	
2,100.00	2,087.22	2,049.37	2,036.98	4.96	4.99	-114.52	18.11	183.61	211.65	202.24	9.41	22.481	
2,200.00	2,184.29	2,137.20	2,120.57	5.38	5.42	-115.42	21.93	210.28	246.94	236.86	10.08	24.492	
2,300.00	2,281.37	2,223.45	2,201.82	5.81	5.89	-115.76	26.04	238.93	284.53	273.75	10.78	26.391	
2,400.00	2,378.45	2,311.95	2,284.39	6.26	6.43	-115.76	30.56	270.46	324.04	312.51	11.52	28.118	
2,500.00	2,475.53	2,403.71	2,369.88	6.71	7.02	-115.72	35.29	303.44	363.79	351.49	12.30	29.567	
2,600.00	2,572.61	2,495.47	2,455.38	7.17	7.62	-115.70	40.02	336.41	403.55	390.45	13.10	30.796	
2,700.00	2,669.69	2,587.22	2,540.87	7.64	8.24	-115.67	44.75	369.39	443.31	429.39	13.92	31.846	
2,800.00	2,766.77	2,678.98	2,626.37	8.12	8.87	-115.66	49.48	402.37	483.07	468.31	14.75	32.750	
2,900.00	2,863.85	2,770.74	2,711.86	8.60	9.51	-115.64	54.21	435.34	522.82	507.23	15.59	33.533	
3,000.00	2,960.93	2,862.49	2,797.36	9.08	10.15	-115.63	58.94	468.32	562.58	546.14	16.44	34.216	
3,100.00	3,058.01	2,954.25	2,882.86	9.57	10.81	-115.62	63.67	501.30	602.34	585.04	17.30	34.816	
3,200.00	3,155.09	3,046.01	2,968.35	10.06	11.46	-115.61	68.40	534.27	642.09	623.93	18.17	35.345	
3,300.00	3,252.17	3,137.76	3,053.85	10.55	12.12	-115.60	73.13	567.25	681.85	662.81	19.04	35.815	
3,400.00	3,349.25	3,229.52	3,139.34	11.04	12.79	-115.59	77.86	600.23	721.61	701.69	19.92	36.234	
3,500.00	3,446.33	3,321.28	3,224.84	11.54	13.46	-115.58	82.59	633.20	761.37	740.57	20.80	36.610	
3,600.00	3,543.41	3,413.04	3,310.34	12.04	14.13	-115.57	87.32	666.18	801.12	779.44	21.68	36.948	
3,700.00	3,640.49	3,504.79	3,395.83	12.54	14.80	-115.57	92.05	699.16	840.88	818.31	22.57	37.253	
3,800.00	3,737.57	3,596.55	3,481.33	13.04	15.48	-115.56	96.77	732.13	880.64	857.17	23.46	37.531	
3,900.00	3,834.65	3,688.31	3,566.82	13.54	16.15	-115.56	101.50	765.11	920.40	896.04	24.36	37.783	
4,000.00	3,931.72	3,780.06	3,652.32	14.04	16.83	-115.55	106.23	798.09	960.15	934.90	25.26	38.014	
4,100.00	4,028.80	3,871.82	3,737.81	14.54	17.51	-115.55	110.96	831.06	999.91	973.75	26.16	38.226	
4,200.00	4,125.88	3,963.58	3,823.31	15.05	18.19	-115.55	115.69	864.04	1,039.67	1,012.61	27.06	38.421	
4,300.00	4,222.96	4,055.33	3,908.81	15.55	18.87	-115.54	120.42	897.02	1,079.43	1,051.46	27.96	38.601	
4,400.00	4,320.04	4,147.09	3,994.30	16.06	19.56	-115.54	125.15	929.99	1,119.18	1,090.31	28.87	38.767	
4,500.00	4,417.12	4,238.85	4,079.80	16.56	20.24	-115.54	129.88	962.97	1,158.94	1,129.16	29.78	38.921	
4,600.00	4,514.20	4,330.61	4,165.29	17.07	20.93	-115.53	134.61	995.95	1,198.70	1,168.01	30.69	39.064	
4,700.00	4,611.28	4,422.36	4,250.79	17.57	21.61	-115.53	139.34	1,028.92	1,238.45	1,206.86	31.59	39.198	
4,800.00	4,708.36	4,514.12	4,336.28	18.08	22.30	-115.53	144.07	1,061.90	1,278.21	1,245.71	32.51	39.323	
4,900.00	4,805.44	4,605.88	4,421.78	18.59	22.98	-115.53	148.80	1,094.87	1,317.97	1,284.55	33.42	39.439	
5,000.00	4,902.52	4,697.63	4,507.28	19.10	23.67	-115.52	153.53	1,127.85	1,357.73	1,323.40	34.33	39.549	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	4,789.39	4,592.77	19.61	24.36	-115.52	158.25	1,160.83	1,397.48	1,362.24	35.24	39.651	
5,200.00	5,096.68	4,881.15	4,678.27	20.11	25.05	-115.52	162.98	1,193.80	1,437.24	1,401.08	36.16	39.748	
5,300.00	5,193.76	4,972.90	4,763.76	20.62	25.73	-115.52	167.71	1,226.78	1,477.00	1,439.92	37.07	39.839	
5,400.00	5,290.84	5,064.66	4,849.26	21.13	26.42	-115.52	172.44	1,259.76	1,516.76	1,478.77	37.99	39.925	
5,500.00	5,387.92	5,156.42	4,934.76	21.64	27.11	-115.52	177.17	1,292.73	1,556.51	1,517.61	38.91	40.006	
5,600.00	5,485.00	5,248.18	5,020.25	22.15	27.80	-115.51	181.90	1,325.71	1,596.27	1,556.45	39.82	40.083	
5,666.65	5,549.70	5,309.33	5,077.23	22.49	28.26	-115.51	185.05	1,347.69	1,622.77	1,582.33	40.44	40.132	
5,700.00	5,582.12	5,339.96	5,105.78	22.64	28.49	-115.76	186.63	1,358.70	1,635.95	1,595.16	40.79	40.104	
5,800.00	5,679.85	5,447.18	5,205.74	22.97	29.26	-116.40	192.13	1,397.06	1,674.47	1,632.65	41.82	40.040	
5,900.00	5,778.26	5,626.02	5,374.95	23.28	30.26	-116.81	200.34	1,454.29	1,708.46	1,665.51	42.95	39.780	
6,000.00	5,877.23	5,812.12	5,554.49	23.54	31.08	-117.13	207.27	1,502.61	1,736.10	1,692.16	43.93	39.516	
6,100.00	5,976.64	6,004.22	5,742.76	23.76	31.76	-117.38	212.67	1,540.29	1,757.04	1,712.26	44.78	39.237	
6,200.00	6,076.36	6,200.82	5,937.62	23.95	32.25	-117.54	216.34	1,565.83	1,771.02	1,725.55	45.47	38.953	
6,300.00	6,176.28	6,400.14	6,136.51	24.09	32.57	-117.65	218.11	1,578.15	1,777.85	1,731.87	45.98	38.665	
6,360.72	6,237.00	6,500.65	6,237.00	24.17	32.66	45.57	218.26	1,579.25	1,778.59	1,732.39	46.20	38.498	
6,400.00	6,276.28	6,539.92	6,276.28	24.21	32.70	45.57	218.26	1,579.25	1,778.59	1,732.30	46.29	38.420	
6,500.00	6,376.28	6,639.92	6,376.28	24.32	32.79	45.57	218.26	1,579.25	1,778.59	1,732.07	46.53	38.227	
6,600.00	6,476.28	6,739.92	6,476.28	24.42	32.88	45.57	218.26	1,579.25	1,778.59	1,731.83	46.76	38.034	
6,700.00	6,576.28	6,839.92	6,576.28	24.53	32.98	45.57	218.26	1,579.25	1,778.59	1,731.59	47.00	37.840	
6,800.00	6,676.28	6,939.92	6,676.28	24.63	33.07	45.57	218.26	1,579.25	1,778.59	1,731.35	47.25	37.646	
6,900.00	6,776.28	7,039.92	6,776.28	24.74	33.17	45.57	218.26	1,579.25	1,778.59	1,731.10	47.49	37.451	
7,000.00	6,876.28	7,139.92	6,876.28	24.85	33.27	45.57	218.26	1,579.25	1,778.59	1,730.85	47.74	37.256	
7,100.00	6,976.28	7,239.92	6,976.28	24.96	33.37	45.57	218.26	1,579.25	1,778.59	1,730.60	47.99	37.061	
7,200.00	7,076.28	7,339.92	7,076.28	25.08	33.47	45.57	218.26	1,579.25	1,778.59	1,730.35	48.25	36.866	
7,300.00	7,176.28	7,439.92	7,176.28	25.19	33.57	45.57	218.26	1,579.25	1,778.59	1,730.09	48.50	36.670	
7,400.00	7,276.28	7,539.92	7,276.28	25.31	33.68	45.57	218.26	1,579.25	1,778.59	1,729.83	48.76	36.475	
7,500.00	7,376.28	7,639.92	7,376.28	25.43	33.78	45.57	218.26	1,579.25	1,778.59	1,729.57	49.03	36.279	
7,600.00	7,476.28	7,739.92	7,476.28	25.55	33.88	45.57	218.26	1,579.25	1,778.59	1,729.30	49.29	36.084	
7,700.00	7,576.28	7,839.92	7,576.28	25.67	33.99	45.57	218.26	1,579.25	1,778.59	1,729.03	49.56	35.889	
7,800.00	7,676.28	7,939.92	7,676.28	25.79	34.10	45.57	218.26	1,579.25	1,778.59	1,728.76	49.83	35.694	
7,900.00	7,776.28	8,039.92	7,776.28	25.91	34.21	45.57	218.26	1,579.25	1,778.59	1,728.49	50.10	35.499	
8,000.00	7,876.28	8,139.92	7,876.28	26.04	34.32	45.57	218.26	1,579.25	1,778.59	1,728.22	50.38	35.305	
8,100.00	7,976.28	8,239.92	7,976.28	26.17	34.43	45.57	218.26	1,579.25	1,778.59	1,727.94	50.66	35.111	
8,200.00	8,076.28	8,339.92	8,076.28	26.29	34.54	45.57	218.26	1,579.25	1,778.59	1,727.66	50.94	34.917	
8,240.79	8,117.07	8,380.72	8,117.07	26.35	34.59	45.57	218.26	1,579.25	1,778.59	1,727.54	51.05	34.839	
8,275.72	8,152.00	8,394.65	8,131.00	26.39	34.60	45.57	218.26	1,579.25	1,778.72	1,727.60	51.12	34.794	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	-90.70	-0.37	-30.22	30.22				
100.00	100.00	100.00	100.00	0.10	0.10	-90.70	-0.37	-30.22	30.22	30.03	0.19	158.188	
200.00	200.00	200.00	200.00	0.32	0.32	-90.70	-0.37	-30.22	30.22	29.58	0.64	47.179	
300.00	300.00	300.00	300.00	0.55	0.55	-90.70	-0.37	-30.22	30.22	29.13	1.09	27.724	
400.00	400.00	400.00	400.00	0.77	0.77	-90.70	-0.37	-30.22	30.22	28.68	1.54	19.629	
500.00	500.00	500.00	500.00	0.99	0.99	-90.70	-0.37	-30.22	30.22	28.23	1.99	15.193	
600.00	600.00	600.00	600.00	1.22	1.22	-90.70	-0.37	-30.22	30.22	27.78	2.44	12.393	
700.00	700.00	700.00	700.00	1.44	1.44	-90.70	-0.37	-30.22	30.22	27.33	2.89	10.464	
800.00	800.00	800.00	800.00	1.67	1.67	-90.70	-0.37	-30.22	30.22	26.88	3.34	9.055	
900.00	900.00	900.00	900.00	1.89	1.89	-90.70	-0.37	-30.22	30.22	26.43	3.79	7.980	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.70	-0.37	-30.22	30.22	25.99	4.24	7.133	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.70	-0.37	-30.22	30.22	25.54	4.69	6.449	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.70	-0.37	-30.22	30.22	25.09	5.14	5.884 CC, ES	
1,300.00	1,299.98	1,299.34	1,299.32	2.76	2.77	106.56	-1.75	-31.24	31.75	26.22	5.53	5.743 SF	
1,400.00	1,399.84	1,398.54	1,398.38	2.94	2.95	107.79	-5.90	-34.30	36.35	30.47	5.88	6.184	
1,500.00	1,499.45	1,497.46	1,496.92	3.13	3.14	109.26	-12.78	-39.38	44.04	37.78	6.25	7.045	
1,600.00	1,598.70	1,595.95	1,594.69	3.34	3.35	110.58	-22.35	-46.44	54.80	48.14	6.66	8.230	
1,700.00	1,697.47	1,693.88	1,691.44	3.58	3.59	111.62	-34.54	-55.43	68.62	61.51	7.12	9.644	
1,800.00	1,795.62	1,792.52	1,788.60	3.86	3.86	113.36	-48.20	-65.52	84.68	77.05	7.63	11.094	
1,894.07	1,887.30	1,885.00	1,879.70	4.17	4.13	116.04	-61.02	-74.97	101.20	93.04	8.17	12.390	
1,900.00	1,893.06	1,890.82	1,885.43	4.19	4.15	116.24	-61.82	-75.57	102.30	94.09	8.20	12.470	
2,000.00	1,990.14	1,988.92	1,982.07	4.56	4.45	119.14	-75.41	-85.60	120.86	112.04	8.83	13.692	
2,100.00	2,087.22	2,087.03	2,078.71	4.96	4.77	121.26	-89.01	-95.63	139.65	130.17	9.48	14.729	
2,200.00	2,184.29	2,185.13	2,175.35	5.38	5.10	122.88	-102.60	-105.66	158.58	148.42	10.16	15.611	
2,300.00	2,281.37	2,283.24	2,271.99	5.81	5.44	124.16	-116.19	-115.69	177.60	166.75	10.85	16.362	
2,400.00	2,378.45	2,381.34	2,368.63	6.26	5.78	125.18	-129.78	-125.71	196.70	185.13	11.57	17.007	
2,500.00	2,475.53	2,479.45	2,465.27	6.71	6.13	126.03	-143.37	-135.74	215.84	203.55	12.29	17.564	
2,600.00	2,572.61	2,577.55	2,561.91	7.17	6.49	126.74	-156.97	-145.77	235.02	222.00	13.02	18.048	
2,700.00	2,669.69	2,675.66	2,658.55	7.64	6.85	127.34	-170.56	-155.80	254.23	240.47	13.76	18.472	
2,800.00	2,766.77	2,773.76	2,755.19	8.12	7.21	127.85	-184.15	-165.83	273.47	258.96	14.51	18.845	
2,900.00	2,863.85	2,871.87	2,851.83	8.60	7.58	128.30	-197.74	-175.86	292.72	277.45	15.27	19.175	
3,000.00	2,960.93	2,969.97	2,948.47	9.08	7.95	128.70	-211.33	-185.89	311.99	295.96	16.02	19.470	
3,100.00	3,058.01	3,068.08	3,045.11	9.57	8.32	129.04	-224.93	-195.92	331.27	314.48	16.79	19.733	
3,200.00	3,155.09	3,166.18	3,141.75	10.06	8.69	129.35	-238.52	-205.95	350.56	333.00	17.55	19.971	
3,300.00	3,252.17	3,264.29	3,238.39	10.55	9.07	129.63	-252.11	-215.98	369.86	351.53	18.32	20.185	
3,400.00	3,349.25	3,362.39	3,335.03	11.04	9.45	129.88	-265.70	-226.01	389.16	370.07	19.09	20.380	
3,500.00	3,446.33	3,460.50	3,431.67	11.54	9.83	130.11	-279.29	-236.04	408.48	388.61	19.87	20.558	
3,600.00	3,543.41	3,558.60	3,528.31	12.04	10.20	130.31	-292.89	-246.07	427.80	407.15	20.65	20.721	
3,700.00	3,640.49	3,656.71	3,624.95	12.54	10.59	130.50	-306.48	-256.10	447.12	425.70	21.42	20.871	
3,800.00	3,737.57	3,754.81	3,721.59	13.04	10.97	130.67	-320.07	-266.13	466.45	444.25	22.20	21.009	
3,900.00	3,834.65	3,852.92	3,818.23	13.54	11.35	130.83	-333.66	-276.16	485.78	462.80	22.98	21.137	
4,000.00	3,931.72	3,951.02	3,914.87	14.04	11.73	130.98	-347.25	-286.19	505.11	481.35	23.76	21.256	
4,100.00	4,028.80	4,049.13	4,011.51	14.54	12.12	131.11	-360.85	-296.22	524.45	499.91	24.55	21.367	
4,200.00	4,125.88	4,147.23	4,108.15	15.05	12.50	131.24	-374.44	-306.25	543.79	518.46	25.33	21.470	
4,300.00	4,222.96	4,245.34	4,204.79	15.55	12.89	131.35	-388.03	-316.28	563.13	537.02	26.11	21.566	
4,400.00	4,320.04	4,343.44	4,301.43	16.06	13.27	131.46	-401.62	-326.31	582.48	555.58	26.90	21.657	
4,500.00	4,417.12	4,441.55	4,398.07	16.56	13.66	131.57	-415.21	-336.33	601.83	574.15	27.68	21.742	
4,600.00	4,514.20	4,539.65	4,494.71	17.07	14.05	131.66	-428.81	-346.36	621.18	592.71	28.47	21.822	
4,700.00	4,611.28	4,637.76	4,591.35	17.57	14.43	131.75	-442.40	-356.39	640.53	611.27	29.25	21.898	
4,800.00	4,708.36	4,735.87	4,687.99	18.08	14.82	131.84	-455.99	-366.42	659.88	629.84	30.04	21.969	
4,900.00	4,805.44	4,833.97	4,784.63	18.59	15.21	131.92	-469.58	-376.45	679.23	648.41	30.82	22.037	
5,000.00	4,902.52	4,932.08	4,881.27	19.10	15.60	131.99	-483.17	-386.48	698.58	666.98	31.61	22.102	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	5,030.18	4,977.91	19.61	15.99	132.07	-496.76	-396.51	717.94	685.55	32.39	22.163	
5,200.00	5,096.68	5,128.29	5,074.55	20.11	16.38	132.13	-510.36	-406.54	737.30	704.12	33.18	22.222	
5,300.00	5,193.76	5,226.39	5,171.19	20.62	16.76	132.20	-523.95	-416.57	756.65	722.69	33.97	22.277	
5,400.00	5,290.84	5,324.50	5,267.83	21.13	17.15	132.26	-537.54	-426.60	776.01	741.26	34.75	22.331	
5,500.00	5,387.92	5,422.60	5,364.47	21.64	17.54	132.32	-551.13	-436.63	795.37	759.83	35.54	22.382	
5,600.00	5,485.00	5,520.71	5,461.11	22.15	17.93	132.37	-564.72	-446.66	814.73	778.41	36.32	22.430	
5,666.65	5,549.70	5,586.09	5,525.52	22.49	18.19	132.41	-573.78	-453.34	827.63	790.78	36.85	22.459	
5,700.00	5,582.12	5,618.84	5,557.78	22.64	18.32	132.51	-578.32	-456.69	833.96	796.85	37.12	22.470	
5,800.00	5,679.85	5,717.29	5,654.76	22.97	18.72	132.68	-591.96	-466.76	851.39	813.54	37.85	22.496	
5,900.00	5,778.26	5,816.82	5,752.81	23.28	19.10	132.64	-605.72	-476.91	866.49	827.93	38.56	22.473	
6,000.00	5,877.23	5,921.65	5,856.46	23.54	19.42	132.53	-618.31	-486.20	878.86	839.69	39.17	22.437	
6,100.00	5,976.64	6,027.08	5,961.21	23.76	19.67	132.45	-627.88	-493.26	888.25	848.60	39.66	22.399	
6,200.00	6,076.36	6,132.95	6,066.76	23.95	19.87	132.41	-634.36	-498.04	894.62	854.57	40.06	22.334	
6,300.00	6,176.28	6,239.08	6,172.81	24.09	20.04	132.39	-637.71	-500.51	897.96	857.59	40.37	22.241	
6,360.72	6,237.00	6,303.27	6,237.00	24.17	20.14	-64.37	-638.20	-500.88	898.50	857.96	40.54	22.163	
6,400.00	6,276.28	6,342.55	6,276.28	24.21	20.19	-64.37	-638.20	-500.88	898.50	857.86	40.64	22.108	
6,500.00	6,376.28	6,442.55	6,376.28	24.32	20.31	-64.37	-638.20	-500.88	898.50	857.62	40.89	21.975	
6,600.00	6,476.28	6,542.55	6,476.28	24.42	20.44	-64.37	-638.20	-500.88	898.50	857.37	41.14	21.841	
6,700.00	6,576.28	6,642.55	6,576.28	24.53	20.57	-64.37	-638.20	-500.88	898.50	857.11	41.39	21.708	
6,800.00	6,676.28	6,742.55	6,676.28	24.63	20.70	-64.37	-638.20	-500.88	898.50	856.86	41.65	21.574	
6,900.00	6,776.28	6,842.55	6,776.28	24.74	20.84	-64.37	-638.20	-500.88	898.50	856.60	41.91	21.441	
7,000.00	6,876.28	6,942.55	6,876.28	24.85	20.97	-64.37	-638.20	-500.88	898.50	856.34	42.17	21.307	
7,100.00	6,976.28	7,042.55	6,976.28	24.96	21.11	-64.37	-638.20	-500.88	898.50	856.07	42.43	21.174	
7,200.00	7,076.28	7,142.55	7,076.28	25.08	21.24	-64.37	-638.20	-500.88	898.50	855.80	42.70	21.041	
7,300.00	7,176.28	7,242.55	7,176.28	25.19	21.38	-64.37	-638.20	-500.88	898.50	855.53	42.98	20.908	
7,400.00	7,276.28	7,342.55	7,276.28	25.31	21.52	-64.37	-638.20	-500.88	898.50	855.25	43.25	20.775	
7,500.00	7,376.28	7,442.55	7,376.28	25.43	21.67	-64.37	-638.20	-500.88	898.50	854.98	43.53	20.642	
7,600.00	7,476.28	7,542.55	7,476.28	25.55	21.81	-64.37	-638.20	-500.88	898.50	854.70	43.81	20.510	
7,700.00	7,576.28	7,642.55	7,576.28	25.67	21.95	-64.37	-638.20	-500.88	898.50	854.41	44.09	20.378	
7,800.00	7,676.28	7,742.55	7,676.28	25.79	22.10	-64.37	-638.20	-500.88	898.50	854.13	44.38	20.247	
7,900.00	7,776.28	7,842.55	7,776.28	25.91	22.25	-64.37	-638.20	-500.88	898.50	853.84	44.67	20.116	
8,000.00	7,876.28	7,942.55	7,876.28	26.04	22.40	-64.37	-638.20	-500.88	898.50	853.55	44.96	19.986	
8,100.00	7,976.28	8,042.55	7,976.28	26.17	22.55	-64.37	-638.20	-500.88	898.50	853.25	45.25	19.856	
8,200.00	8,076.28	8,142.55	8,076.28	26.29	22.70	-64.37	-638.20	-500.88	898.50	852.96	45.55	19.726	
8,248.70	8,124.98	8,191.25	8,124.98	26.36	22.77	-64.37	-638.20	-500.88	898.50	852.81	45.69	19.664	
8,275.72	8,152.00	8,213.27	8,147.00	26.39	22.80	-64.37	-638.20	-500.88	898.52	852.75	45.77	19.633	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1 3-17-10 RH: Survey Program: 0-MWD													Offset Site Error: 0.00 ft
Reference Offset Semi Major Axis Distance													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	19.87	19.87				
100.00	100.00	100.00	100.00	0.10	0.10	90.00	0.00	19.87	19.87	19.68	0.19	103.986	
200.00	200.00	200.00	200.00	0.32	0.32	90.00	0.00	19.87	19.87	19.23	0.64	31.013	
300.00	300.00	300.00	300.00	0.55	0.55	90.00	0.00	19.87	19.87	18.78	1.09	18.224	
400.00	400.00	400.00	400.00	0.77	0.77	90.00	0.00	19.87	19.87	18.33	1.54	12.903	
500.00	500.00	500.00	500.00	0.99	0.99	90.00	0.00	19.87	19.87	17.88	1.99	9.987	
600.00	600.00	600.00	600.00	1.22	1.22	90.00	0.00	19.87	19.87	17.43	2.44	8.146	
700.00	700.00	700.00	700.00	1.44	1.44	90.00	0.00	19.87	19.87	16.98	2.89	6.878	
800.00	800.00	800.00	800.00	1.67	1.67	90.00	0.00	19.87	19.87	16.53	3.34	5.952	
900.00	900.00	900.00	900.00	1.89	1.89	90.00	0.00	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	90.00	0.00	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	90.00	0.00	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	90.00	0.00	19.87	19.87	14.73	5.14	3.868 CC, ES	
1,300.00	1,299.98	1,299.37	1,299.35	2.76	2.77	-75.65	-0.77	21.41	20.93	15.40	5.53	3.782 SF	
1,400.00	1,399.84	1,398.62	1,398.46	2.94	2.96	-81.56	-3.09	26.02	24.31	18.42	5.90	4.123	
1,500.00	1,499.45	1,497.65	1,497.11	3.13	3.17	-88.31	-6.93	33.67	30.34	24.06	6.28	4.830	
1,600.00	1,598.70	1,596.35	1,595.09	3.34	3.39	-94.12	-12.28	44.33	39.22	32.52	6.71	5.849	
1,700.00	1,697.47	1,694.61	1,692.16	3.58	3.64	-98.51	-19.10	57.93	50.97	43.79	7.18	7.100	
1,800.00	1,795.62	1,792.33	1,788.12	3.86	3.93	-101.65	-27.37	74.40	65.52	57.81	7.72	8.491	
1,894.07	1,887.30	1,883.69	1,877.21	4.17	4.24	-103.74	-36.42	92.44	81.72	73.42	8.29	9.852	
1,900.00	1,893.06	1,889.44	1,882.80	4.19	4.26	-103.87	-37.03	93.66	82.82	74.48	8.33	9.938	
2,000.00	1,990.14	1,987.65	1,978.19	4.56	4.64	-105.60	-47.52	114.55	101.44	92.41	9.03	11.230	
2,100.00	2,087.22	2,085.86	2,073.58	4.96	5.03	-106.79	-58.00	135.45	120.12	110.35	9.78	12.285	
2,200.00	2,184.29	2,184.08	2,168.97	5.38	5.45	-107.66	-68.49	156.34	138.84	128.29	10.56	13.150	
2,300.00	2,281.37	2,282.29	2,264.36	5.81	5.88	-108.32	-78.97	177.24	157.59	146.22	11.37	13.864	
2,400.00	2,378.45	2,380.50	2,359.75	6.26	6.32	-108.85	-89.46	198.14	176.35	164.15	12.20	14.457	
2,500.00	2,475.53	2,478.72	2,455.14	6.71	6.77	-109.27	-99.95	219.03	195.12	182.07	13.05	14.956	
2,600.00	2,572.61	2,576.93	2,550.53	7.17	7.23	-109.62	-110.43	239.93	213.90	199.99	13.91	15.378	
2,700.00	2,669.69	2,675.14	2,645.92	7.64	7.69	-109.91	-120.92	260.82	232.69	217.90	14.78	15.738	
2,800.00	2,766.77	2,773.36	2,741.31	8.12	8.16	-110.16	-131.41	281.72	251.48	235.81	15.67	16.049	
2,900.00	2,863.85	2,871.57	2,836.70	8.60	8.64	-110.37	-141.89	302.62	270.27	253.71	16.56	16.319	
3,000.00	2,960.93	2,969.78	2,932.09	9.08	9.12	-110.56	-152.38	323.51	289.07	271.61	17.46	16.554	
3,100.00	3,058.01	3,067.99	3,027.48	9.57	9.60	-110.72	-162.86	344.41	307.87	289.50	18.37	16.762	
3,200.00	3,155.09	3,166.21	3,122.87	10.06	10.08	-110.86	-173.35	365.30	326.67	307.40	19.28	16.946	
3,300.00	3,252.17	3,264.42	3,218.26	10.55	10.56	-110.99	-183.84	386.20	345.48	325.29	20.19	17.110	
3,400.00	3,349.25	3,362.63	3,313.65	11.04	11.05	-111.11	-194.32	407.10	364.28	343.18	21.11	17.257	
3,500.00	3,446.33	3,460.85	3,409.04	11.54	11.54	-111.21	-204.81	427.99	383.09	361.06	22.03	17.389	
3,600.00	3,543.41	3,559.06	3,504.43	12.04	12.03	-111.31	-215.29	448.89	401.90	378.95	22.95	17.509	
3,700.00	3,640.49	3,657.27	3,599.82	12.54	12.52	-111.39	-225.78	469.78	420.71	396.83	23.88	17.618	
3,800.00	3,737.57	3,755.49	3,695.21	13.04	13.02	-111.47	-236.27	490.68	439.52	414.71	24.81	17.718	
3,900.00	3,834.65	3,853.70	3,790.60	13.54	13.51	-111.54	-246.75	511.58	458.33	432.60	25.74	17.809	
4,000.00	3,931.72	3,951.91	3,885.99	14.04	14.01	-111.61	-257.24	532.47	477.14	450.48	26.67	17.893	
4,100.00	4,028.80	4,050.13	3,981.38	14.54	14.50	-111.67	-267.73	553.37	495.96	468.35	27.60	17.969	
4,200.00	4,125.88	4,148.34	4,078.77	15.05	15.00	-111.73	-278.21	574.26	514.77	486.23	28.54	18.037	
4,300.00	4,222.96	4,246.55	4,172.16	15.55	15.50	-111.78	-288.70	595.16	533.58	504.10	29.48	18.100	
4,400.00	4,320.04	4,344.77	4,267.55	16.06	15.99	-111.83	-299.18	616.06	552.40	521.98	30.42	18.159	
4,500.00	4,417.12	4,442.98	4,362.94	16.56	16.49	-111.87	-309.67	636.95	571.21	539.85	31.36	18.213	
4,600.00	4,514.20	4,541.19	4,458.33	17.07	16.99	-111.92	-320.16	657.85	590.02	557.72	32.31	18.264	
4,700.00	4,611.28	4,639.41	4,553.72	17.57	17.49	-111.96	-330.64	678.74	608.84	575.59	33.25	18.311	
4,800.00	4,708.36	4,737.62	4,649.11	18.08	17.99	-112.00	-341.13	699.64	627.65	593.46	34.19	18.355	
4,900.00	4,805.44	4,835.83	4,744.50	18.59	18.49	-112.03	-351.61	720.54	646.47	611.33	35.14	18.397	
5,000.00	4,902.52	4,934.05	4,839.89	19.10	18.99	-112.07	-362.10	741.43	665.29	629.20	36.09	18.435	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	5,032.26	4,935.28	19.61	19.49	-112.10	-372.59	762.33	684.10	647.07	37.03	18.472	
5,200.00	5,096.68	5,130.47	5,030.67	20.11	19.99	-112.13	-383.07	783.22	702.92	664.93	37.98	18.506	
5,300.00	5,193.76	5,228.69	5,126.06	20.62	20.50	-112.16	-393.56	804.12	721.73	682.80	38.93	18.539	
5,400.00	5,290.84	5,326.90	5,221.45	21.13	21.00	-112.18	-404.05	825.02	740.55	700.67	39.88	18.569	
5,500.00	5,387.92	5,425.11	5,316.84	21.64	21.50	-112.21	-414.53	845.91	759.37	718.54	40.83	18.598	
5,600.00	5,485.00	5,523.32	5,412.23	22.15	22.00	-112.23	-425.02	866.81	778.18	736.40	41.78	18.626	
5,666.65	5,549.70	5,588.78	5,475.80	22.49	22.34	-112.25	-432.01	880.73	790.72	748.31	42.41	18.643	
5,700.00	5,582.12	5,621.55	5,507.63	22.64	22.51	-112.36	-435.51	887.71	796.93	754.20	42.72	18.653	
5,800.00	5,679.85	5,727.63	5,610.85	22.97	22.97	-112.56	-446.47	909.56	814.37	770.83	43.54	18.706	
5,900.00	5,778.26	5,839.19	5,720.24	23.28	23.34	-112.70	-456.26	929.07	829.09	784.87	44.22	18.750	
6,000.00	5,877.23	5,951.47	5,831.12	23.54	23.67	-112.82	-464.18	944.85	840.95	796.13	44.81	18.765	
6,100.00	5,976.64	6,064.33	5,943.18	23.76	23.94	-112.92	-470.17	956.78	849.90	804.58	45.32	18.753	
6,200.00	6,076.36	6,177.61	6,056.10	23.95	24.16	-113.00	-474.18	964.78	855.93	810.20	45.74	18.714	
6,300.00	6,176.28	6,291.13	6,169.52	24.09	24.32	-113.05	-476.20	968.79	859.02	812.96	46.06	18.649	
6,360.72	6,237.00	6,358.61	6,237.00	24.17	24.40	50.18	-476.44	969.29	859.47	813.25	46.22	18.594	
6,400.00	6,276.28	6,397.89	6,276.28	24.21	24.45	50.18	-476.44	969.29	859.47	813.16	46.32	18.557	
6,500.00	6,376.28	6,497.89	6,376.28	24.32	24.56	50.18	-476.44	969.29	859.47	812.93	46.54	18.466	
6,600.00	6,476.28	6,597.89	6,476.28	24.42	24.68	50.18	-476.44	969.29	859.47	812.70	46.77	18.375	
6,700.00	6,576.28	6,697.89	6,576.28	24.53	24.80	50.18	-476.44	969.29	859.47	812.46	47.01	18.283	
6,800.00	6,676.28	6,797.89	6,676.28	24.63	24.92	50.18	-476.44	969.29	859.47	812.23	47.25	18.191	
6,900.00	6,776.28	6,897.89	6,776.28	24.74	25.04	50.18	-476.44	969.29	859.47	811.99	47.49	18.099	
7,000.00	6,876.28	6,997.89	6,876.28	24.85	25.16	50.18	-476.44	969.29	859.47	811.74	47.73	18.007	
7,100.00	6,976.28	7,097.89	6,976.28	24.96	25.28	50.18	-476.44	969.29	859.47	811.50	47.98	17.914	
7,200.00	7,076.28	7,197.89	7,076.28	25.08	25.41	50.18	-476.44	969.29	859.47	811.25	48.23	17.822	
7,300.00	7,176.28	7,297.89	7,176.28	25.19	25.53	50.18	-476.44	969.29	859.47	810.99	48.48	17.729	
7,400.00	7,276.28	7,397.89	7,276.28	25.31	25.66	50.18	-476.44	969.29	859.47	810.74	48.73	17.636	
7,500.00	7,376.28	7,497.89	7,376.28	25.43	25.79	50.18	-476.44	969.29	859.47	810.48	48.99	17.543	
7,600.00	7,476.28	7,597.89	7,476.28	25.55	25.92	50.18	-476.44	969.29	859.47	810.22	49.25	17.451	
7,700.00	7,576.28	7,697.89	7,576.28	25.67	26.05	50.18	-476.44	969.29	859.47	809.96	49.52	17.358	
7,800.00	7,676.28	7,797.89	7,676.28	25.79	26.19	50.18	-476.44	969.29	859.47	809.69	49.78	17.265	
7,900.00	7,776.28	7,897.89	7,776.28	25.91	26.32	50.18	-476.44	969.29	859.47	809.42	50.05	17.172	
8,000.00	7,876.28	7,997.89	7,876.28	26.04	26.46	50.18	-476.44	969.29	859.47	809.15	50.32	17.080	
8,100.00	7,976.28	8,097.89	7,976.28	26.17	26.59	50.18	-476.44	969.29	859.47	808.88	50.59	16.987	
8,200.00	8,076.28	8,197.89	8,076.28	26.29	26.73	50.18	-476.44	969.29	859.47	808.60	50.87	16.895	
8,246.19	8,122.47	8,244.08	8,122.47	26.35	26.79	50.18	-476.44	969.29	859.47	808.47	51.00	16.852	
8,275.72	8,152.00	8,262.61	8,141.00	26.39	26.82	50.18	-476.44	969.29	859.54	808.48	51.07	16.832	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN #1 3-17-10 f												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	90.00	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	9.241	
400.00	400.00	400.00	400.00	0.77	0.77	90.00	0.00	10.07	10.07	8.53	1.54	6.543	
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 CC, ES	
1,300.00	1,299.98	1,299.79	1,299.77	2.76	2.77	-77.92	-0.80	11.10	10.64	5.10	5.53	1.923 SF	
1,400.00	1,399.84	1,399.54	1,399.45	2.94	2.96	-89.11	-3.19	14.19	12.67	6.78	5.89	2.151	
1,500.00	1,499.45	1,499.22	1,498.91	3.13	3.15	-100.92	-7.18	19.33	16.76	10.49	6.28	2.672	
1,600.00	1,598.70	1,598.79	1,598.07	3.34	3.36	-109.92	-12.75	26.51	23.15	16.47	6.69	3.462	
1,700.00	1,697.47	1,698.23	1,696.82	3.58	3.59	-115.96	-19.89	35.71	31.81	24.67	7.14	4.456	
1,800.00	1,795.62	1,797.49	1,795.06	3.86	3.84	-119.92	-28.58	46.92	42.63	35.00	7.63	5.585	
1,894.07	1,887.30	1,890.68	1,886.92	4.17	4.11	-122.42	-38.17	59.28	54.74	46.58	8.15	6.714	
1,900.00	1,893.06	1,896.55	1,892.69	4.19	4.12	-122.56	-38.81	60.12	55.56	47.37	8.19	6.785	
2,000.00	1,990.14	1,995.53	1,989.79	4.56	4.44	-123.25	-50.59	75.30	69.45	60.63	8.83	7.870	
2,100.00	2,087.22	2,094.46	2,086.31	4.96	4.79	-121.94	-63.89	92.45	83.44	73.90	9.54	8.746	
2,200.00	2,184.29	2,193.21	2,182.06	5.38	5.19	-119.49	-78.69	111.54	97.65	87.32	10.33	9.450	
2,300.00	2,281.37	2,291.65	2,276.85	5.81	5.63	-116.37	-94.95	132.50	112.33	101.12	11.21	10.021	
2,400.00	2,378.45	2,389.83	2,370.71	6.26	6.12	-112.90	-112.60	155.25	127.73	115.58	12.15	10.514	
2,500.00	2,475.53	2,488.31	2,464.66	6.71	6.64	-109.91	-130.69	178.57	143.66	130.54	13.12	10.951	
2,600.00	2,572.61	2,586.78	2,558.61	7.17	7.18	-107.52	-148.77	201.89	159.89	145.80	14.10	11.342	
2,700.00	2,669.69	2,685.26	2,652.56	7.64	7.73	-105.57	-166.86	225.21	176.35	161.27	15.09	11.689	
2,800.00	2,766.77	2,783.73	2,746.51	8.12	8.29	-103.95	-184.94	248.53	192.98	176.89	16.08	12.000	
2,900.00	2,863.85	2,882.21	2,840.46	8.60	8.85	-102.59	-203.03	271.85	209.73	192.64	17.08	12.277	
3,000.00	2,960.93	2,980.68	2,934.40	9.08	9.43	-101.44	-221.12	295.17	226.57	208.48	18.09	12.525	
3,100.00	3,058.01	3,079.16	3,028.35	9.57	10.01	-100.44	-239.20	318.49	243.50	224.40	19.10	12.749	
3,200.00	3,155.09	3,177.63	3,122.30	10.06	10.60	-99.57	-257.29	341.81	260.49	240.37	20.11	12.951	
3,300.00	3,252.17	3,276.10	3,216.25	10.55	11.19	-98.81	-275.38	365.13	277.52	256.39	21.13	13.135	
3,400.00	3,349.25	3,374.58	3,310.20	11.04	11.78	-98.14	-293.46	388.45	294.60	272.46	22.15	13.302	
3,500.00	3,446.33	3,473.05	3,404.15	11.54	12.38	-97.54	-311.55	411.77	311.72	288.55	23.17	13.454	
3,600.00	3,543.41	3,571.53	3,498.10	12.04	12.98	-97.00	-329.63	435.09	328.87	304.67	24.19	13.594	
3,700.00	3,640.49	3,670.00	3,592.05	12.54	13.59	-96.51	-347.72	458.41	346.04	320.82	25.22	13.723	
3,800.00	3,737.57	3,768.48	3,685.99	13.04	14.19	-96.08	-365.81	481.73	363.23	336.99	26.24	13.842	
3,900.00	3,834.65	3,866.95	3,779.94	13.54	14.80	-95.68	-383.89	505.05	380.44	353.17	27.27	13.952	
4,000.00	3,931.72	3,965.43	3,873.89	14.04	15.40	-95.31	-401.98	528.37	397.67	369.37	28.30	14.054	
4,100.00	4,028.80	4,063.90	3,967.84	14.54	16.01	-94.98	-420.07	551.69	414.91	385.59	29.32	14.149	
4,200.00	4,125.88	4,162.38	4,061.79	15.05	16.62	-94.67	-438.15	575.01	432.16	401.81	30.35	14.238	
4,300.00	4,222.96	4,260.85	4,155.74	15.55	17.24	-94.39	-456.24	598.33	449.43	418.05	31.38	14.321	
4,400.00	4,320.04	4,359.33	4,249.69	16.06	17.85	-94.13	-474.32	621.65	466.70	434.29	32.41	14.399	
4,500.00	4,417.12	4,457.80	4,343.63	16.56	18.46	-93.88	-492.41	644.97	483.99	450.55	33.44	14.472	
4,600.00	4,514.20	4,556.28	4,437.58	17.07	19.08	-93.65	-510.50	668.29	501.28	466.81	34.47	14.540	
4,700.00	4,611.28	4,654.75	4,531.53	17.57	19.69	-93.44	-528.58	691.61	518.58	483.07	35.51	14.605	
4,800.00	4,708.36	4,753.23	4,625.48	18.08	20.31	-93.24	-546.67	714.93	535.89	499.35	36.54	14.667	
4,900.00	4,805.44	4,851.70	4,719.43	18.59	20.92	-93.06	-564.76	738.25	553.20	515.63	37.57	14.724	
5,000.00	4,902.52	4,950.18	4,813.38	19.10	21.54	-92.88	-582.84	761.57	570.51	531.91	38.60	14.779	

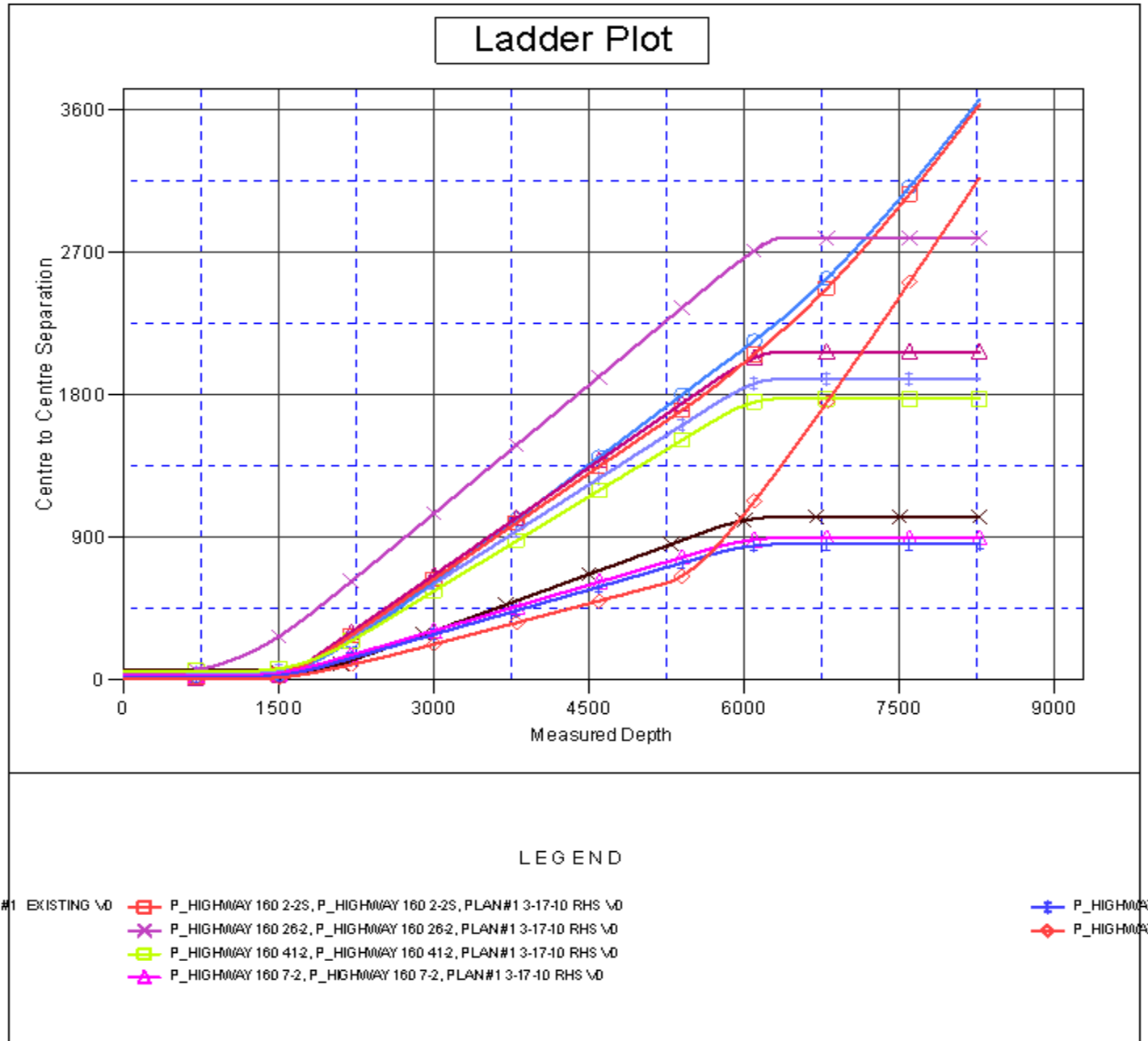
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN #1 3-17-10 f												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	4,999.60	5,048.65	4,907.33	19.61	22.16	-92.72	-600.93	784.89	587.84	548.20	39.63	14.832	
5,200.00	5,096.68	5,147.13	5,001.28	20.11	22.77	-92.56	-619.01	808.21	605.16	564.50	40.67	14.881	
5,300.00	5,193.76	5,194.00	5,046.00	20.62	23.07	-92.49	-627.63	819.31	624.63	583.21	41.42	15.082	
5,400.00	5,290.84	5,194.00	5,046.00	21.13	23.07	-92.49	-627.63	819.31	657.19	615.28	41.91	15.681	
5,500.00	5,387.92	5,194.00	5,046.00	21.64	23.07	-92.49	-627.63	819.31	702.59	660.19	42.41	16.569	
5,600.00	5,485.00	5,194.00	5,046.00	22.15	23.07	-92.49	-627.63	819.31	758.54	715.64	42.90	17.681	
5,666.65	5,549.70	5,194.00	5,046.00	22.49	23.07	-92.49	-627.63	819.31	800.60	757.37	43.23	18.520	
5,700.00	5,582.12	5,194.00	5,046.00	22.64	23.07	-93.09	-627.63	819.31	822.87	779.42	43.45	18.938	
5,800.00	5,679.85	5,194.00	5,046.00	22.97	23.07	-95.09	-627.63	819.31	893.67	849.64	44.03	20.298	
5,900.00	5,778.26	5,194.00	5,046.00	23.28	23.07	-97.41	-627.63	819.31	969.43	924.86	44.58	21.748	
6,000.00	5,877.23	5,194.00	5,046.00	23.54	23.07	-100.01	-627.63	819.31	1,049.00	1,003.93	45.07	23.276	
6,100.00	5,976.64	5,194.00	5,046.00	23.76	23.07	-102.87	-627.63	819.31	1,131.49	1,086.01	45.48	24.878	
6,200.00	6,076.36	5,194.00	5,046.00	23.95	23.07	-105.96	-627.63	819.31	1,216.21	1,170.42	45.79	26.561	
6,300.00	6,176.28	5,194.00	5,046.00	24.09	23.07	-109.23	-627.63	819.31	1,302.63	1,256.66	45.97	28.337	
6,360.72	6,237.00	5,194.00	5,046.00	24.17	23.07	51.95	-627.63	819.31	1,355.76	1,309.75	46.01	29.465	
6,400.00	6,276.28	5,194.00	5,046.00	24.21	23.07	51.95	-627.63	819.31	1,390.40	1,344.34	46.06	30.188	
6,500.00	6,376.28	5,194.00	5,046.00	24.32	23.07	51.95	-627.63	819.31	1,479.61	1,433.45	46.17	32.049	
6,600.00	6,476.28	5,194.00	5,046.00	24.42	23.07	51.95	-627.63	819.31	1,570.13	1,523.85	46.28	33.928	
6,700.00	6,576.28	5,194.00	5,046.00	24.53	23.07	51.95	-627.63	819.31	1,661.74	1,615.35	46.39	35.821	
6,800.00	6,676.28	5,194.00	5,046.00	24.63	23.07	51.95	-627.63	819.31	1,754.26	1,707.76	46.50	37.723	
6,900.00	6,776.28	5,194.00	5,046.00	24.74	23.07	51.95	-627.63	819.31	1,847.56	1,800.94	46.62	39.631	
7,000.00	6,876.28	5,194.00	5,046.00	24.85	23.07	51.95	-627.63	819.31	1,941.53	1,894.79	46.74	41.542	
7,100.00	6,976.28	5,194.00	5,046.00	24.96	23.07	51.95	-627.63	819.31	2,036.07	1,989.22	46.85	43.455	
7,200.00	7,076.28	5,194.00	5,046.00	25.08	23.07	51.95	-627.63	819.31	2,131.11	2,084.14	46.97	45.367	
7,300.00	7,176.28	5,194.00	5,046.00	25.19	23.07	51.95	-627.63	819.31	2,226.59	2,179.49	47.10	47.278	
7,400.00	7,276.28	5,194.00	5,046.00	25.31	23.07	51.95	-627.63	819.31	2,322.45	2,275.23	47.22	49.185	
7,500.00	7,376.28	5,194.00	5,046.00	25.43	23.07	51.95	-627.63	819.31	2,418.64	2,371.30	47.34	51.087	
7,600.00	7,476.28	5,194.00	5,046.00	25.55	23.07	51.95	-627.63	819.31	2,515.13	2,467.66	47.47	52.985	
7,700.00	7,576.28	5,194.00	5,046.00	25.67	23.07	51.95	-627.63	819.31	2,611.88	2,564.29	47.60	54.876	
7,800.00	7,676.28	5,194.00	5,046.00	25.79	23.07	51.95	-627.63	819.31	2,708.87	2,661.15	47.72	56.760	
7,900.00	7,776.28	5,194.00	5,046.00	25.91	23.07	51.95	-627.63	819.31	2,806.07	2,758.22	47.85	58.637	
8,000.00	7,876.28	5,194.00	5,046.00	26.04	23.07	51.95	-627.63	819.31	2,903.46	2,855.48	47.99	60.506	
8,100.00	7,976.28	5,194.00	5,046.00	26.17	23.07	51.95	-627.63	819.31	3,001.03	2,952.91	48.12	62.367	
8,200.00	8,076.28	5,194.00	5,046.00	26.29	23.07	51.95	-627.63	819.31	3,098.74	3,050.49	48.25	64.219	
8,275.72	8,152.00	5,194.00	5,046.00	26.39	23.07	51.95	-627.63	819.31	3,172.83	3,124.48	48.35	65.616	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
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<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

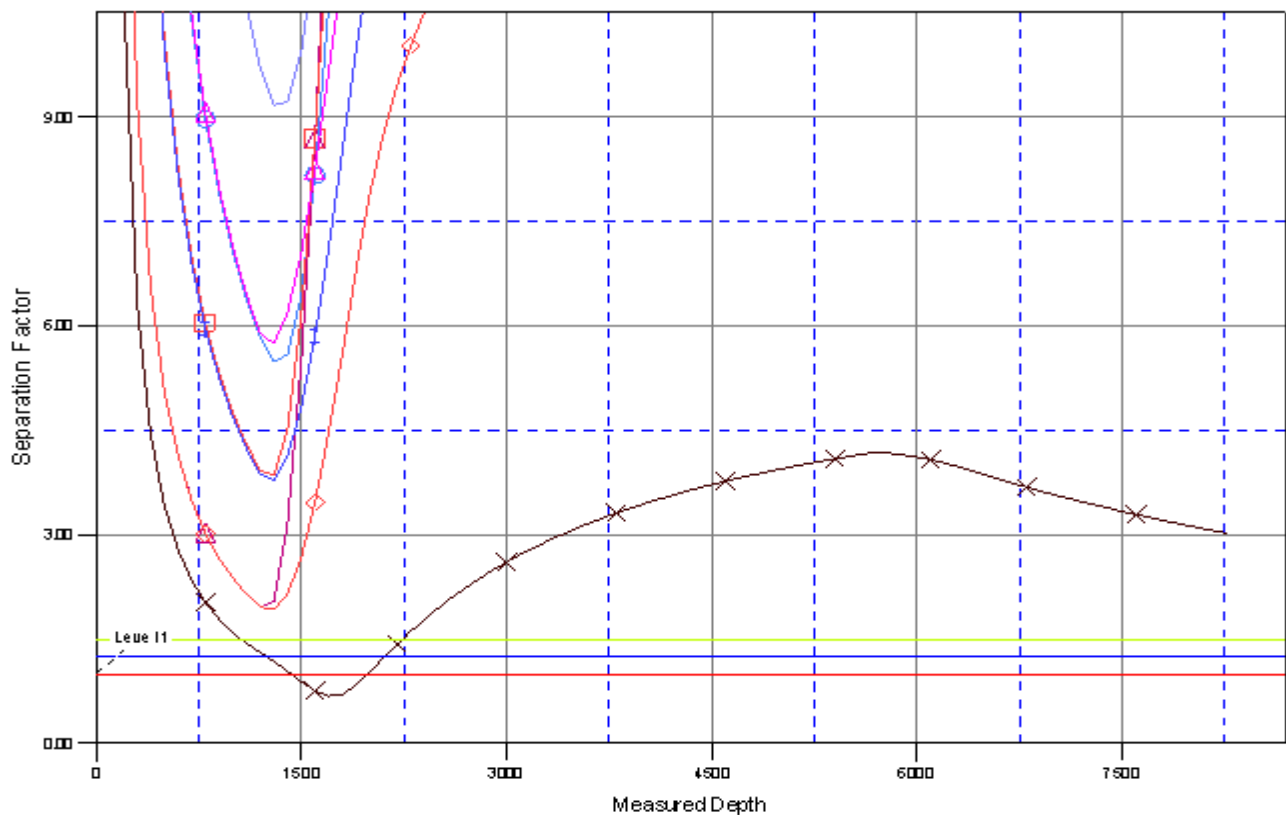
Reference Depths are relative to WELL @ 5119.00ft (Original Well Elev) Coordinates are relative to: P\_HIGHWAY 160 24-2  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.49°









<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 24-2
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 24-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_HIGHWAY 160 24-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5119.00ft (Original Well Elev) Coordinates are relative to: P\_HIGHWAY 160 24-2  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.49°

## Separation Factor Plot



### LEGEND

T#1 EXISTING \0	 P_HIGHWAY 160 2-2S, P_HIGHWAY 160 2-2S, PLAN#1 3-17-10 RHS \0	 P_HIGHWAY
	 P_HIGHWAY 160 26-2, P_HIGHWAY 160 26-2, PLAN#1 3-17-10 RHS \0	 P_HIGHWAY
	 P_HIGHWAY 160 41-2, P_HIGHWAY 160 41-2, PLAN#1 3-17-10 RHS \0	
	 P_HIGHWAY 160 7-2, P_HIGHWAY 160 7-2, PLAN#1 3-17-10 RHS \0	