



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

**P\_HIGHWAY 160 41-2**

**P\_HIGHWAY 160 41-2**

**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 41-2  
Wellbore: P\_HIGHWAY 160 41-2  
Section: SECTION 2 T1N R66W  
SHL: 1496 FNL 1569 FEL  
Design: PLAN #1 3-17-10 RHS  
Latitude: 40° 4' 59.714 N  
Longitude: 104° 44' 25.606 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
4246.00	4417.22	PARKMAN
4736.00	4943.11	SUSSEX
7216.00	7479.65	NIO A
7536.00	7799.65	CODELL
7996.00	8259.65	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
2264.43	21.29	81.84	2240.11	27.75	193.50	2.00	81.84	195.48	Start 3150.78 hold at 2264.43 MD
5415.21	21.29	81.84	5175.89	190.15	1325.86	0.00	0.00	1339.43	Start Drop -2.00
6479.65	0.00	0.00	6216.00	217.90	1519.37	2.00	180.00	1534.91	Start 1915.00 hold at 6479.65 MD
8394.65	0.00	0.00	8131.00	217.90	1519.37	0.00	0.00	1534.91	TD at 8394.65

#### LEGEND

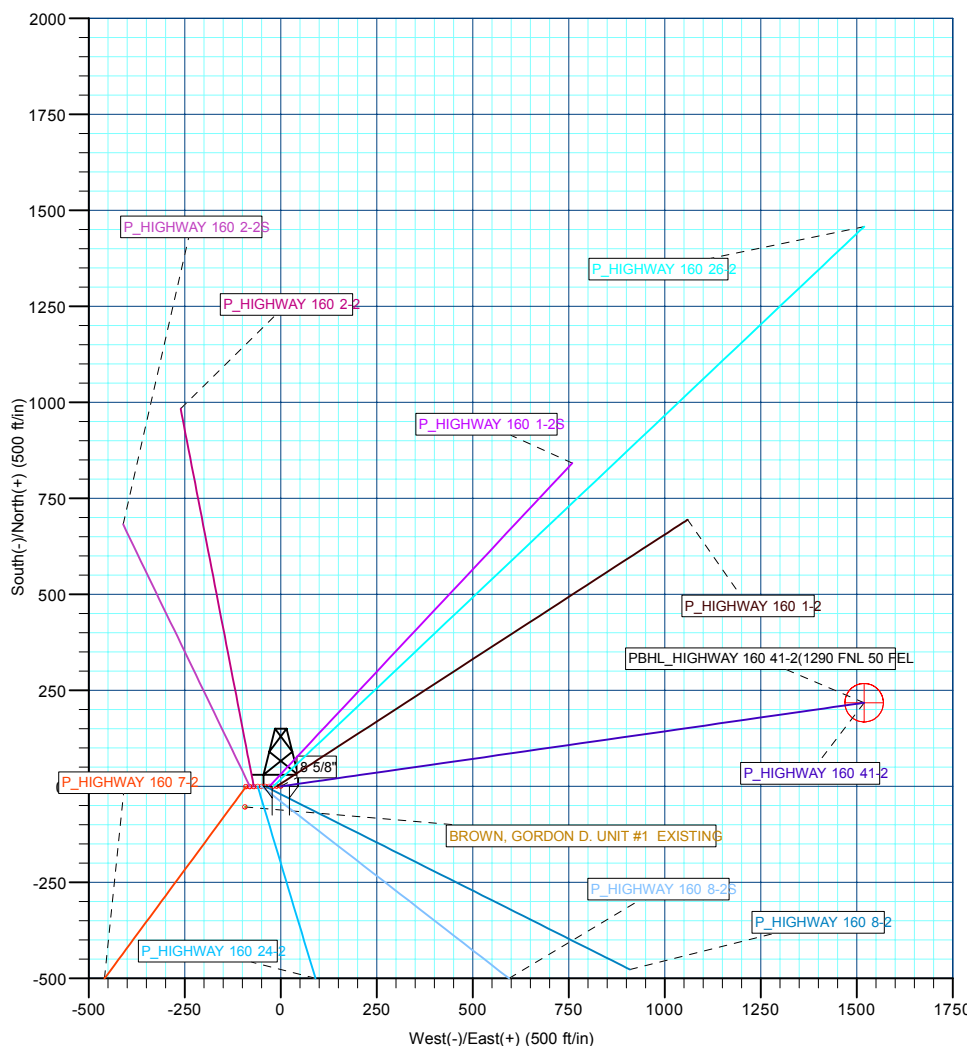
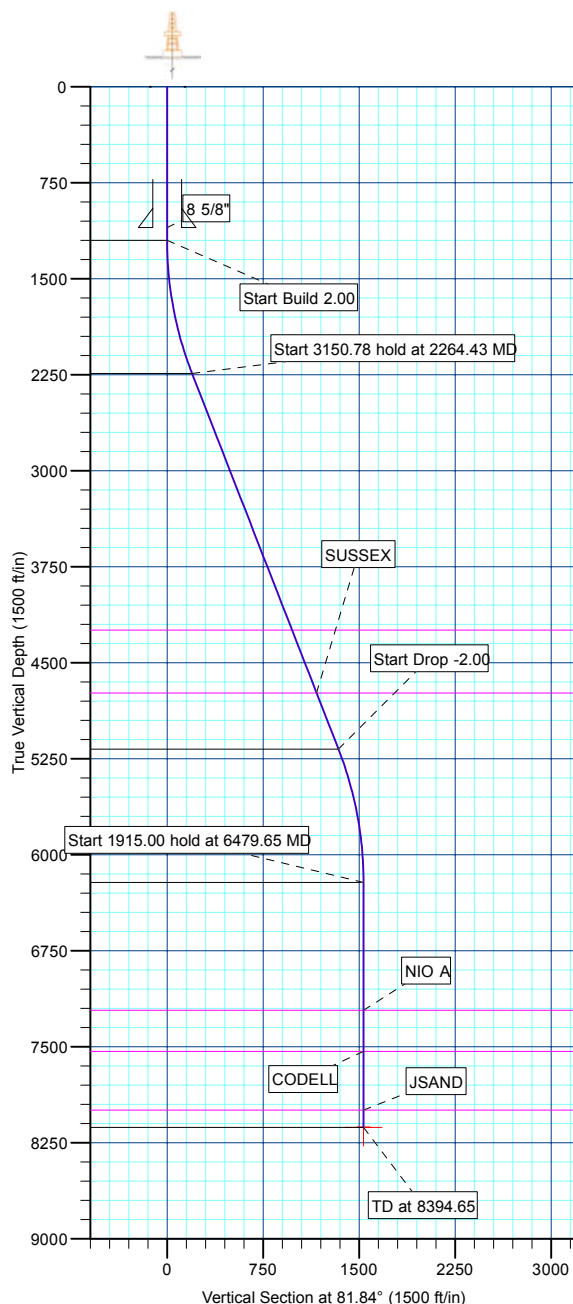
BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING V0  
P\_HIGHWAY 160 1-2, P\_HIGHWAY 160 1-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 1-2S, P\_HIGHWAY 160 1-2S, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 2-2, P\_HIGHWAY 160 2-2, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 2-2S, P\_HIGHWAY 160 2-2S, PLAN #1 3-17-10 RHS V0  
P\_HIGHWAY 160 24-2, P\_HIGHWAY 160 24-2, 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 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	8131.00	217.90	1519.37	40° 5' 1.867 N	104° 44' 6.058 W	Circle (Radius: 50.00)

#### WELL DETAILS: P\_HIGHWAY 160 41-2

+N/-S	+E/-W	Northing	Ground Level: Easting	5104.00 Latitude	Longitude	Slot
0.00	0.00	1274084.44	3212529.41	40° 4' 59.714 N	104° 44' 25.606 W	



Plan: PLAN #1 3-17-10 RHS (P\_HIGHWAY 160 41-2/P\_HIGHWAY 160 41-2)

Created By: Robert H. Scott Date: 14:59, March 17 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 41-2		
<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 41-2					
Well Position	+N/-S	-0.01 ft	Northing:	1,274,084.44 ft	Latitude:	40° 4' 59.714 N
	+E/-W	10.07 ft	Easting:	3,212,529.41 ft	Longitude:	104° 44' 25.606 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,104.00 ft

<b>Wellbore</b>	P_HIGHWAY 160 41-2				
<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	81.84

<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	
2,264.43	21.29	81.84	2,240.11	27.75	193.50	2.00	2.00	0.00	81.84	
5,415.21	21.29	81.84	5,175.89	190.15	1,325.86	0.00	0.00	0.00	0.00	
6,479.65	0.00	0.00	6,216.00	217.90	1,519.37	2.00	-2.00	0.00	180.00	
8,394.65	0.00	0.00	8,131.00	217.90	1,519.37	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 41-2
<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 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 41-2		
<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	81.84	1,299.98	0.25	1.73	1.75	2.00	2.00	0.00
1,400.00	4.00	81.84	1,399.84	0.99	6.91	6.98	2.00	2.00	0.00
1,500.00	6.00	81.84	1,499.45	2.23	15.53	15.69	2.00	2.00	0.00
1,600.00	8.00	81.84	1,598.70	3.96	27.60	27.88	2.00	2.00	0.00
1,700.00	10.00	81.84	1,697.47	6.18	43.08	43.52	2.00	2.00	0.00
1,800.00	12.00	81.84	1,795.62	8.89	61.97	62.60	2.00	2.00	0.00
1,900.00	14.00	81.84	1,893.06	12.08	84.23	85.10	2.00	2.00	0.00
2,000.00	16.00	81.84	1,989.64	15.75	109.85	110.98	2.00	2.00	0.00
2,100.00	18.00	81.84	2,085.27	19.90	138.79	140.21	2.00	2.00	0.00
2,200.00	20.00	81.84	2,179.82	24.53	171.02	172.77	2.00	2.00	0.00
<b>Start 3150.78 hold at 2264.43 MD</b>									
2,264.43	21.29	81.84	2,240.11	27.75	193.50	195.48	2.00	2.00	0.00
2,300.00	21.29	81.84	2,273.25	29.58	206.29	208.40	0.00	0.00	0.00
2,400.00	21.29	81.84	2,366.43	34.74	242.23	244.70	0.00	0.00	0.00
2,500.00	21.29	81.84	2,459.60	39.89	278.16	281.01	0.00	0.00	0.00
2,600.00	21.29	81.84	2,552.78	45.05	314.10	317.32	0.00	0.00	0.00
2,700.00	21.29	81.84	2,645.96	50.20	350.04	353.62	0.00	0.00	0.00
2,800.00	21.29	81.84	2,739.13	55.35	385.98	389.93	0.00	0.00	0.00
2,900.00	21.29	81.84	2,832.31	60.51	421.92	426.24	0.00	0.00	0.00
3,000.00	21.29	81.84	2,925.48	65.66	457.86	462.54	0.00	0.00	0.00
3,100.00	21.29	81.84	3,018.66	70.82	493.80	498.85	0.00	0.00	0.00
3,200.00	21.29	81.84	3,111.84	75.97	529.74	535.16	0.00	0.00	0.00
3,300.00	21.29	81.84	3,205.01	81.13	565.68	571.46	0.00	0.00	0.00
3,400.00	21.29	81.84	3,298.19	86.28	601.62	607.77	0.00	0.00	0.00
3,500.00	21.29	81.84	3,391.37	91.43	637.55	644.08	0.00	0.00	0.00
3,600.00	21.29	81.84	3,484.54	96.59	673.49	680.38	0.00	0.00	0.00
3,700.00	21.29	81.84	3,577.72	101.74	709.43	716.69	0.00	0.00	0.00
3,800.00	21.29	81.84	3,670.89	106.90	745.37	753.00	0.00	0.00	0.00
3,900.00	21.29	81.84	3,764.07	112.05	781.31	789.30	0.00	0.00	0.00
4,000.00	21.29	81.84	3,857.25	117.20	817.25	825.61	0.00	0.00	0.00
4,100.00	21.29	81.84	3,950.42	122.36	853.19	861.92	0.00	0.00	0.00
4,200.00	21.29	81.84	4,043.60	127.51	889.13	898.22	0.00	0.00	0.00
4,300.00	21.29	81.84	4,136.78	132.67	925.07	934.53	0.00	0.00	0.00
4,400.00	21.29	81.84	4,229.95	137.82	961.01	970.84	0.00	0.00	0.00
<b>PARKMAN</b>									
4,417.22	21.29	81.84	4,246.00	138.71	967.19	977.09	0.00	0.00	0.00
4,500.00	21.29	81.84	4,323.13	142.98	996.94	1,007.14	0.00	0.00	0.00
4,600.00	21.29	81.84	4,416.31	148.13	1,032.88	1,043.45	0.00	0.00	0.00
4,700.00	21.29	81.84	4,509.48	153.28	1,068.82	1,079.76	0.00	0.00	0.00
4,800.00	21.29	81.84	4,602.66	158.44	1,104.76	1,116.06	0.00	0.00	0.00
4,900.00	21.29	81.84	4,695.83	163.59	1,140.70	1,152.37	0.00	0.00	0.00
<b>SUSSEX</b>									
4,943.11	21.29	81.84	4,736.00	165.81	1,156.19	1,168.02	0.00	0.00	0.00
5,000.00	21.29	81.84	4,789.01	168.75	1,176.64	1,188.68	0.00	0.00	0.00
5,100.00	21.29	81.84	4,882.19	173.90	1,212.58	1,224.98	0.00	0.00	0.00
5,200.00	21.29	81.84	4,975.36	179.05	1,248.52	1,261.29	0.00	0.00	0.00
5,300.00	21.29	81.84	5,068.54	184.21	1,284.46	1,297.60	0.00	0.00	0.00
5,400.00	21.29	81.84	5,161.72	189.36	1,320.39	1,333.90	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,415.21	21.29	81.84	5,175.89	190.15	1,325.86	1,339.43	0.00	0.00	0.00
5,500.00	19.59	81.84	5,255.34	194.35	1,355.17	1,369.04	2.00	-2.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 41-2		
<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)
5,600.00	17.59	81.84	5,350.11	198.88	1,386.73	1,400.92	2.00	-2.00	0.00
5,700.00	15.59	81.84	5,445.94	202.93	1,415.00	1,429.48	2.00	-2.00	0.00
5,800.00	13.59	81.84	5,542.71	206.51	1,439.94	1,454.67	2.00	-2.00	0.00
5,900.00	11.59	81.84	5,640.30	209.60	1,461.52	1,476.47	2.00	-2.00	0.00
6,000.00	9.59	81.84	5,738.59	212.21	1,479.71	1,494.85	2.00	-2.00	0.00
6,100.00	7.59	81.84	5,837.46	214.33	1,494.50	1,509.79	2.00	-2.00	0.00
6,200.00	5.59	81.84	5,936.80	215.96	1,505.87	1,521.27	2.00	-2.00	0.00
6,300.00	3.59	81.84	6,036.47	217.10	1,513.79	1,529.28	2.00	-2.00	0.00
6,400.00	1.59	81.84	6,136.36	217.74	1,518.27	1,533.80	2.00	-2.00	0.00
<b>Start 1915.00 hold at 6479.65 MD</b>									
6,479.65	0.00	0.00	6,216.00	217.90	1,519.37	1,534.91	2.00	-2.00	0.00
6,500.00	0.00	0.00	6,236.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,336.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
6,700.00	0.00	0.00	6,436.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
6,800.00	0.00	0.00	6,536.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
6,900.00	0.00	0.00	6,636.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,000.00	0.00	0.00	6,736.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,100.00	0.00	0.00	6,836.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,200.00	0.00	0.00	6,936.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,300.00	0.00	0.00	7,036.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,400.00	0.00	0.00	7,136.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
<b>NIO A</b>									
7,479.65	0.00	0.00	7,216.00	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,500.00	0.00	0.00	7,236.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,600.00	0.00	0.00	7,336.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,700.00	0.00	0.00	7,436.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
<b>CODELL</b>									
7,799.65	0.00	0.00	7,536.00	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,800.00	0.00	0.00	7,536.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
7,900.00	0.00	0.00	7,636.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
8,000.00	0.00	0.00	7,736.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
8,100.00	0.00	0.00	7,836.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
8,200.00	0.00	0.00	7,936.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
<b>JSAND</b>									
8,259.65	0.00	0.00	7,996.00	217.90	1,519.37	1,534.91	0.00	0.00	0.00
8,300.00	0.00	0.00	8,036.35	217.90	1,519.37	1,534.91	0.00	0.00	0.00
<b>PBHL_HIGHWAY 160 41-2(1290 FNL 50 FEL</b>									
8,394.65	0.00	0.00	8,131.00	217.90	1,519.37	1,534.91	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 16C	0.00	0.00	8,131.00	217.90	1,519.37	1,274,315.34	3,214,046.85	40° 5' 1.867 N	104° 44' 6.058 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 41-2
<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 41-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 41-2		
<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 (°)	
4,417.22	4,246.00	PARKMAN				
4,943.11	4,736.00	SUSSEX				
7,479.65	7,216.00	NIO A				
7,799.65	7,536.00	CODELL				
8,259.65	7,996.00	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	
2,264.43	2,240.11	27.75	193.50	Start 3150.78 hold at 2264.43 MD	
5,415.21	5,175.89	190.15	1,325.86	Start Drop -2.00	
6,479.65	6,216.00	217.90	1,519.37	Start 1915.00 hold at 6479.65 MD	
8,394.65	8,131.00	217.90	1,519.37	TD at 8394.65	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_HIGHWAY 160 17-2 pad  
P\_HIGHWAY 160 41-2**

**P\_HIGHWAY 160 41-2  
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 41-2
<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 41-2	<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 41-2	<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	8,394.65	PLAN #1 3-17-10 RHS (P_HIGHWAY 160	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_HIGHWAY 160 17-2 pad						
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,200.00	1,185.00	107.41	59.44	2.239	CC
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,300.00	1,284.98	109.03	56.87	2.090	ES
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,400.00	1,384.84	113.91	57.64	2.024	SF
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,200.00	1,200.00	10.07	4.94	1.961	CC
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,300.00	1,300.29	10.36	4.79	1.862	ES, SF
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,200.00	1,200.00	29.94	24.81	5.830	CC, ES
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,300.00	1,300.54	30.77	25.20	5.527	SF
P_HIGHWAY 160 2-2 - P_HIGHWAY 160 2-2 - PLAN #1	1,200.00	1,200.00	69.96	64.82	13.621	CC, ES
P_HIGHWAY 160 2-2 - P_HIGHWAY 160 2-2 - PLAN #1	1,300.00	1,299.50	72.01	66.45	12.934	SF
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,200.00	1,200.00	80.03	74.89	15.582	CC, ES
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,300.00	1,299.06	82.32	76.75	14.790	SF
P_HIGHWAY 160 24-2 - P_HIGHWAY 160 24-2 - PLAN	1,200.00	1,200.00	59.88	54.75	11.659	CC, ES
P_HIGHWAY 160 24-2 - P_HIGHWAY 160 24-2 - PLAN	1,300.00	1,300.54	61.14	55.60	11.032	SF
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	589.58	590.08	13.40	11.01	5.616	CC
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	600.00	600.44	13.44	11.01	5.525	ES, SF
P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1	1,200.00	1,200.00	90.10	84.97	17.544	CC, ES
P_HIGHWAY 160 7-2 - P_HIGHWAY 160 7-2 - PLAN #1	1,300.00	1,298.05	92.87	87.33	16.765	SF
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,200.00	1,200.00	40.01	34.88	7.791	CC
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,300.00	1,301.25	40.19	34.63	7.239	ES
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,500.00	1,503.47	42.48	36.16	6.713	SF
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,200.00	1,200.00	49.81	44.67	9.698	CC, ES
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,400.00	1,401.98	52.74	46.81	8.897	SF

<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	
<b>Survey Program:</b>		0-UNKNOWN								<b>Offset Well Error:</b>		0.00 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	-120.13	-53.91	-92.90	108.45				
100.00	100.00	85.00	85.00	0.10	1.70	-120.13	-53.91	-92.90	107.41	105.61	1.80	59.819	
200.00	200.00	185.00	185.00	0.32	5.40	-120.13	-53.91	-92.90	107.41	101.69	5.72	18.777	
300.00	300.00	285.00	285.00	0.55	9.40	-120.13	-53.91	-92.90	107.41	97.46	9.95	10.800	
400.00	400.00	385.00	385.00	0.77	13.40	-120.13	-53.91	-92.90	107.41	93.24	14.17	7.580	
500.00	500.00	485.00	485.00	0.99	17.40	-120.13	-53.91	-92.90	107.41	89.01	18.39	5.839	

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 41-2
<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 41-2	<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 41-2	<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
<b>Survey Program:</b> 0-UNKNOWN												<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	
600.00	600.00	585.00	585.00	1.22	21.40	-120.13	-53.91	-92.90	107.41	84.79	22.62	4.749	
700.00	700.00	685.00	685.00	1.44	25.40	-120.13	-53.91	-92.90	107.41	80.56	26.84	4.001	
800.00	800.00	785.00	785.00	1.67	29.40	-120.13	-53.91	-92.90	107.41	76.34	31.07	3.457	
900.00	900.00	885.00	885.00	1.89	33.40	-120.13	-53.91	-92.90	107.41	72.11	35.29	3.043	
1,000.00	1,000.00	985.00	985.00	2.12	37.40	-120.13	-53.91	-92.90	107.41	67.89	39.52	2.718	
1,100.00	1,100.00	1,085.00	1,085.00	2.34	41.40	-120.13	-53.91	-92.90	107.41	63.67	43.74	2.455	
1,200.00	1,200.00	1,185.00	1,185.00	2.57	45.40	-120.13	-53.91	-92.90	107.41	59.44	47.97	2.239 CC	
1,300.00	1,299.98	1,284.98	1,284.98	2.78	49.40	158.36	-53.91	-92.90	109.03	56.87	52.16	2.090 ES	
1,400.00	1,399.84	1,384.84	1,384.84	2.99	53.39	159.30	-53.91	-92.90	113.91	57.64	56.27	2.024 SF	
1,500.00	1,499.45	1,484.45	1,484.45	3.21	57.38	160.69	-53.91	-92.90	122.10	61.80	60.31	2.025	
1,600.00	1,598.70	1,583.70	1,583.70	3.45	61.35	162.35	-53.91	-92.90	133.67	69.44	64.23	2.081	
1,700.00	1,697.47	1,682.47	1,682.47	3.71	65.30	164.09	-53.91	-92.90	148.67	80.64	68.03	2.185	
1,800.00	1,795.62	1,780.62	1,780.62	4.02	69.22	165.79	-53.91	-92.90	167.12	95.44	71.68	2.332	
1,900.00	1,893.06	1,878.06	1,878.06	4.36	73.12	167.36	-53.91	-92.90	189.03	113.87	75.16	2.515	
2,000.00	1,989.64	1,974.64	1,974.64	4.76	76.99	168.77	-53.91	-92.90	214.39	135.93	78.46	2.732	
2,100.00	2,085.27	2,070.27	2,070.27	5.23	80.81	170.01	-53.91	-92.90	243.17	161.60	81.57	2.981	
2,200.00	2,179.82	2,164.82	2,164.82	5.76	84.59	171.08	-53.91	-92.90	275.33	190.87	84.46	3.260	
2,264.43	2,240.11	2,225.11	2,225.11	6.14	87.00	171.69	-53.91	-92.90	297.82	211.61	86.21	3.455	
2,300.00	2,273.25	2,258.25	2,258.25	6.35	88.33	172.03	-53.91	-92.90	310.62	223.08	87.53	3.549	
2,400.00	2,366.43	2,351.43	2,351.43	6.99	92.06	172.86	-53.91	-92.90	346.65	255.38	91.28	3.798	
2,500.00	2,459.60	2,444.60	2,444.60	7.65	95.78	173.54	-53.91	-92.90	382.74	287.71	95.03	4.028	
2,600.00	2,552.78	2,537.78	2,537.78	8.32	99.51	174.10	-53.91	-92.90	418.86	320.07	98.79	4.240	
2,700.00	2,645.96	2,630.96	2,630.96	9.01	103.24	174.57	-53.91	-92.90	455.01	352.46	102.55	4.437	
2,800.00	2,739.13	2,724.13	2,724.13	9.71	106.97	174.97	-53.91	-92.90	491.19	384.86	106.32	4.620	
2,900.00	2,832.31	2,817.31	2,817.31	10.42	110.69	175.31	-53.91	-92.90	527.38	417.28	110.10	4.790	
3,000.00	2,925.48	2,910.48	2,910.48	11.13	114.42	175.61	-53.91	-92.90	563.59	449.71	113.88	4.949	
3,100.00	3,018.66	3,003.66	3,003.66	11.85	118.15	175.88	-53.91	-92.90	599.81	482.15	117.66	5.098	
3,200.00	3,111.84	3,096.84	3,096.84	12.58	121.87	176.11	-53.91	-92.90	636.04	514.59	121.45	5.237	
3,300.00	3,205.01	3,190.01	3,190.01	13.30	125.60	176.32	-53.91	-92.90	672.28	547.04	125.24	5.368	
3,400.00	3,298.19	3,283.19	3,283.19	14.03	129.33	176.51	-53.91	-92.90	708.52	579.49	129.03	5.491	
3,500.00	3,391.37	3,376.37	3,376.37	14.77	133.05	176.68	-53.91	-92.90	744.77	611.95	132.82	5.607	
3,600.00	3,484.54	3,469.54	3,469.54	15.50	136.78	176.84	-53.91	-92.90	781.03	644.41	136.62	5.717	
3,700.00	3,577.72	3,562.72	3,562.72	16.24	140.51	176.98	-53.91	-92.90	817.29	676.88	140.41	5.821	
3,800.00	3,670.89	3,655.89	3,655.89	16.98	144.24	177.10	-53.91	-92.90	853.55	709.34	144.21	5.919	
3,900.00	3,764.07	3,749.07	3,749.07	17.72	147.96	177.22	-53.91	-92.90	889.82	741.81	148.01	6.012	
4,000.00	3,857.25	3,842.25	3,842.25	18.46	151.69	177.33	-53.91	-92.90	926.09	774.29	151.81	6.100	
4,100.00	3,950.42	3,935.42	3,935.42	19.21	155.42	177.43	-53.91	-92.90	962.37	806.76	155.61	6.185	
4,200.00	4,043.60	4,028.60	4,028.60	19.95	159.14	177.53	-53.91	-92.90	998.64	839.23	159.41	6.265	
4,300.00	4,136.78	4,121.78	4,121.78	20.70	162.87	177.61	-53.91	-92.90	1,034.92	871.71	163.21	6.341	
4,400.00	4,229.95	4,214.95	4,214.95	21.44	166.60	177.69	-53.91	-92.90	1,071.20	904.19	167.01	6.414	
4,500.00	4,323.13	4,308.13	4,308.13	22.19	170.33	177.77	-53.91	-92.90	1,107.48	936.67	170.82	6.483	
4,600.00	4,416.31	4,401.31	4,401.31	22.94	174.05	177.84	-53.91	-92.90	1,143.77	969.14	174.62	6.550	
4,700.00	4,509.48	4,494.48	4,494.48	23.69	177.78	177.91	-53.91	-92.90	1,180.05	1,001.62	178.43	6.614	
4,800.00	4,602.66	4,587.66	4,587.66	24.44	181.51	177.97	-53.91	-92.90	1,216.34	1,034.11	182.23	6.675	
4,900.00	4,695.83	4,680.83	4,680.83	25.19	185.23	178.03	-53.91	-92.90	1,252.63	1,066.59	186.04	6.733	
5,000.00	4,789.01	4,774.01	4,774.01	25.94	188.96	178.08	-53.91	-92.90	1,288.91	1,099.07	189.84	6.789	
5,100.00	4,882.19	4,867.19	4,867.19	26.69	192.69	178.14	-53.91	-92.90	1,325.20	1,131.55	193.65	6.843	
5,200.00	4,975.36	4,960.36	4,960.36	27.44	196.41	178.19	-53.91	-92.90	1,361.49	1,164.04	197.46	6.895	
5,300.00	5,068.54	5,053.54	5,053.54	28.19	200.14	178.23	-53.91	-92.90	1,397.79	1,196.52	201.27	6.945	
5,400.00	5,161.72	5,146.72	5,146.72	28.94	203.87	178.28	-53.91	-92.90	1,434.08	1,229.00	205.07	6.993	
5,415.21	5,175.89	5,160.89	5,160.89	29.06	204.44	178.28	-53.91	-92.90	1,439.60	1,233.95	205.65	7.000	
5,500.00	5,255.34	5,240.34	5,240.34	29.61	207.61	178.34	-53.91	-92.90	1,469.20	1,258.27	210.93	6.965	

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 41-2
<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 41-2	<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 41-2	<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
5,600.00	5,350.11	5,335.11	5,335.11	30.13	211.40	178.39	-53.91	-92.90	1,501.07	1,284.04	217.03	6.916	
5,700.00	5,445.94	5,430.94	5,430.94	30.61	215.24	178.44	-53.91	-92.90	1,529.61	1,306.52	223.09	6.856	
5,800.00	5,542.71	5,527.71	5,527.71	31.04	219.11	178.48	-53.91	-92.90	1,554.80	1,325.83	228.97	6.790	
5,900.00	5,640.30	5,625.30	5,625.30	31.42	223.01	178.51	-53.91	-92.90	1,576.59	1,341.94	234.66	6.719	
6,000.00	5,738.59	5,723.59	5,723.59	31.74	226.94	178.54	-53.91	-92.90	1,594.97	1,354.84	240.12	6.642	
6,100.00	5,837.46	5,822.46	5,822.46	32.02	230.90	178.56	-53.91	-92.90	1,609.90	1,364.55	245.35	6.562	
6,200.00	5,936.80	5,921.80	5,921.80	32.25	234.87	178.57	-53.91	-92.90	1,621.38	1,371.06	250.33	6.477	
6,300.00	6,036.47	6,021.47	6,021.47	32.43	238.86	178.58	-53.91	-92.90	1,629.39	1,374.37	255.02	6.389	
6,400.00	6,136.36	6,121.36	6,121.36	32.57	242.85	178.59	-53.91	-92.90	1,633.91	1,374.50	259.41	6.298	
6,479.65	6,216.00	6,201.00	6,201.00	32.64	246.04	-99.57	-53.91	-92.90	1,635.02	1,372.33	262.69	6.224	
6,500.00	6,236.35	6,221.35	6,221.35	32.66	246.85	-99.57	-53.91	-92.90	1,635.02	1,371.48	263.54	6.204	
6,600.00	6,336.35	6,321.35	6,321.35	32.75	250.85	-99.57	-53.91	-92.90	1,635.02	1,367.32	267.70	6.108	
6,700.00	6,436.35	6,421.35	6,421.35	32.85	254.85	-99.57	-53.91	-92.90	1,635.02	1,363.15	271.86	6.014	
6,800.00	6,536.35	6,521.35	6,521.35	32.94	258.85	-99.57	-53.91	-92.90	1,635.02	1,358.99	276.03	5.923	
6,900.00	6,636.35	6,621.35	6,621.35	33.04	262.85	-99.57	-53.91	-92.90	1,635.02	1,354.82	280.20	5.835	
7,000.00	6,736.35	6,721.35	6,721.35	33.13	266.85	-99.57	-53.91	-92.90	1,635.02	1,350.65	284.36	5.750	
7,100.00	6,836.35	6,821.35	6,821.35	33.23	270.85	-99.57	-53.91	-92.90	1,635.02	1,346.48	288.53	5.667	
7,200.00	6,936.35	6,921.35	6,921.35	33.33	274.85	-99.57	-53.91	-92.90	1,635.02	1,342.31	292.70	5.586	
7,300.00	7,036.35	7,021.35	7,021.35	33.43	278.85	-99.57	-53.91	-92.90	1,635.02	1,338.14	296.88	5.507	
7,400.00	7,136.35	7,121.35	7,121.35	33.53	282.85	-99.57	-53.91	-92.90	1,635.02	1,333.97	301.05	5.431	
7,500.00	7,236.35	7,221.35	7,221.35	33.63	286.85	-99.57	-53.91	-92.90	1,635.02	1,329.79	305.22	5.357	
7,600.00	7,336.35	7,321.35	7,321.35	33.74	290.85	-99.57	-53.91	-92.90	1,635.02	1,325.62	309.40	5.284	
7,700.00	7,436.35	7,421.35	7,421.35	33.84	294.85	-99.57	-53.91	-92.90	1,635.02	1,321.44	313.58	5.214	
7,800.00	7,536.35	7,521.35	7,521.35	33.95	298.85	-99.57	-53.91	-92.90	1,635.02	1,317.26	317.75	5.146	
7,900.00	7,636.35	7,621.35	7,621.35	34.06	302.85	-99.57	-53.91	-92.90	1,635.02	1,313.08	321.93	5.079	
8,000.00	7,736.35	7,721.35	7,721.35	34.16	306.85	-99.57	-53.91	-92.90	1,635.02	1,308.90	326.11	5.014	
8,100.00	7,836.35	7,821.35	7,821.35	34.27	310.85	-99.57	-53.91	-92.90	1,635.02	1,304.72	330.29	4.950	
8,200.00	7,936.35	7,921.35	7,921.35	34.39	314.85	-99.57	-53.91	-92.90	1,635.02	1,300.54	334.47	4.888	
8,300.00	8,036.35	8,021.35	8,021.35	34.50	318.85	-99.57	-53.91	-92.90	1,635.02	1,296.36	338.65	4.828	
8,394.65	8,131.00	8,116.00	8,116.00	34.60	322.64	-99.57	-53.91	-92.90	1,635.02	1,292.40	342.61	4.772	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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	-89.93	0.01	-10.07	10.07				
100.00	100.00	100.00	100.00	0.10	0.10	-89.93	0.01	-10.07	10.07	9.88	0.19	52.725	
200.00	200.00	200.00	200.00	0.32	0.32	-89.93	0.01	-10.07	10.07	9.43	0.64	15.725	
300.00	300.00	300.00	300.00	0.55	0.55	-89.93	0.01	-10.07	10.07	8.98	1.09	9.241	
400.00	400.00	400.00	400.00	0.77	0.77	-89.93	0.01	-10.07	10.07	8.53	1.54	6.543	
500.00	500.00	500.00	500.00	0.99	0.99	-89.93	0.01	-10.07	10.07	8.08	1.99	5.064	
600.00	600.00	600.00	600.00	1.22	1.22	-89.93	0.01	-10.07	10.07	7.63	2.44	4.131	
700.00	700.00	700.00	700.00	1.44	1.44	-89.93	0.01	-10.07	10.07	7.19	2.89	3.488	
800.00	800.00	800.00	800.00	1.67	1.67	-89.93	0.01	-10.07	10.07	6.74	3.34	3.018	
900.00	900.00	900.00	900.00	1.89	1.89	-89.93	0.01	-10.07	10.07	6.29	3.79	2.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.93	0.01	-10.07	10.07	5.84	4.24	2.378	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-89.93	0.01	-10.07	10.07	5.39	4.69	2.149	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-89.93	0.01	-10.07	10.07	4.94	5.14	1.961 CC	
1,300.00	1,299.98	1,300.29	1,300.27	2.78	2.79	-167.85	0.97	-8.60	10.36	4.79	5.56	1.862 ES, SF	
1,400.00	1,399.84	1,400.55	1,400.38	2.99	3.01	-157.49	3.83	-4.19	11.47	5.49	5.97	1.920	
1,500.00	1,499.45	1,500.73	1,500.18	3.21	3.23	-144.64	8.60	3.15	13.94	7.55	6.40	2.180	
1,600.00	1,598.70	1,600.82	1,599.51	3.45	3.47	-133.30	15.25	13.41	18.16	11.30	6.86	2.648	
1,700.00	1,697.47	1,700.77	1,698.22	3.71	3.74	-124.90	23.78	26.55	24.16	16.79	7.37	3.277	
1,800.00	1,795.62	1,800.55	1,796.16	4.02	4.04	-119.04	34.16	42.53	31.89	23.92	7.96	4.004	
1,900.00	1,893.06	1,900.14	1,893.19	4.36	4.38	-114.96	46.36	61.33	41.23	32.59	8.64	4.773	
2,000.00	1,989.64	1,999.50	1,989.16	4.76	4.77	-112.05	60.36	82.90	52.12	42.71	9.41	5.536	
2,100.00	2,085.27	2,098.67	2,084.12	5.23	5.22	-110.23	75.94	106.90	64.49	54.19	10.30	6.263	
2,200.00	2,179.82	2,197.73	2,178.82	5.76	5.69	-110.97	91.76	131.27	78.11	66.87	11.24	6.948	
2,264.43	2,240.11	2,261.42	2,239.70	6.14	6.01	-112.40	101.93	146.93	87.58	75.71	11.87	7.376	
2,300.00	2,273.25	2,296.54	2,273.28	6.35	6.19	-113.38	107.53	155.57	92.99	80.76	12.23	7.603	
2,400.00	2,366.43	2,395.28	2,367.68	6.99	6.70	-115.61	123.30	179.87	108.32	95.06	13.26	8.170	
2,500.00	2,459.60	2,494.02	2,462.08	7.65	7.23	-117.28	139.07	204.16	123.77	109.46	14.31	8.648	
2,600.00	2,552.78	2,592.77	2,556.48	8.32	7.76	-118.58	154.84	228.45	139.30	123.91	15.39	9.053	
2,700.00	2,645.96	2,691.51	2,650.88	9.01	8.30	-119.62	170.61	252.74	154.88	138.41	16.48	9.399	
2,800.00	2,739.13	2,790.25	2,745.28	9.71	8.85	-120.47	186.37	277.04	170.51	152.92	17.58	9.697	
2,900.00	2,832.31	2,889.00	2,839.68	10.42	9.41	-121.17	202.14	301.33	186.16	167.46	18.70	9.955	
3,000.00	2,925.48	2,987.74	2,934.08	11.13	9.97	-121.77	217.91	325.62	201.84	182.02	19.83	10.181	
3,100.00	3,018.66	3,086.48	3,028.48	11.85	10.54	-122.28	233.68	349.91	217.54	196.58	20.96	10.379	
3,200.00	3,111.84	3,185.23	3,122.88	12.58	11.10	-122.72	249.45	374.20	233.25	211.15	22.10	10.555	
3,300.00	3,205.01	3,283.97	3,217.28	13.30	11.68	-123.11	265.22	398.50	248.98	225.73	23.24	10.711	
3,400.00	3,298.19	3,382.71	3,311.68	14.03	12.25	-123.45	280.98	422.79	264.71	240.31	24.39	10.851	
3,500.00	3,391.37	3,481.46	3,406.09	14.77	12.82	-123.75	296.75	447.08	280.45	254.90	25.55	10.977	
3,600.00	3,484.54	3,580.20	3,500.49	15.50	13.40	-124.02	312.52	471.37	296.20	269.49	26.71	11.091	
3,700.00	3,577.72	3,678.94	3,594.89	16.24	13.98	-124.26	328.29	495.67	311.95	284.09	27.87	11.194	
3,800.00	3,670.89	3,777.68	3,689.29	16.98	14.56	-124.48	344.06	519.96	327.71	298.68	29.03	11.289	
3,900.00	3,764.07	3,876.43	3,783.69	17.72	15.14	-124.68	359.82	544.25	343.47	313.28	30.20	11.375	
4,000.00	3,857.25	3,975.17	3,878.09	18.46	15.72	-124.86	375.59	568.54	359.24	327.88	31.36	11.454	
4,100.00	3,950.42	4,073.91	3,972.49	19.21	16.31	-125.03	391.36	592.83	375.01	342.48	32.53	11.527	
4,200.00	4,043.60	4,172.66	4,066.89	19.95	16.89	-125.18	407.13	617.13	390.78	357.08	33.71	11.594	
4,300.00	4,136.78	4,271.40	4,161.29	20.70	17.48	-125.32	422.90	641.42	406.56	371.68	34.88	11.656	
4,400.00	4,229.95	4,370.14	4,255.69	21.44	18.06	-125.45	438.66	665.71	422.34	386.28	36.05	11.714	
4,500.00	4,323.13	4,468.89	4,350.09	22.19	18.65	-125.58	454.43	690.00	438.12	400.89	37.23	11.768	
4,600.00	4,416.31	4,567.63	4,444.49	22.94	19.24	-125.69	470.20	714.29	453.90	415.49	38.41	11.818	
4,700.00	4,509.48	4,666.37	4,538.89	23.69	19.83	-125.79	485.97	738.59	469.68	430.10	39.58	11.865	
4,800.00	4,602.66	4,765.12	4,633.29	24.44	20.41	-125.89	501.74	762.88	485.46	444.70	40.76	11.909	
4,900.00	4,695.83	4,863.86	4,727.69	25.19	21.00	-125.98	517.50	787.17	501.25	459.31	41.94	11.951	
5,000.00	4,789.01	4,962.60	4,822.09	25.94	21.59	-126.07	533.27	811.46	517.04	473.91	43.12	11.989	

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 41-2
<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 41-2	<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 41-2	<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	4,882.19	5,061.34	4,916.49	26.69	22.18	-126.15	549.04	835.76	532.82	488.52	44.31	12.026	
5,200.00	4,975.36	5,160.09	5,010.89	27.44	22.77	-126.23	564.81	860.05	548.61	503.13	45.49	12.061	
5,300.00	5,068.54	5,258.83	5,105.29	28.19	23.36	-126.30	580.58	884.34	564.40	517.73	46.67	12.093	
5,400.00	5,161.72	5,357.57	5,199.70	28.94	23.95	-126.37	596.34	908.63	580.19	532.34	47.85	12.124	
5,415.21	5,175.89	5,372.60	5,214.06	29.06	24.04	-126.38	598.74	912.33	582.60	534.56	48.03	12.129	
5,500.00	5,255.34	5,456.43	5,294.20	29.61	24.54	-126.54	612.13	932.95	595.25	546.23	49.01	12.144	
5,600.00	5,350.11	5,554.92	5,388.37	30.13	25.12	-126.46	627.84	957.16	608.28	558.15	50.14	12.133	
5,700.00	5,445.94	5,649.82	5,479.66	30.61	25.57	-126.31	641.95	978.89	619.73	568.63	51.10	12.127	
5,800.00	5,542.71	5,744.92	5,571.95	31.04	25.95	-126.18	654.42	998.11	629.84	577.89	51.95	12.124	
5,900.00	5,640.30	5,840.18	5,665.12	31.42	26.29	-126.08	665.24	1,014.77	638.59	585.89	52.70	12.117	
6,000.00	5,738.59	5,935.60	5,759.04	31.74	26.60	-125.99	674.38	1,028.85	645.98	592.63	53.35	12.107	
6,100.00	5,837.46	6,031.13	5,853.59	32.02	26.86	-125.92	681.82	1,040.31	651.99	598.08	53.91	12.094	
6,200.00	5,936.80	6,126.77	5,948.64	32.25	27.08	-125.87	687.54	1,049.13	656.61	602.24	54.37	12.077	
6,300.00	6,036.47	6,222.48	6,044.06	32.43	27.26	-125.84	691.54	1,055.29	659.83	605.10	54.73	12.056	
6,400.00	6,136.36	6,318.23	6,139.73	32.57	27.40	-125.82	693.80	1,058.77	661.65	606.65	55.00	12.030	
6,479.65	6,216.00	6,394.52	6,216.00	32.64	27.49	-43.98	694.35	1,059.62	662.10	606.95	55.14	12.007	
6,500.00	6,236.35	6,414.87	6,236.35	32.66	27.51	-43.98	694.35	1,059.62	662.10	606.91	55.19	11.998	
6,600.00	6,336.35	6,514.87	6,336.35	32.75	27.62	-43.98	694.35	1,059.62	662.10	606.70	55.40	11.952	
6,700.00	6,436.35	6,614.87	6,436.35	32.85	27.73	-43.98	694.35	1,059.62	662.10	606.49	55.61	11.906	
6,800.00	6,536.35	6,714.87	6,536.35	32.94	27.84	-43.98	694.35	1,059.62	662.10	606.27	55.83	11.860	
6,900.00	6,636.35	6,814.87	6,636.35	33.04	27.95	-43.98	694.35	1,059.62	662.10	606.05	56.04	11.814	
7,000.00	6,736.35	6,914.87	6,736.35	33.13	28.06	-43.98	694.35	1,059.62	662.10	605.83	56.27	11.767	
7,100.00	6,836.35	7,014.87	6,836.35	33.23	28.18	-43.98	694.35	1,059.62	662.10	605.61	56.49	11.721	
7,200.00	6,936.35	7,114.87	6,936.35	33.33	28.29	-43.98	694.35	1,059.62	662.10	605.38	56.72	11.674	
7,300.00	7,036.35	7,214.87	7,036.35	33.43	28.41	-43.98	694.35	1,059.62	662.10	605.15	56.95	11.627	
7,400.00	7,136.35	7,314.87	7,136.35	33.53	28.53	-43.98	694.35	1,059.62	662.10	604.92	57.18	11.579	
7,500.00	7,236.35	7,414.87	7,236.35	33.63	28.65	-43.98	694.35	1,059.62	662.10	604.68	57.41	11.532	
7,600.00	7,336.35	7,514.87	7,336.35	33.74	28.77	-43.98	694.35	1,059.62	662.10	604.45	57.65	11.485	
7,700.00	7,436.35	7,614.87	7,436.35	33.84	28.89	-43.98	694.35	1,059.62	662.10	604.21	57.89	11.437	
7,800.00	7,536.35	7,714.87	7,536.35	33.95	29.02	-43.98	694.35	1,059.62	662.10	603.97	58.13	11.389	
7,900.00	7,636.35	7,814.87	7,636.35	34.06	29.14	-43.98	694.35	1,059.62	662.10	603.72	58.38	11.341	
8,000.00	7,736.35	7,914.87	7,736.35	34.16	29.27	-43.98	694.35	1,059.62	662.10	603.47	58.63	11.294	
8,100.00	7,836.35	8,014.87	7,836.35	34.27	29.40	-43.98	694.35	1,059.62	662.10	603.22	58.88	11.246	
8,200.00	7,936.35	8,114.87	7,936.35	34.39	29.52	-43.98	694.35	1,059.62	662.10	602.97	59.13	11.198	
8,300.00	8,036.35	8,214.87	8,036.35	34.50	29.65	-43.98	694.35	1,059.62	662.10	602.72	59.38	11.150	
8,394.65	8,131.00	8,309.52	8,131.00	34.60	29.78	-43.98	694.35	1,059.62	662.10	602.47	59.62	11.104	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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
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	-90.70	-0.36	-29.94	29.94					
100.00	100.00	100.00	100.00	0.10	0.10	-90.70	-0.36	-29.94	29.94	29.75	0.19	156.723		
200.00	200.00	200.00	200.00	0.32	0.32	-90.70	-0.36	-29.94	29.94	29.30	0.64	46.742		
300.00	300.00	300.00	300.00	0.55	0.55	-90.70	-0.36	-29.94	29.94	28.85	1.09	27.467		
400.00	400.00	400.00	400.00	0.77	0.77	-90.70	-0.36	-29.94	29.94	28.40	1.54	19.447		
500.00	500.00	500.00	500.00	0.99	0.99	-90.70	-0.36	-29.94	29.94	27.95	1.99	15.052		
600.00	600.00	600.00	600.00	1.22	1.22	-90.70	-0.36	-29.94	29.94	27.50	2.44	12.278		
700.00	700.00	700.00	700.00	1.44	1.44	-90.70	-0.36	-29.94	29.94	27.05	2.89	10.367		
800.00	800.00	800.00	800.00	1.67	1.67	-90.70	-0.36	-29.94	29.94	26.60	3.34	8.971		
900.00	900.00	900.00	900.00	1.89	1.89	-90.70	-0.36	-29.94	29.94	26.15	3.79	7.906		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.70	-0.36	-29.94	29.94	25.71	4.24	7.067		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.70	-0.36	-29.94	29.94	25.26	4.69	6.389		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.70	-0.36	-29.94	29.94	24.81	5.14	5.830 CC, ES		
1,300.00	1,299.98	1,300.54	1,300.53	2.78	2.79	-171.18	0.60	-29.04	30.77	25.20	5.57	5.527 SF		
1,400.00	1,399.84	1,401.03	1,400.94	2.99	3.01	-167.53	3.49	-26.32	33.34	27.36	5.98	5.577		
1,500.00	1,499.45	1,501.43	1,501.12	3.21	3.24	-162.58	8.31	-21.81	37.87	31.48	6.39	5.926		
1,600.00	1,598.70	1,601.70	1,600.96	3.45	3.47	-157.39	15.03	-15.51	44.56	37.75	6.81	6.541		
1,700.00	1,697.47	1,701.79	1,700.35	3.71	3.71	-152.65	23.65	-7.43	53.53	46.27	7.26	7.378		
1,800.00	1,795.62	1,801.65	1,799.17	4.02	3.98	-148.65	34.14	2.39	64.80	57.07	7.73	8.381		
1,900.00	1,893.06	1,901.25	1,897.32	4.36	4.26	-145.39	46.47	13.95	78.36	70.10	8.26	9.491		
2,000.00	1,989.64	2,000.55	1,994.70	4.76	4.58	-142.78	60.62	27.22	94.17	85.33	8.84	10.653		
2,100.00	2,085.27	2,099.50	2,091.21	5.23	4.93	-140.66	76.56	42.15	112.18	102.69	9.49	11.816		
2,200.00	2,179.82	2,198.07	2,186.75	5.76	5.31	-138.94	94.24	58.72	132.36	122.13	10.23	12.940		
2,264.43	2,240.11	2,261.36	2,247.75	6.14	5.58	-138.00	106.54	70.25	146.49	135.74	10.75	13.625		
2,300.00	2,273.25	2,296.25	2,281.26	6.35	5.74	-137.58	113.63	76.90	154.50	143.43	11.07	13.960		
2,400.00	2,366.43	2,394.36	2,375.00	6.99	6.20	-136.04	134.78	96.71	176.79	164.76	12.04	14.689		
2,500.00	2,459.60	2,492.39	2,467.87	7.65	6.72	-134.11	157.65	118.15	198.85	185.74	13.11	15.173		
2,600.00	2,552.78	2,589.93	2,559.58	8.32	7.27	-132.01	181.88	140.86	220.87	206.61	14.26	15.487		
2,700.00	2,645.96	2,687.17	2,650.92	9.01	7.84	-130.23	206.23	163.67	243.11	227.65	15.46	15.728		
2,800.00	2,739.13	2,784.41	2,742.26	9.71	8.43	-128.76	230.57	186.49	265.53	248.86	16.68	15.923		
2,900.00	2,832.31	2,881.66	2,833.60	10.42	9.03	-127.51	254.91	209.30	288.10	270.19	17.91	16.082		
3,000.00	2,925.48	2,978.90	2,924.94	11.13	9.64	-126.44	279.26	232.11	310.78	291.61	19.17	16.212		
3,100.00	3,018.66	3,076.14	3,016.28	11.85	10.26	-125.52	303.60	254.93	333.55	313.11	20.44	16.322		
3,200.00	3,111.84	3,173.38	3,107.62	12.58	10.88	-124.71	327.94	277.74	356.38	334.67	21.71	16.414		
3,300.00	3,205.01	3,270.63	3,198.97	13.30	11.51	-124.00	352.28	300.55	379.28	356.28	23.00	16.492		
3,400.00	3,298.19	3,367.87	3,290.31	14.03	12.14	-123.38	376.63	323.37	402.23	377.94	24.29	16.560		
3,500.00	3,391.37	3,465.11	3,381.65	14.77	12.78	-122.82	400.97	346.18	425.21	399.63	25.59	16.619		
3,600.00	3,484.54	3,562.36	3,472.99	15.50	13.42	-122.32	425.31	369.00	448.23	421.34	26.89	16.670		
3,700.00	3,577.72	3,659.60	3,564.33	16.24	14.06	-121.86	449.66	391.81	471.28	443.09	28.20	16.714		
3,800.00	3,670.89	3,756.84	3,655.67	16.98	14.70	-121.45	474.00	414.62	494.36	464.85	29.51	16.754		
3,900.00	3,764.07	3,854.08	3,747.01	17.72	15.35	-121.08	498.34	437.44	517.46	486.64	30.82	16.790		
4,000.00	3,857.25	3,951.33	3,838.35	18.46	16.00	-120.73	522.69	460.25	540.57	508.44	32.14	16.821		
4,100.00	3,950.42	4,048.57	3,929.69	19.21	16.65	-120.42	547.03	483.06	563.71	530.25	33.46	16.849		
4,200.00	4,043.60	4,145.81	4,021.03	19.95	17.30	-120.13	571.37	505.88	586.86	552.08	34.78	16.875		
4,300.00	4,136.78	4,243.05	4,112.37	20.70	17.96	-119.86	595.72	528.69	610.02	573.92	36.10	16.898		
4,400.00	4,229.95	4,340.30	4,203.71	21.44	18.61	-119.61	620.06	551.51	633.19	595.77	37.42	16.919		
4,500.00	4,323.13	4,437.54	4,295.05	22.19	19.27	-119.38	644.40	574.32	656.38	617.63	38.75	16.939		
4,600.00	4,416.31	4,534.78	4,386.39	22.94	19.92	-119.17	668.74	597.13	679.57	639.49	40.08	16.956		
4,700.00	4,509.48	4,632.03	4,477.73	23.69	20.58	-118.97	693.09	619.95	702.77	661.36	41.41	16.973		
4,800.00	4,602.66	4,729.27	4,569.07	24.44	21.24	-118.78	717.43	642.76	725.98	683.24	42.74	16.988		
4,900.00	4,695.83	4,826.51	4,660.41	25.19	21.90	-118.60	741.77	665.57	749.20	705.13	44.07	17.001		
5,000.00	4,789.01	4,923.75	4,751.75	25.94	22.56	-118.44	766.12	688.39	772.42	727.02	45.40	17.014		

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 41-2
<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 41-2	<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 41-2	<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 1-2S - P_HIGHWAY 160 1-2S - 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	4,882.19	5,021.00	4,843.09	26.69	23.22	-118.28	790.46	711.20	795.65	748.92	46.73	17.026	
5,200.00	4,975.36	5,118.24	4,934.43	27.44	23.88	-118.14	814.80	734.02	818.88	770.82	48.06	17.037	
5,300.00	5,068.54	5,215.48	5,025.78	28.19	24.54	-118.00	839.15	756.83	842.12	792.72	49.40	17.048	
5,400.00	5,161.72	5,226.37	5,036.00	28.94	24.62	-117.98	841.87	759.38	869.66	819.51	50.15	17.341	
5,415.21	5,175.89	5,226.37	5,036.00	29.06	24.62	-117.98	841.87	759.38	874.76	824.51	50.25	17.407	
5,500.00	5,255.34	5,226.37	5,036.00	29.61	24.62	-118.59	841.87	759.38	906.84	856.09	50.75	17.870	
5,600.00	5,350.11	5,226.37	5,036.00	30.13	24.62	-119.47	841.87	759.38	951.67	900.48	51.19	18.592	
5,700.00	5,445.94	5,226.37	5,036.00	30.61	24.62	-120.51	841.87	759.38	1,003.06	951.52	51.54	19.462	
5,800.00	5,542.71	5,226.37	5,036.00	31.04	24.62	-121.70	841.87	759.38	1,060.00	1,008.20	51.80	20.464	
5,900.00	5,640.30	5,226.37	5,036.00	31.42	24.62	-123.02	841.87	759.38	1,121.58	1,069.62	51.96	21.584	
6,000.00	5,738.59	5,226.37	5,036.00	31.74	24.62	-124.46	841.87	759.38	1,187.01	1,134.98	52.03	22.815	
6,100.00	5,837.46	5,226.37	5,036.00	32.02	24.62	-126.00	841.87	759.38	1,255.61	1,203.61	51.99	24.149	
6,200.00	5,936.80	5,226.37	5,036.00	32.25	24.62	-127.62	841.87	759.38	1,326.82	1,274.96	51.86	25.586	
6,300.00	6,036.47	5,226.37	5,036.00	32.43	24.62	-129.31	841.87	759.38	1,400.15	1,348.53	51.62	27.123	
6,400.00	6,136.36	5,226.37	5,036.00	32.57	24.62	-131.05	841.87	759.38	1,475.21	1,423.92	51.29	28.762	
6,479.65	6,216.00	5,226.37	5,036.00	32.64	24.62	-50.61	841.87	759.38	1,536.01	1,485.05	50.96	30.143	
6,500.00	6,236.35	5,226.37	5,036.00	32.66	24.62	-50.61	841.87	759.38	1,551.70	1,500.72	50.98	30.439	
6,600.00	6,336.35	5,226.37	5,036.00	32.75	24.62	-50.61	841.87	759.38	1,630.29	1,579.20	51.09	31.913	
6,700.00	6,436.35	5,226.37	5,036.00	32.85	24.62	-50.61	841.87	759.38	1,711.11	1,659.92	51.19	33.424	
6,800.00	6,536.35	5,226.37	5,036.00	32.94	24.62	-50.61	841.87	759.38	1,793.87	1,742.57	51.30	34.965	
6,900.00	6,636.35	5,226.37	5,036.00	33.04	24.62	-50.61	841.87	759.38	1,878.31	1,826.90	51.42	36.532	
7,000.00	6,736.35	5,226.37	5,036.00	33.13	24.62	-50.61	841.87	759.38	1,964.21	1,912.68	51.53	38.119	
7,100.00	6,836.35	5,226.37	5,036.00	33.23	24.62	-50.61	841.87	759.38	2,051.39	1,999.74	51.64	39.722	
7,200.00	6,936.35	5,226.37	5,036.00	33.33	24.62	-50.61	841.87	759.38	2,139.69	2,087.93	51.76	41.339	
7,300.00	7,036.35	5,226.37	5,036.00	33.43	24.62	-50.61	841.87	759.38	2,228.98	2,177.10	51.88	42.967	
7,400.00	7,136.35	5,226.37	5,036.00	33.53	24.62	-50.61	841.87	759.38	2,319.14	2,267.14	52.00	44.603	
7,500.00	7,236.35	5,226.37	5,036.00	33.63	24.62	-50.61	841.87	759.38	2,410.08	2,357.96	52.12	46.245	
7,600.00	7,336.35	5,226.37	5,036.00	33.74	24.62	-50.61	841.87	759.38	2,501.71	2,449.47	52.24	47.892	
7,700.00	7,436.35	5,226.37	5,036.00	33.84	24.62	-50.61	841.87	759.38	2,593.96	2,541.60	52.36	49.542	
7,800.00	7,536.35	5,226.37	5,036.00	33.95	24.62	-50.61	841.87	759.38	2,686.76	2,634.28	52.48	51.193	
7,900.00	7,636.35	5,226.37	5,036.00	34.06	24.62	-50.61	841.87	759.38	2,780.06	2,727.46	52.61	52.845	
8,000.00	7,736.35	5,226.37	5,036.00	34.16	24.62	-50.61	841.87	759.38	2,873.82	2,821.08	52.73	54.496	
8,100.00	7,836.35	5,226.37	5,036.00	34.27	24.62	-50.61	841.87	759.38	2,967.98	2,915.12	52.86	56.146	
8,200.00	7,936.35	5,226.37	5,036.00	34.39	24.62	-50.61	841.87	759.38	3,062.51	3,009.52	52.99	57.794	
8,300.00	8,036.35	5,226.37	5,036.00	34.50	24.62	-50.61	841.87	759.38	3,157.38	3,104.26	53.12	59.438	
8,394.65	8,131.00	5,226.37	5,036.00	34.60	24.62	-50.61	841.87	759.38	3,247.45	3,194.21	53.24	60.992	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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 2-2 - P_HIGHWAY 160 2-2 - PLAN #1 3-17-10 RH:										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	-90.60	-0.73	-69.95	69.96					
100.00	100.00	100.00	100.00	0.10	0.10	-90.60	-0.73	-69.95	69.96	69.77	0.19	366.168		
200.00	200.00	200.00	200.00	0.32	0.32	-90.60	-0.73	-69.95	69.96	69.32	0.64	109.208		
300.00	300.00	300.00	300.00	0.55	0.55	-90.60	-0.73	-69.95	69.96	68.87	1.09	64.174		
400.00	400.00	400.00	400.00	0.77	0.77	-90.60	-0.73	-69.95	69.96	68.42	1.54	45.437		
500.00	500.00	500.00	500.00	0.99	0.99	-90.60	-0.73	-69.95	69.96	67.97	1.99	35.169		
600.00	600.00	600.00	600.00	1.22	1.22	-90.60	-0.73	-69.95	69.96	67.52	2.44	28.686		
700.00	700.00	700.00	700.00	1.44	1.44	-90.60	-0.73	-69.95	69.96	67.07	2.89	24.221		
800.00	800.00	800.00	800.00	1.67	1.67	-90.60	-0.73	-69.95	69.96	66.62	3.34	20.959		
900.00	900.00	900.00	900.00	1.89	1.89	-90.60	-0.73	-69.95	69.96	66.17	3.79	18.471		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.60	-0.73	-69.95	69.96	65.72	4.24	16.512		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.60	-0.73	-69.95	69.96	65.27	4.69	14.928		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.60	-0.73	-69.95	69.96	64.82	5.14	13.621	CC, ES	
1,300.00	1,299.98	1,299.50	1,299.48	2.78	2.79	-171.26	0.97	-70.28	72.01	66.45	5.57	12.934	SF	
1,400.00	1,399.84	1,398.62	1,398.46	2.99	3.01	-168.11	6.03	-71.26	78.34	72.36	5.98	13.097		
1,500.00	1,499.45	1,497.00	1,496.46	3.21	3.24	-163.88	14.37	-72.88	89.29	82.89	6.40	13.962		
1,600.00	1,598.70	1,594.26	1,593.02	3.45	3.47	-159.46	25.87	-75.10	105.16	98.35	6.81	15.431		
1,700.00	1,697.47	1,690.09	1,687.70	3.71	3.72	-155.42	40.33	-77.90	126.09	118.84	7.25	17.396		
1,800.00	1,795.62	1,784.16	1,780.12	4.02	4.00	-151.97	57.54	-81.23	152.03	144.33	7.70	19.737		
1,900.00	1,893.06	1,877.07	1,870.81	4.36	4.30	-149.12	77.34	-85.06	182.80	174.61	8.19	22.331		
2,000.00	1,989.64	1,970.89	1,962.22	4.76	4.63	-147.23	98.09	-89.08	217.03	208.33	8.71	24.930		
2,100.00	2,085.27	2,063.73	2,052.68	5.23	4.98	-146.16	118.62	-93.05	254.08	244.83	9.25	27.468		
2,200.00	2,179.82	2,155.50	2,142.08	5.76	5.33	-145.62	138.91	-96.98	293.82	284.00	9.82	29.919		
2,264.43	2,240.11	2,213.99	2,199.08	6.14	5.56	-145.46	151.85	-99.48	320.82	310.62	10.20	31.452		
2,300.00	2,273.25	2,246.14	2,230.40	6.35	5.69	-145.59	158.96	-100.85	336.02	325.58	10.44	32.184		
2,400.00	2,366.43	2,336.52	2,318.46	6.99	6.06	-145.89	178.94	-104.72	378.77	367.64	11.13	34.030		
2,500.00	2,459.60	2,426.91	2,406.52	7.65	6.43	-146.14	198.93	-108.59	421.53	409.69	11.84	35.603		
2,600.00	2,552.78	2,517.29	2,494.58	8.32	6.82	-146.33	218.92	-112.46	464.30	451.73	12.57	36.951		
2,700.00	2,645.96	2,607.67	2,582.64	9.01	7.20	-146.50	238.91	-116.33	507.07	493.76	13.30	38.114		
2,800.00	2,739.13	2,698.06	2,670.70	9.71	7.60	-146.64	258.89	-120.19	549.84	535.79	14.05	39.124		
2,900.00	2,832.31	2,788.44	2,758.77	10.42	7.99	-146.75	278.88	-124.06	592.61	577.80	14.81	40.005		
3,000.00	2,925.48	2,878.83	2,846.83	11.13	8.39	-146.86	298.87	-127.93	635.39	619.81	15.58	40.780		
3,100.00	3,018.66	2,969.21	2,934.89	11.85	8.79	-146.95	318.85	-131.80	678.17	661.81	16.35	41.466		
3,200.00	3,111.84	3,059.59	3,022.95	12.58	9.20	-147.03	338.84	-135.66	720.94	703.81	17.13	42.075		
3,300.00	3,205.01	3,149.98	3,111.01	13.30	9.60	-147.10	358.83	-139.53	763.72	745.80	17.92	42.619		
3,400.00	3,298.19	3,240.36	3,199.07	14.03	10.01	-147.16	378.81	-143.40	806.50	787.79	18.71	43.108		
3,500.00	3,391.37	3,330.75	3,287.13	14.77	10.42	-147.22	398.80	-147.27	849.28	829.78	19.50	43.548		
3,600.00	3,484.54	3,421.13	3,375.20	15.50	10.83	-147.27	418.79	-151.14	892.07	871.77	20.30	43.947		
3,700.00	3,577.72	3,511.51	3,463.26	16.24	11.24	-147.31	438.78	-155.00	934.85	913.75	21.10	44.309		
3,800.00	3,670.89	3,601.90	3,551.32	16.98	11.66	-147.35	458.76	-158.87	977.63	955.73	21.90	44.640		
3,900.00	3,764.07	3,692.28	3,639.38	17.72	12.07	-147.39	478.75	-162.74	1,020.41	997.71	22.71	44.942		
4,000.00	3,857.25	3,782.66	3,727.44	18.46	12.49	-147.43	498.74	-166.61	1,063.20	1,039.69	23.51	45.220		
4,100.00	3,950.42	3,873.05	3,815.50	19.21	12.90	-147.46	518.72	-170.47	1,105.98	1,081.66	24.32	45.475		
4,200.00	4,043.60	3,963.43	3,903.56	19.95	13.32	-147.49	538.71	-174.34	1,148.76	1,123.63	25.13	45.711		
4,300.00	4,136.78	4,053.82	3,991.62	20.70	13.74	-147.52	558.70	-178.21	1,191.55	1,165.61	25.94	45.929		
4,400.00	4,229.95	4,144.20	4,079.69	21.44	14.15	-147.55	578.68	-182.08	1,234.33	1,207.58	26.76	46.132		
4,500.00	4,323.13	4,234.58	4,167.75	22.19	14.57	-147.57	598.67	-185.94	1,277.12	1,249.55	27.57	46.321		
4,600.00	4,416.31	4,324.97	4,255.81	22.94	14.99	-147.59	618.66	-189.81	1,319.90	1,291.51	28.39	46.496		
4,700.00	4,509.48	4,415.35	4,343.87	23.69	15.41	-147.62	638.64	-193.68	1,362.69	1,333.48	29.20	46.661		
4,800.00	4,602.66	4,505.74	4,431.93	24.44	15.83	-147.64	658.63	-197.55	1,405.47	1,375.45	30.02	46.814		
4,900.00	4,695.83	4,596.12	4,519.99	25.19	16.25	-147.66	678.62	-201.42	1,448.26	1,417.42	30.84	46.959		
5,000.00	4,789.01	4,686.50	4,608.05	25.94	16.67	-147.67	698.61	-205.28	1,491.04	1,459.38	31.66	47.094		

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 41-2
<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 41-2	<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 41-2	<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 2-2 - P_HIGHWAY 160 2-2 - 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	
5,100.00	4,882.19	4,776.89	4,696.12	26.69	17.10	-147.69	718.59	-209.15	1,533.83	1,501.35	32.48	47.222	
5,200.00	4,975.36	4,867.27	4,784.18	27.44	17.52	-147.71	738.58	-213.02	1,576.61	1,543.31	33.30	47.342	
5,300.00	5,068.54	4,957.66	4,872.24	28.19	17.94	-147.72	758.57	-216.89	1,619.40	1,585.27	34.12	47.455	
5,400.00	5,161.72	5,048.04	4,960.30	28.94	18.36	-147.74	778.55	-220.75	1,662.18	1,627.24	34.95	47.562	
5,415.21	5,175.89	5,061.79	4,973.70	29.06	18.43	-147.74	781.59	-221.34	1,668.69	1,633.62	35.07	47.578	
5,500.00	5,255.34	5,138.87	5,048.80	29.61	18.79	-148.14	798.64	-224.64	1,704.01	1,668.15	35.85	47.528	
5,600.00	5,350.11	5,230.86	5,138.42	30.13	19.22	-148.51	818.98	-228.58	1,743.15	1,706.43	36.72	47.472	
5,700.00	5,445.94	5,323.92	5,229.09	30.61	19.65	-148.78	839.56	-232.56	1,779.54	1,741.98	37.56	47.378	
5,800.00	5,542.71	5,417.92	5,320.68	31.04	20.09	-148.96	860.35	-236.58	1,813.15	1,774.78	38.37	47.252	
5,900.00	5,640.30	5,512.76	5,413.08	31.42	20.54	-149.05	881.32	-240.64	1,843.96	1,804.81	39.15	47.098	
6,000.00	5,738.59	5,608.33	5,506.19	31.74	20.99	-149.05	902.45	-244.73	1,871.94	1,832.04	39.89	46.922	
6,100.00	5,837.46	5,736.26	5,631.11	32.02	21.51	-148.90	929.49	-249.96	1,896.63	1,855.95	40.68	46.624	
6,200.00	5,936.80	5,831.76	5,728.35	32.25	21.98	-148.71	955.31	-254.96	1,915.82	1,874.43	41.39	46.288	
6,300.00	6,036.47	6,050.39	5,941.92	32.43	22.37	-148.59	973.19	-258.42	1,929.08	1,887.12	41.96	45.977	
6,400.00	6,136.36	6,211.01	6,102.23	32.57	22.66	-148.55	982.55	-260.23	1,936.27	1,893.89	42.38	45.686	
6,479.65	6,216.00	6,324.79	6,216.00	32.64	22.80	-66.71	983.93	-260.50	1,937.71	1,895.11	42.60	45.487	
6,500.00	6,236.35	6,345.14	6,236.35	32.66	22.83	-66.71	983.93	-260.50	1,937.71	1,895.06	42.65	45.433	
6,600.00	6,336.35	6,445.14	6,336.35	32.75	22.95	-66.71	983.93	-260.50	1,937.71	1,894.80	42.91	45.156	
6,700.00	6,436.35	6,545.14	6,436.35	32.85	23.08	-66.71	983.93	-260.50	1,937.71	1,894.53	43.18	44.874	
6,800.00	6,536.35	6,645.14	6,536.35	32.94	23.21	-66.71	983.93	-260.50	1,937.71	1,894.26	43.45	44.592	
6,900.00	6,636.35	6,745.14	6,636.35	33.04	23.35	-66.71	983.93	-260.50	1,937.71	1,893.98	43.73	44.311	
7,000.00	6,736.35	6,845.14	6,736.35	33.13	23.48	-66.71	983.93	-260.50	1,937.71	1,893.70	44.01	44.030	
7,100.00	6,836.35	6,945.14	6,836.35	33.23	23.62	-66.71	983.93	-260.50	1,937.71	1,893.42	44.29	43.750	
7,200.00	6,936.35	7,045.14	6,936.35	33.33	23.75	-66.71	983.93	-260.50	1,937.71	1,893.14	44.57	43.471	
7,300.00	7,036.35	7,145.14	7,036.35	33.43	23.89	-66.71	983.93	-260.50	1,937.71	1,892.85	44.86	43.193	
7,400.00	7,136.35	7,245.14	7,136.35	33.53	24.03	-66.71	983.93	-260.50	1,937.71	1,892.56	45.15	42.916	
7,500.00	7,236.35	7,345.14	7,236.35	33.63	24.17	-66.71	983.93	-260.50	1,937.71	1,892.27	45.44	42.640	
7,600.00	7,336.35	7,445.14	7,336.35	33.74	24.31	-66.71	983.93	-260.50	1,937.71	1,891.97	45.74	42.365	
7,700.00	7,436.35	7,545.14	7,436.35	33.84	24.46	-66.71	983.93	-260.50	1,937.71	1,891.67	46.04	42.092	
7,800.00	7,536.35	7,645.14	7,536.35	33.95	24.60	-66.71	983.93	-260.50	1,937.71	1,891.37	46.34	41.819	
7,900.00	7,636.35	7,745.14	7,636.35	34.06	24.75	-66.71	983.93	-260.50	1,937.71	1,891.07	46.64	41.549	
8,000.00	7,736.35	7,845.14	7,736.35	34.16	24.89	-66.71	983.93	-260.50	1,937.71	1,890.77	46.94	41.279	
8,100.00	7,836.35	7,945.14	7,836.35	34.27	25.04	-66.71	983.93	-260.50	1,937.71	1,890.46	47.25	41.011	
8,200.00	7,936.35	8,045.14	7,936.35	34.39	25.19	-66.71	983.93	-260.50	1,937.71	1,890.15	47.56	40.745	
8,300.00	8,036.35	8,145.14	8,036.35	34.50	25.34	-66.71	983.93	-260.50	1,937.71	1,889.84	47.87	40.480	
8,352.38	8,088.73	8,197.52	8,088.73	34.56	25.42	-66.71	983.93	-260.50	1,937.71	1,889.68	48.03	40.342	
8,394.65	8,131.00	8,215.79	8,107.00	34.60	25.45	-66.71	983.93	-260.50	1,937.86	1,889.73	48.13	40.266	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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
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	-90.52	-0.73	-80.03	80.03				
100.00	100.00	100.00	100.00	0.10	0.10	-90.52	-0.73	-80.03	80.03	79.84	0.19	418.890	
200.00	200.00	200.00	200.00	0.32	0.32	-90.52	-0.73	-80.03	80.03	79.39	0.64	124.932	
300.00	300.00	300.00	300.00	0.55	0.55	-90.52	-0.73	-80.03	80.03	78.94	1.09	73.414	
400.00	400.00	400.00	400.00	0.77	0.77	-90.52	-0.73	-80.03	80.03	78.49	1.54	51.979	
500.00	500.00	500.00	500.00	0.99	0.99	-90.52	-0.73	-80.03	80.03	78.04	1.99	40.232	
600.00	600.00	600.00	600.00	1.22	1.22	-90.52	-0.73	-80.03	80.03	77.59	2.44	32.816	
700.00	700.00	700.00	700.00	1.44	1.44	-90.52	-0.73	-80.03	80.03	77.14	2.89	27.709	
800.00	800.00	800.00	800.00	1.67	1.67	-90.52	-0.73	-80.03	80.03	76.69	3.34	23.977	
900.00	900.00	900.00	900.00	1.89	1.89	-90.52	-0.73	-80.03	80.03	76.24	3.79	21.131	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.52	-0.73	-80.03	80.03	75.79	4.24	18.889	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.52	-0.73	-80.03	80.03	75.34	4.69	17.077	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.52	-0.73	-80.03	80.03	74.89	5.14	15.582 CC, ES	
1,300.00	1,299.98	1,299.06	1,299.05	2.78	2.79	-171.71	0.43	-80.59	82.32	76.75	5.57	14.790 SF	
1,400.00	1,399.84	1,397.78	1,397.69	2.99	3.01	-169.94	3.88	-82.25	89.24	83.26	5.98	14.930	
1,500.00	1,499.45	1,495.84	1,495.54	3.21	3.23	-167.54	9.58	-85.01	100.89	94.51	6.38	15.802	
1,600.00	1,598.70	1,592.91	1,592.22	3.45	3.46	-164.97	17.45	-88.82	117.37	110.58	6.79	17.283	
1,700.00	1,697.47	1,688.69	1,687.36	3.71	3.69	-162.56	27.38	-93.62	138.70	131.50	7.20	19.265	
1,800.00	1,795.62	1,782.88	1,780.62	4.02	3.94	-160.42	39.23	-99.35	164.83	157.22	7.61	21.648	
1,900.00	1,893.06	1,875.22	1,871.71	4.36	4.20	-158.60	52.86	-105.94	195.66	187.63	8.04	24.339	
2,000.00	1,989.64	1,965.45	1,960.34	4.76	4.48	-157.05	68.09	-113.30	231.08	222.60	8.48	27.253	
2,100.00	2,085.27	2,053.90	2,046.81	5.23	4.77	-155.72	84.82	-121.39	270.91	261.97	8.94	30.318	
2,200.00	2,179.82	2,144.01	2,134.74	5.76	5.10	-154.73	102.55	-129.97	314.18	304.76	9.42	33.339	
2,264.43	2,240.11	2,201.34	2,190.69	6.14	5.31	-154.30	113.83	-135.42	343.58	333.83	9.75	35.256	
2,300.00	2,273.25	2,232.82	2,221.41	6.35	5.43	-154.26	120.03	-138.42	360.12	350.16	9.96	36.164	
2,400.00	2,366.43	2,321.34	2,307.79	6.99	5.77	-154.16	137.44	-146.84	406.64	396.07	10.57	38.482	
2,500.00	2,459.60	2,409.86	2,394.17	7.65	6.12	-154.08	154.86	-155.26	453.16	441.97	11.19	40.481	
2,600.00	2,552.78	2,498.38	2,480.55	8.32	6.48	-154.02	172.27	-163.68	499.68	487.84	11.84	42.213	
2,700.00	2,645.96	2,586.90	2,566.93	9.01	6.84	-153.97	189.69	-172.10	546.20	533.71	12.49	43.720	
2,800.00	2,739.13	2,675.42	2,653.31	9.71	7.21	-153.92	207.11	-180.52	592.72	579.56	13.16	45.039	
2,900.00	2,832.31	2,763.94	2,739.68	10.42	7.58	-153.89	224.52	-188.94	639.25	625.41	13.84	46.201	
3,000.00	2,925.48	2,852.46	2,826.06	11.13	7.96	-153.85	241.94	-197.36	685.77	671.25	14.52	47.229	
3,100.00	3,018.66	2,940.98	2,912.44	11.85	8.34	-153.82	259.35	-205.79	732.29	717.08	15.21	48.143	
3,200.00	3,111.84	3,029.50	2,998.82	12.58	8.73	-153.80	276.77	-214.21	778.81	762.90	15.91	48.959	
3,300.00	3,205.01	3,118.01	3,085.20	13.30	9.11	-153.78	294.19	-222.63	825.33	808.72	16.61	49.691	
3,400.00	3,298.19	3,206.53	3,171.58	14.03	9.50	-153.76	311.60	-231.05	871.86	854.54	17.32	50.351	
3,500.00	3,391.37	3,295.05	3,257.96	14.77	9.89	-153.74	329.02	-239.47	918.38	900.35	18.03	50.947	
3,600.00	3,484.54	3,383.57	3,344.34	15.50	10.28	-153.72	346.43	-247.89	964.90	946.16	18.74	51.488	
3,700.00	3,577.72	3,472.09	3,430.72	16.24	10.68	-153.71	363.85	-256.31	1,011.42	991.96	19.46	51.982	
3,800.00	3,670.89	3,560.61	3,517.10	16.98	11.07	-153.70	381.27	-264.73	1,057.94	1,037.77	20.18	52.432	
3,900.00	3,764.07	3,649.13	3,603.48	17.72	11.47	-153.68	398.68	-273.16	1,104.47	1,083.57	20.90	52.846	
4,000.00	3,857.25	3,737.65	3,689.86	18.46	11.86	-153.67	416.10	-281.58	1,150.99	1,129.37	21.62	53.226	
4,100.00	3,950.42	3,826.17	3,776.24	19.21	12.26	-153.66	433.51	-290.00	1,197.51	1,175.16	22.35	53.577	
4,200.00	4,043.60	3,914.69	3,862.62	19.95	12.66	-153.65	450.93	-298.42	1,244.03	1,220.95	23.08	53.901	
4,300.00	4,136.78	4,003.20	3,948.99	20.70	13.06	-153.64	468.35	-306.84	1,290.56	1,266.75	23.81	54.202	
4,400.00	4,229.95	4,091.72	4,035.37	21.44	13.46	-153.64	485.76	-315.26	1,337.08	1,312.54	24.54	54.481	
4,500.00	4,323.13	4,180.24	4,121.75	22.19	13.86	-153.63	503.18	-323.68	1,383.60	1,358.33	25.28	54.741	
4,600.00	4,416.31	4,268.76	4,208.13	22.94	14.26	-153.62	520.59	-332.10	1,430.13	1,404.12	26.01	54.983	
4,700.00	4,509.48	4,357.28	4,294.51	23.69	14.67	-153.61	538.01	-340.53	1,476.65	1,449.90	26.75	55.210	
4,800.00	4,602.66	4,445.80	4,380.89	24.44	15.07	-153.61	555.43	-348.95	1,523.17	1,495.69	27.48	55.423	
4,900.00	4,695.83	4,534.32	4,467.27	25.19	15.47	-153.60	572.84	-357.37	1,569.69	1,541.47	28.22	55.622	
5,000.00	4,789.01	4,622.84	4,553.65	25.94	15.88	-153.60	590.26	-365.79	1,616.22	1,587.26	28.96	55.810	

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 41-2
<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 41-2	<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 41-2	<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	4,882.19	4,711.36	4,640.03	26.69	16.28	-153.59	607.67	-374.21	1,662.74	1,633.04	29.70	55.986	
5,200.00	4,975.36	4,799.88	4,726.41	27.44	16.69	-153.59	625.09	-382.63	1,709.26	1,678.82	30.44	56.153	
5,300.00	5,068.54	4,888.39	4,812.79	28.19	17.09	-153.58	642.51	-391.05	1,755.78	1,724.60	31.18	56.310	
5,400.00	5,161.72	4,976.91	4,899.17	28.94	17.50	-153.58	659.92	-399.48	1,802.31	1,770.38	31.92	56.459	
5,415.21	5,175.89	4,990.38	4,912.31	29.06	17.56	-153.58	662.57	-400.76	1,809.38	1,777.35	32.04	56.481	
5,500.00	5,255.34	5,065.94	4,986.05	29.61	17.91	-153.93	677.44	-407.94	1,847.83	1,815.06	32.77	56.386	
5,600.00	5,350.11	5,092.54	5,012.00	30.13	18.03	-154.34	682.67	-410.48	1,891.65	1,858.29	33.36	56.710	
5,700.00	5,445.94	5,092.54	5,012.00	30.61	18.03	-154.78	682.67	-410.48	1,936.70	1,902.91	33.79	57.311	
5,800.00	5,542.71	5,092.54	5,012.00	31.04	18.03	-155.22	682.67	-410.48	1,983.03	1,948.86	34.17	58.029	
5,900.00	5,640.30	5,092.54	5,012.00	31.42	18.03	-155.67	682.67	-410.48	2,030.50	1,996.00	34.50	58.859	
6,000.00	5,738.59	5,092.54	5,012.00	31.74	18.03	-156.12	682.67	-410.48	2,078.96	2,044.20	34.77	59.799	
6,100.00	5,837.46	5,092.54	5,012.00	32.02	18.03	-156.57	682.67	-410.48	2,128.30	2,093.33	34.98	60.848	
6,200.00	5,936.80	5,092.54	5,012.00	32.25	18.03	-157.03	682.67	-410.48	2,178.40	2,143.27	35.13	62.005	
6,300.00	6,036.47	5,092.54	5,012.00	32.43	18.03	-157.49	682.67	-410.48	2,229.15	2,193.92	35.23	63.270	
6,400.00	6,136.36	5,092.54	5,012.00	32.57	18.03	-157.94	682.67	-410.48	2,280.44	2,245.17	35.28	64.643	
6,479.65	6,216.00	5,092.54	5,012.00	32.64	18.03	-76.46	682.67	-410.48	2,321.62	2,286.35	35.27	65.816	
6,500.00	6,236.35	5,092.54	5,012.00	32.66	18.03	-76.46	682.67	-410.48	2,332.24	2,296.94	35.30	66.065	
6,600.00	6,336.35	5,092.54	5,012.00	32.75	18.03	-76.46	682.67	-410.48	2,386.26	2,350.81	35.44	67.328	
6,700.00	6,436.35	5,092.54	5,012.00	32.85	18.03	-76.46	682.67	-410.48	2,443.17	2,407.59	35.58	68.658	
6,800.00	6,536.35	5,092.54	5,012.00	32.94	18.03	-76.46	682.67	-410.48	2,502.79	2,467.06	35.73	70.051	
6,900.00	6,636.35	5,092.54	5,012.00	33.04	18.03	-76.46	682.67	-410.48	2,564.92	2,529.05	35.87	71.500	
7,000.00	6,736.35	5,092.54	5,012.00	33.13	18.03	-76.46	682.67	-410.48	2,629.39	2,593.37	36.02	72.999	
7,100.00	6,836.35	5,092.54	5,012.00	33.23	18.03	-76.46	682.67	-410.48	2,696.03	2,659.86	36.17	74.542	
7,200.00	6,936.35	5,092.54	5,012.00	33.33	18.03	-76.46	682.67	-410.48	2,764.68	2,728.36	36.32	76.126	
7,300.00	7,036.35	5,092.54	5,012.00	33.43	18.03	-76.46	682.67	-410.48	2,835.19	2,798.72	36.47	77.745	
7,400.00	7,136.35	5,092.54	5,012.00	33.53	18.03	-76.46	682.67	-410.48	2,907.44	2,870.82	36.62	79.395	
7,500.00	7,236.35	5,092.54	5,012.00	33.63	18.03	-76.46	682.67	-410.48	2,981.28	2,944.51	36.77	81.072	
7,600.00	7,336.35	5,092.54	5,012.00	33.74	18.03	-76.46	682.67	-410.48	3,056.62	3,019.69	36.93	82.773	
7,700.00	7,436.35	5,092.54	5,012.00	33.84	18.03	-76.46	682.67	-410.48	3,133.34	3,096.25	37.08	84.493	
7,800.00	7,536.35	5,092.54	5,012.00	33.95	18.03	-76.46	682.67	-410.48	3,211.33	3,174.09	37.24	86.231	
7,900.00	7,636.35	5,092.54	5,012.00	34.06	18.03	-76.46	682.67	-410.48	3,290.52	3,253.12	37.40	87.984	
8,000.00	7,736.35	5,092.54	5,012.00	34.16	18.03	-76.46	682.67	-410.48	3,370.82	3,333.26	37.56	89.748	
8,100.00	7,836.35	5,092.54	5,012.00	34.27	18.03	-76.46	682.67	-410.48	3,452.14	3,414.42	37.72	91.522	
8,200.00	7,936.35	5,092.54	5,012.00	34.39	18.03	-76.46	682.67	-410.48	3,534.42	3,496.54	37.88	93.303	
8,300.00	8,036.35	5,092.54	5,012.00	34.50	18.03	-76.46	682.67	-410.48	3,617.60	3,579.56	38.04	95.090	
8,394.65	8,131.00	5,092.54	5,012.00	34.60	18.03	-76.46	682.67	-410.48	3,697.09	3,658.89	38.20	96.784	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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	-90.35	-0.36	-59.88	59.88				
100.00	100.00	100.00	100.00	0.10	0.10	-90.35	-0.36	-59.88	59.88	59.69	0.19	313.428	
200.00	200.00	200.00	200.00	0.32	0.32	-90.35	-0.36	-59.88	59.88	59.24	0.64	93.479	
300.00	300.00	300.00	300.00	0.55	0.55	-90.35	-0.36	-59.88	59.88	58.79	1.09	54.931	
400.00	400.00	400.00	400.00	0.77	0.77	-90.35	-0.36	-59.88	59.88	58.34	1.54	38.893	
500.00	500.00	500.00	500.00	0.99	0.99	-90.35	-0.36	-59.88	59.88	57.89	1.99	30.103	
600.00	600.00	600.00	600.00	1.22	1.22	-90.35	-0.36	-59.88	59.88	57.44	2.44	24.554	
700.00	700.00	700.00	700.00	1.44	1.44	-90.35	-0.36	-59.88	59.88	56.99	2.89	20.733	
800.00	800.00	800.00	800.00	1.67	1.67	-90.35	-0.36	-59.88	59.88	56.54	3.34	17.940	
900.00	900.00	900.00	900.00	1.89	1.89	-90.35	-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	-90.35	-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	-90.35	-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	-90.35	-0.36	-59.88	59.88	54.75	5.14	11.659 CC, ES	
1,300.00	1,299.98	1,300.54	1,300.52	2.78	2.77	-173.99	-2.05	-59.37	61.14	55.60	5.54	11.032 SF	
1,400.00	1,399.84	1,400.77	1,400.60	2.99	2.94	-178.96	-7.10	-57.85	65.27	59.36	5.91	11.042	
1,500.00	1,499.45	1,500.37	1,499.82	3.21	3.13	174.14	-15.43	-55.34	73.05	66.76	6.29	11.614	
1,600.00	1,598.70	1,599.06	1,597.77	3.45	3.34	166.78	-26.93	-51.88	85.27	78.59	6.69	12.748	
1,700.00	1,697.47	1,696.53	1,694.05	3.71	3.57	160.03	-41.46	-47.50	102.41	95.29	7.12	14.381	
1,800.00	1,795.62	1,792.54	1,788.32	4.02	3.84	154.36	-58.83	-42.27	124.52	116.93	7.59	16.396	
1,900.00	1,893.06	1,886.83	1,880.27	4.36	4.15	149.79	-78.82	-36.25	151.48	143.36	8.12	18.661	
2,000.00	1,989.64	1,981.39	1,972.07	4.76	4.49	146.47	-100.54	-29.72	182.52	173.82	8.69	20.996	
2,100.00	2,085.27	2,075.27	2,063.21	5.23	4.86	144.51	-122.11	-23.22	216.57	207.26	9.31	23.271	
2,200.00	2,179.82	2,168.22	2,153.45	5.76	5.24	143.41	-143.46	-16.79	253.35	243.40	9.96	25.449	
2,264.43	2,240.11	2,227.57	2,211.06	6.14	5.50	143.02	-157.09	-12.69	278.43	268.04	10.39	26.795	
2,300.00	2,273.25	2,260.21	2,242.74	6.35	5.64	143.03	-164.59	-10.43	292.58	281.91	10.66	27.444	
2,400.00	2,366.43	2,351.96	2,331.82	6.99	6.04	143.07	-185.67	-4.08	332.33	320.90	11.44	29.057	
2,500.00	2,459.60	2,443.72	2,420.90	7.65	6.45	143.10	-206.75	2.26	372.09	359.85	12.24	30.391	
2,600.00	2,552.78	2,535.48	2,509.97	8.32	6.87	143.13	-227.83	8.61	411.85	398.78	13.07	31.510	
2,700.00	2,645.96	2,627.23	2,599.05	9.01	7.30	143.15	-248.91	14.96	451.60	437.69	13.91	32.462	
2,800.00	2,739.13	2,718.99	2,688.13	9.71	7.73	143.17	-269.98	21.31	491.36	476.60	14.76	33.279	
2,900.00	2,832.31	2,810.75	2,777.21	10.42	8.17	143.18	-291.06	27.65	531.12	515.49	15.63	33.985	
3,000.00	2,925.48	2,902.51	2,866.28	11.13	8.61	143.20	-312.14	34.00	570.88	554.38	16.50	34.600	
3,100.00	3,018.66	2,994.26	2,955.36	11.85	9.05	143.21	-333.22	40.35	610.63	593.26	17.38	35.140	
3,200.00	3,111.84	3,086.02	3,044.44	12.58	9.50	143.22	-354.30	46.69	650.39	632.13	18.26	35.616	
3,300.00	3,205.01	3,177.78	3,133.51	13.30	9.95	143.23	-375.38	53.04	690.15	671.00	19.15	36.040	
3,400.00	3,298.19	3,269.53	3,222.59	14.03	10.40	143.23	-396.46	59.39	729.90	709.86	20.04	36.419	
3,500.00	3,391.37	3,361.29	3,311.67	14.77	10.85	143.24	-417.54	65.73	769.66	748.72	20.94	36.760	
3,600.00	3,484.54	3,453.05	3,400.75	15.50	11.31	143.25	-438.61	72.08	809.42	787.58	21.84	37.068	
3,700.00	3,577.72	3,544.80	3,489.82	16.24	11.76	143.25	-459.69	78.43	849.18	826.44	22.74	37.348	
3,800.00	3,670.89	3,636.56	3,578.90	16.98	12.22	143.26	-480.77	84.78	888.93	865.29	23.64	37.603	
3,900.00	3,764.07	3,728.32	3,667.98	17.72	12.68	143.26	-501.85	91.12	928.69	904.15	24.54	37.837	
4,000.00	3,857.25	3,820.08	3,757.06	18.46	13.14	143.27	-522.93	97.47	968.45	943.00	25.45	38.052	
4,100.00	3,950.42	3,911.83	3,846.13	19.21	13.60	143.27	-544.01	103.82	1,008.21	981.85	26.36	38.251	
4,200.00	4,043.60	4,003.59	3,935.21	19.95	14.06	143.27	-565.09	110.16	1,047.96	1,020.70	27.27	38.435	
4,300.00	4,136.78	4,095.35	4,024.29	20.70	14.52	143.28	-586.17	116.51	1,087.72	1,059.55	28.17	38.606	
4,400.00	4,229.95	4,187.10	4,113.36	21.44	14.98	143.28	-607.25	122.86	1,127.48	1,098.39	29.08	38.766	
4,500.00	4,323.13	4,278.86	4,202.44	22.19	15.44	143.28	-628.32	129.21	1,167.24	1,137.24	29.99	38.915	
4,600.00	4,416.31	4,370.62	4,291.52	22.94	15.91	143.29	-649.40	135.55	1,206.99	1,176.09	30.90	39.055	
4,700.00	4,509.48	4,462.37	4,380.60	23.69	16.37	143.29	-670.48	141.90	1,246.75	1,214.93	31.82	39.177	
4,800.00	4,602.66	4,554.13	4,469.67	24.44	16.84	143.29	-691.56	148.25	1,286.51	1,253.76	32.74	39.289	
4,900.00	4,695.83	4,645.89	4,558.75	25.19	17.30	143.29	-712.64	154.59	1,326.27	1,292.60	33.67	39.393	
5,000.00	4,789.01	4,737.65	4,647.83	25.94	17.77	143.30	-733.72	160.94	1,366.02	1,331.43	34.59	39.491	

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 41-2
<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 41-2	<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 41-2	<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 24-2 - P_HIGHWAY 160 24-2 - 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	4,882.19	4,829.40	4,736.90	26.69	18.23	143.30	-754.80	167.29	1,405.78	1,370.26	35.52	39.583	
5,200.00	4,975.36	4,921.16	4,825.98	27.44	18.70	143.30	-775.88	173.63	1,445.54	1,409.10	36.44	39.669	
5,300.00	5,068.54	5,012.92	4,915.06	28.19	19.16	143.30	-796.96	179.98	1,485.29	1,447.93	37.37	39.750	
5,400.00	5,161.72	5,104.67	5,004.14	28.94	19.63	143.30	-818.03	186.33	1,525.05	1,486.76	38.29	39.827	
5,415.21	5,175.89	5,118.63	5,017.69	29.06	19.70	143.30	-821.24	187.29	1,531.10	1,492.67	38.43	39.838	
5,500.00	5,255.34	5,196.82	5,093.59	29.61	20.10	143.70	-839.20	192.70	1,563.88	1,524.61	39.27	39.820	
5,600.00	5,350.11	5,289.97	5,184.02	30.13	20.57	144.05	-860.60	199.15	1,600.14	1,559.95	40.19	39.813	
5,700.00	5,445.94	5,384.03	5,275.33	30.61	21.05	144.29	-882.21	205.65	1,633.75	1,592.67	41.09	39.765	
5,800.00	5,542.71	5,478.87	5,367.41	31.04	21.53	144.43	-904.00	212.21	1,664.71	1,622.76	41.95	39.682	
5,900.00	5,640.30	5,574.39	5,460.14	31.42	22.02	144.46	-925.94	218.82	1,692.99	1,650.20	42.79	39.569	
6,000.00	5,738.59	5,671.88	5,554.78	31.74	22.51	144.40	-948.33	225.56	1,718.59	1,675.00	43.59	39.426	
6,100.00	5,837.46	5,805.32	5,685.07	32.02	22.99	144.18	-975.86	233.85	1,740.41	1,696.05	44.36	39.233	
6,200.00	5,936.80	5,941.47	5,819.25	32.25	23.39	144.00	-997.93	240.50	1,757.41	1,712.41	45.00	39.053	
6,300.00	6,036.47	6,079.73	5,956.46	32.43	23.72	143.87	-1,014.06	245.36	1,769.49	1,723.97	45.52	38.871	
6,400.00	6,136.36	6,219.41	6,095.75	32.57	23.98	143.77	-1,023.91	248.32	1,776.55	1,730.63	45.91	38.693	
6,479.65	6,216.00	6,331.21	6,207.49	32.64	24.13	-134.43	-1,027.10	249.28	1,778.54	1,732.41	46.14	38.549	
6,500.00	6,236.35	6,359.81	6,236.09	32.66	24.17	-134.43	-1,027.25	249.33	1,778.59	1,732.40	46.20	38.500	
6,600.00	6,336.35	6,460.08	6,336.35	32.75	24.27	-134.43	-1,027.25	249.33	1,778.59	1,732.16	46.43	38.304	
6,700.00	6,436.35	6,560.08	6,436.35	32.85	24.38	-134.43	-1,027.25	249.33	1,778.59	1,731.92	46.67	38.111	
6,800.00	6,536.35	6,660.08	6,536.35	32.94	24.48	-134.43	-1,027.25	249.33	1,778.59	1,731.69	46.91	37.918	
6,900.00	6,636.35	6,760.08	6,636.35	33.04	24.59	-134.43	-1,027.25	249.33	1,778.59	1,731.45	47.15	37.723	
7,000.00	6,736.35	6,860.08	6,736.35	33.13	24.70	-134.43	-1,027.25	249.33	1,778.59	1,731.20	47.39	37.529	
7,100.00	6,836.35	6,960.08	6,836.35	33.23	24.81	-134.43	-1,027.25	249.33	1,778.59	1,730.95	47.64	37.334	
7,200.00	6,936.35	7,060.08	6,936.35	33.33	24.92	-134.43	-1,027.25	249.33	1,778.59	1,730.70	47.89	37.139	
7,300.00	7,036.35	7,160.08	7,036.35	33.43	25.03	-134.43	-1,027.25	249.33	1,778.59	1,730.45	48.14	36.944	
7,400.00	7,136.35	7,260.08	7,136.35	33.53	25.15	-134.43	-1,027.25	249.33	1,778.59	1,730.19	48.40	36.748	
7,500.00	7,236.35	7,360.08	7,236.35	33.63	25.26	-134.43	-1,027.25	249.33	1,778.59	1,729.94	48.66	36.553	
7,600.00	7,336.35	7,460.08	7,336.35	33.74	25.38	-134.43	-1,027.25	249.33	1,778.59	1,729.67	48.92	36.357	
7,700.00	7,436.35	7,560.08	7,436.35	33.84	25.50	-134.43	-1,027.25	249.33	1,778.59	1,729.41	49.18	36.162	
7,800.00	7,536.35	7,660.08	7,536.35	33.95	25.62	-134.43	-1,027.25	249.33	1,778.59	1,729.14	49.45	35.967	
7,900.00	7,636.35	7,760.08	7,636.35	34.06	25.74	-134.43	-1,027.25	249.33	1,778.59	1,728.87	49.72	35.772	
8,000.00	7,736.35	7,860.08	7,736.35	34.16	25.87	-134.43	-1,027.25	249.33	1,778.59	1,728.60	49.99	35.577	
8,100.00	7,836.35	7,960.08	7,836.35	34.27	25.99	-134.43	-1,027.25	249.33	1,778.59	1,728.33	50.27	35.382	
8,200.00	7,936.35	8,060.08	7,936.35	34.39	26.12	-134.43	-1,027.25	249.33	1,778.59	1,728.05	50.55	35.188	
8,300.00	8,036.35	8,160.08	8,036.35	34.50	26.24	-134.43	-1,027.25	249.33	1,778.59	1,727.77	50.82	34.995	
8,394.65	8,131.00	8,254.72	8,131.00	34.60	26.36	-134.43	-1,027.25	249.33	1,778.59	1,727.50	51.09	34.812	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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								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	-91.05	-0.36	-19.87	19.87				
100.00	100.00	100.00	100.00	0.10	0.10	-91.05	-0.36	-19.87	19.87	19.68	0.19	104.003	
200.00	200.00	200.00	200.00	0.32	0.32	-91.05	-0.36	-19.87	19.87	19.23	0.64	31.019	
300.00	300.00	300.00	300.00	0.55	0.55	-91.05	-0.36	-19.87	19.87	18.78	1.09	18.227	
400.00	400.00	400.47	400.45	0.77	0.77	-87.39	0.85	-18.59	18.61	17.08	1.54	12.106	
500.00	500.00	500.70	500.54	0.99	0.99	-73.16	4.47	-14.76	15.44	13.45	1.98	7.777	
589.58	589.58	590.08	589.58	1.20	1.21	-43.45	9.73	-9.21	13.40	11.01	2.39	5.616 CC	
600.00	600.00	600.44	599.89	1.22	1.24	-38.90	10.46	-8.44	13.44	11.01	2.43	5.525 ES, SF	
700.00	700.00	699.45	698.16	1.44	1.51	0.97	18.76	0.32	18.85	15.92	2.93	6.430	
800.00	800.00	797.51	795.01	1.67	1.82	21.31	29.27	11.42	31.81	28.32	3.49	9.114	
900.00	900.00	894.41	890.15	1.89	2.17	30.57	41.89	24.74	49.64	45.55	4.09	12.137	
1,000.00	1,000.00	989.95	983.30	2.12	2.57	35.41	56.50	40.16	71.30	66.56	4.73	15.059	
1,100.00	1,100.00	1,083.95	1,074.20	2.34	3.02	38.26	72.94	57.52	96.41	90.98	5.43	17.764	
1,200.00	1,200.00	1,176.25	1,162.65	2.57	3.51	40.09	91.08	76.66	124.77	118.60	6.17	20.229	
1,300.00	1,299.98	1,267.13	1,248.87	2.78	4.04	-40.50	110.84	97.53	154.99	149.31	5.68	27.285	
1,400.00	1,399.84	1,356.99	1,333.17	2.99	4.62	-40.14	132.22	120.10	185.68	179.53	6.15	30.179	
1,500.00	1,499.45	1,445.79	1,415.49	3.21	5.24	-40.27	155.12	144.28	216.80	210.15	6.64	32.635	
1,600.00	1,598.70	1,534.52	1,496.68	3.45	5.91	-40.70	179.73	170.26	248.31	241.15	7.16	34.694	
1,700.00	1,697.47	1,629.71	1,583.34	3.71	6.66	-41.47	206.82	198.85	278.48	270.75	7.73	36.034	
1,800.00	1,795.62	1,725.52	1,670.55	4.02	7.43	-42.49	234.09	227.64	306.27	297.93	8.34	36.717	
1,900.00	1,893.06	1,821.81	1,758.22	4.36	8.20	-43.73	261.49	256.57	331.79	322.78	9.01	36.824	
2,000.00	1,989.64	1,918.49	1,846.22	4.76	8.98	-45.17	289.00	285.61	355.14	345.39	9.75	36.428	
2,100.00	2,085.27	2,015.42	1,934.46	5.23	9.77	-46.80	316.59	314.73	376.45	365.88	10.57	35.600	
2,200.00	2,179.82	2,112.48	2,022.83	5.76	10.56	-48.62	344.21	343.89	395.89	384.38	11.51	34.409	
2,264.43	2,240.11	2,175.05	2,079.79	6.14	11.07	-49.89	362.02	362.68	407.50	395.33	12.17	33.484	
2,300.00	2,273.25	2,209.58	2,111.22	6.35	11.35	-50.70	371.84	373.06	413.77	401.21	12.56	32.940	
2,400.00	2,366.43	2,306.67	2,199.61	6.99	12.15	-52.85	399.47	402.23	431.81	418.10	13.71	31.500	
2,500.00	2,459.60	2,403.75	2,287.99	7.65	12.94	-54.82	427.10	431.39	450.40	435.49	14.91	30.201	
2,600.00	2,552.78	2,500.84	2,376.38	8.32	13.74	-56.64	454.73	460.56	469.48	453.31	16.17	29.038	
2,700.00	2,645.96	2,597.93	2,464.76	9.01	14.54	-58.32	482.36	489.73	488.98	471.52	17.46	28.004	
2,800.00	2,739.13	2,695.02	2,553.15	9.71	15.34	-59.87	509.99	518.90	508.87	490.08	18.79	27.085	
2,900.00	2,832.31	2,792.10	2,641.53	10.42	16.14	-61.30	537.62	548.06	529.10	508.96	20.14	26.270	
3,000.00	2,925.48	2,889.19	2,729.92	11.13	16.94	-62.63	565.25	577.23	549.62	528.10	21.52	25.544	
3,100.00	3,018.66	2,986.28	2,818.30	11.85	17.74	-63.87	592.88	606.40	570.41	547.50	22.91	24.898	
3,200.00	3,111.84	3,083.37	2,906.69	12.58	18.54	-65.02	620.51	635.57	591.45	567.13	24.32	24.321	
3,300.00	3,205.01	3,180.46	2,995.07	13.30	19.34	-66.09	648.14	664.73	612.69	586.95	25.74	23.804	
3,400.00	3,298.19	3,277.54	3,083.46	14.03	20.14	-67.09	675.77	693.90	634.13	606.96	27.17	23.340	
3,500.00	3,391.37	3,374.63	3,171.84	14.77	20.95	-68.03	703.40	723.07	655.75	627.14	28.61	22.922	
3,600.00	3,484.54	3,471.72	3,260.23	15.50	21.75	-68.90	731.03	752.24	677.52	647.46	30.05	22.543	
3,700.00	3,577.72	3,568.81	3,348.61	16.24	22.55	-69.72	758.66	781.40	699.43	667.93	31.51	22.200	
3,800.00	3,670.89	3,665.90	3,437.00	16.98	23.35	-70.50	786.29	810.57	721.48	688.52	32.96	21.888	
3,900.00	3,764.07	3,762.98	3,525.38	17.72	24.16	-71.22	813.92	839.74	743.64	709.22	34.42	21.604	
4,000.00	3,857.25	3,860.07	3,613.77	18.46	24.96	-71.91	841.55	868.91	765.91	730.03	35.89	21.343	
4,100.00	3,950.42	3,957.16	3,702.15	19.21	25.77	-72.55	869.18	898.07	788.28	750.93	37.35	21.105	
4,200.00	4,043.60	4,054.25	3,790.54	19.95	26.57	-73.16	896.81	927.24	810.74	771.92	38.82	20.885	
4,300.00	4,136.78	4,151.33	3,878.92	20.70	27.37	-73.74	924.43	956.41	833.29	793.00	40.29	20.683	
4,400.00	4,229.95	4,248.42	3,967.31	21.44	28.18	-74.29	952.06	985.58	855.91	814.15	41.76	20.496	
4,500.00	4,323.13	4,345.51	4,055.69	22.19	28.98	-74.81	979.69	1,014.74	878.60	835.37	43.23	20.322	
4,600.00	4,416.31	4,442.60	4,144.08	22.94	29.78	-75.30	1,007.32	1,043.91	901.36	856.65	44.71	20.161	
4,700.00	4,509.48	4,539.69	4,232.46	23.69	30.59	-75.77	1,034.95	1,073.08	924.17	877.99	46.18	20.012	
4,800.00	4,602.66	4,636.77	4,320.85	24.44	31.39	-76.22	1,062.58	1,102.25	947.05	899.39	47.66	19.872	
4,900.00	4,695.83	4,733.86	4,409.23	25.19	32.20	-76.65	1,090.21	1,131.41	969.98	920.84	49.13	19.742	

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 41-2
<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 41-2	<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 41-2	<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 26-2 - P_HIGHWAY 160 26-2 - 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
5,000.00	4,789.01	4,830.95	4,497.62	25.94	33.00	-77.05	1,117.84	1,160.58	992.95	942.34	50.61	19.620	
5,100.00	4,882.19	4,928.04	4,586.00	26.69	33.81	-77.44	1,145.47	1,189.75	1,015.97	963.89	52.08	19.506	
5,200.00	4,975.36	5,025.12	4,674.39	27.44	34.61	-77.81	1,173.10	1,218.92	1,039.03	985.47	53.56	19.399	
5,300.00	5,068.54	5,122.21	4,762.77	28.19	35.42	-78.17	1,200.73	1,248.08	1,062.14	1,007.10	55.04	19.298	
5,400.00	5,161.72	5,219.30	4,851.16	28.94	36.22	-78.51	1,228.36	1,277.25	1,085.28	1,028.76	56.51	19.203	
5,415.21	5,175.89	5,234.07	4,864.60	29.06	36.34	-78.56	1,232.56	1,281.69	1,088.80	1,032.06	56.74	19.189	
5,500.00	5,255.34	5,316.40	4,939.55	29.61	37.03	-79.17	1,255.99	1,306.42	1,108.68	1,050.69	57.99	19.118	
5,600.00	5,350.11	5,416.48	5,030.67	30.13	37.84	-79.73	1,284.46	1,336.47	1,132.72	1,073.42	59.30	19.101	
5,700.00	5,445.94	5,550.68	5,154.31	30.61	38.74	-80.18	1,320.34	1,374.35	1,155.56	1,094.95	60.60	19.068	
5,800.00	5,542.71	5,686.66	5,281.92	31.04	39.49	-80.57	1,352.59	1,408.40	1,175.81	1,114.07	61.73	19.046	
5,900.00	5,640.30	5,824.22	5,413.15	31.42	40.16	-80.91	1,380.95	1,438.33	1,193.39	1,130.65	62.74	19.021	
6,000.00	5,738.59	5,963.18	5,547.56	31.74	40.75	-81.19	1,405.16	1,463.89	1,208.25	1,144.63	63.62	18.991	
6,100.00	5,837.46	6,103.32	5,684.68	32.02	41.25	-81.42	1,425.01	1,484.84	1,220.32	1,155.94	64.37	18.957	
6,200.00	5,936.80	6,244.40	5,823.98	32.25	41.64	-81.59	1,440.31	1,500.99	1,229.54	1,164.56	64.98	18.921	
6,300.00	6,036.47	6,386.18	5,964.91	32.43	41.95	-81.72	1,450.91	1,512.19	1,235.89	1,170.43	65.46	18.880	
6,400.00	6,136.36	6,528.40	6,106.86	32.57	42.15	-81.80	1,456.72	1,518.32	1,239.33	1,173.53	65.80	18.835	
6,479.65	6,216.00	6,637.56	6,216.00	32.64	42.25	0.01	1,457.90	1,519.57	1,240.00	1,174.03	65.97	18.796	
6,500.00	6,236.35	6,657.92	6,236.35	32.66	42.26	0.01	1,457.90	1,519.57	1,240.00	1,174.00	66.00	18.787	
6,600.00	6,336.35	6,757.92	6,336.35	32.75	42.33	0.01	1,457.90	1,519.57	1,240.00	1,173.82	66.18	18.737	
6,700.00	6,436.35	6,857.92	6,436.35	32.85	42.40	0.01	1,457.90	1,519.57	1,240.00	1,173.64	66.36	18.686	
6,800.00	6,536.35	6,957.92	6,536.35	32.94	42.47	0.01	1,457.90	1,519.57	1,240.00	1,173.46	66.55	18.634	
6,900.00	6,636.35	7,057.92	6,636.35	33.04	42.54	0.01	1,457.90	1,519.57	1,240.00	1,173.27	66.73	18.582	
7,000.00	6,736.35	7,157.92	6,736.35	33.13	42.61	0.01	1,457.90	1,519.57	1,240.00	1,173.08	66.92	18.529	
7,100.00	6,836.35	7,257.92	6,836.35	33.23	42.68	0.01	1,457.90	1,519.57	1,240.00	1,172.89	67.11	18.476	
7,200.00	6,936.35	7,357.92	6,936.35	33.33	42.76	0.01	1,457.90	1,519.57	1,240.00	1,172.70	67.31	18.423	
7,300.00	7,036.35	7,457.92	7,036.35	33.43	42.83	0.01	1,457.90	1,519.57	1,240.00	1,172.50	67.51	18.369	
7,400.00	7,136.35	7,557.92	7,136.35	33.53	42.91	0.01	1,457.90	1,519.57	1,240.00	1,172.30	67.70	18.315	
7,500.00	7,236.35	7,657.92	7,236.35	33.63	42.99	0.01	1,457.90	1,519.57	1,240.00	1,172.10	67.91	18.261	
7,600.00	7,336.35	7,757.92	7,336.35	33.74	43.07	0.01	1,457.90	1,519.57	1,240.00	1,171.89	68.11	18.206	
7,700.00	7,436.35	7,857.92	7,436.35	33.84	43.15	0.01	1,457.90	1,519.57	1,240.00	1,171.69	68.32	18.151	
7,800.00	7,536.35	7,957.92	7,536.35	33.95	43.23	0.01	1,457.90	1,519.57	1,240.00	1,171.48	68.52	18.096	
7,900.00	7,636.35	8,057.92	7,636.35	34.06	43.31	0.01	1,457.90	1,519.57	1,240.00	1,171.27	68.74	18.040	
8,000.00	7,736.35	8,157.92	7,736.35	34.16	43.39	0.01	1,457.90	1,519.57	1,240.00	1,171.05	68.95	17.984	
8,100.00	7,836.35	8,257.92	7,836.35	34.27	43.47	0.01	1,457.90	1,519.57	1,240.00	1,170.84	69.16	17.928	
8,200.00	7,936.35	8,357.92	7,936.35	34.39	43.56	0.01	1,457.90	1,519.57	1,240.00	1,170.62	69.38	17.872	
8,300.00	8,036.35	8,457.92	8,036.35	34.50	43.65	0.01	1,457.90	1,519.57	1,240.00	1,170.40	69.60	17.816	
8,359.37	8,095.72	8,517.29	8,095.72	34.56	43.70	0.01	1,457.90	1,519.57	1,240.00	1,170.27	69.73	17.782	
8,394.65	8,131.00	8,542.56	8,121.00	34.60	43.72	0.01	1,457.90	1,519.57	1,240.04	1,170.24	69.80	17.765	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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 7-2 - P_HIGHWAY 160 7-2 - PLAN #1 3-17-10 RH:													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	-90.47	-0.73	-90.10	90.10					
100.00	100.00	100.00	100.00	0.10	0.10	-90.47	-0.73	-90.10	90.10	89.91	0.19	471.614		
200.00	200.00	200.00	200.00	0.32	0.32	-90.47	-0.73	-90.10	90.10	89.46	0.64	140.657		
300.00	300.00	300.00	300.00	0.55	0.55	-90.47	-0.73	-90.10	90.10	89.01	1.09	82.654		
400.00	400.00	400.00	400.00	0.77	0.77	-90.47	-0.73	-90.10	90.10	88.56	1.54	58.522		
500.00	500.00	500.00	500.00	0.99	0.99	-90.47	-0.73	-90.10	90.10	88.11	1.99	45.296		
600.00	600.00	600.00	600.00	1.22	1.22	-90.47	-0.73	-90.10	90.10	87.66	2.44	36.947		
700.00	700.00	700.00	700.00	1.44	1.44	-90.47	-0.73	-90.10	90.10	87.21	2.89	31.196		
800.00	800.00	800.00	800.00	1.67	1.67	-90.47	-0.73	-90.10	90.10	86.76	3.34	26.995		
900.00	900.00	900.00	900.00	1.89	1.89	-90.47	-0.73	-90.10	90.10	86.32	3.79	23.791		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.47	-0.73	-90.10	90.10	85.87	4.24	21.266		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.47	-0.73	-90.10	90.10	85.42	4.69	19.226		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.47	-0.73	-90.10	90.10	84.97	5.14	17.544 CC, ES		
1,300.00	1,299.98	1,298.05	1,298.03	2.78	2.76	-173.27	-2.08	-91.10	92.87	87.33	5.54	16.765 SF		
1,400.00	1,399.84	1,395.50	1,395.35	2.99	2.94	-175.83	-6.10	-94.06	101.31	95.41	5.91	17.155		
1,500.00	1,499.45	1,491.78	1,491.28	3.21	3.13	-179.25	-12.68	-98.91	115.70	109.43	6.27	18.443		
1,600.00	1,598.70	1,586.35	1,585.18	3.45	3.33	177.20	-21.66	-105.54	136.26	129.61	6.64	20.509		
1,700.00	1,697.47	1,678.68	1,676.46	3.71	3.55	173.97	-32.84	-113.79	163.01	155.99	7.02	23.234		
1,800.00	1,795.62	1,772.32	1,768.70	4.02	3.80	171.29	-45.77	-123.33	195.06	187.66	7.40	26.365		
1,900.00	1,893.06	1,865.58	1,860.57	4.36	4.07	169.44	-58.69	-132.87	230.64	222.86	7.79	29.623		
2,000.00	1,989.64	1,957.59	1,951.21	4.76	4.35	168.17	-71.44	-142.27	269.53	261.36	8.18	32.963		
2,100.00	2,085.27	2,048.26	2,040.52	5.23	4.64	167.30	-84.00	-151.54	311.60	303.03	8.57	36.355		
2,200.00	2,179.82	2,137.46	2,128.39	5.76	4.94	166.70	-96.36	-160.66	356.75	347.78	8.97	39.777		
2,264.43	2,240.11	2,194.11	2,184.19	6.14	5.13	166.42	-104.21	-166.45	387.44	378.21	9.23	41.993		
2,300.00	2,273.25	2,225.19	2,214.81	6.35	5.24	166.37	-108.51	-169.63	404.72	395.32	9.41	43.026		
2,400.00	2,366.43	2,312.59	2,300.90	6.99	5.54	166.27	-120.62	-178.57	453.32	443.39	9.92	45.692		
2,500.00	2,459.60	2,399.98	2,387.00	7.65	5.85	166.18	-132.73	-187.50	501.91	491.46	10.45	48.041		
2,600.00	2,552.78	2,487.38	2,473.09	8.32	6.16	166.11	-144.84	-196.44	550.51	539.52	10.99	50.114		
2,700.00	2,645.96	2,574.78	2,559.18	9.01	6.48	166.05	-156.95	-205.37	599.10	587.57	11.53	51.955		
2,800.00	2,739.13	2,662.17	2,645.27	9.71	6.80	166.00	-169.05	-214.30	647.70	635.61	12.08	53.596		
2,900.00	2,832.31	2,749.57	2,731.36	10.42	7.12	165.96	-181.16	-223.24	696.30	683.65	12.64	55.065		
3,000.00	2,925.48	2,836.97	2,817.45	11.13	7.45	165.92	-193.27	-232.17	744.89	731.68	13.21	56.386		
3,100.00	3,018.66	2,924.36	2,903.54	11.85	7.78	165.89	-205.38	-241.11	793.49	779.71	13.78	57.578		
3,200.00	3,111.84	3,011.76	2,989.64	12.58	8.11	165.86	-217.49	-250.04	842.09	827.73	14.36	58.657		
3,300.00	3,205.01	3,099.16	3,075.73	13.30	8.44	165.83	-229.60	-258.98	890.68	875.75	14.93	59.638		
3,400.00	3,298.19	3,186.55	3,161.82	14.03	8.77	165.81	-241.70	-267.91	939.28	923.76	15.52	60.532		
3,500.00	3,391.37	3,273.95	3,247.91	14.77	9.11	165.79	-253.81	-276.85	987.88	971.78	16.10	61.349		
3,600.00	3,484.54	3,361.35	3,334.00	15.50	9.44	165.77	-265.92	-285.78	1,036.48	1,019.79	16.69	62.100		
3,700.00	3,577.72	3,448.74	3,420.09	16.24	9.78	165.75	-278.03	-294.72	1,085.08	1,067.79	17.28	62.791		
3,800.00	3,670.89	3,536.14	3,506.18	16.98	10.12	165.74	-290.14	-303.65	1,133.67	1,115.80	17.87	63.429		
3,900.00	3,764.07	3,623.54	3,592.27	17.72	10.46	165.72	-302.25	-312.59	1,182.27	1,163.80	18.47	64.019		
4,000.00	3,857.25	3,710.93	3,678.37	18.46	10.80	165.71	-314.35	-321.52	1,230.87	1,211.81	19.06	64.566		
4,100.00	3,950.42	3,798.33	3,764.46	19.21	11.14	165.70	-326.46	-330.46	1,279.47	1,259.81	19.66	65.075		
4,200.00	4,043.60	3,885.73	3,850.55	19.95	11.48	165.69	-338.57	-339.39	1,328.07	1,307.81	20.26	65.548		
4,300.00	4,136.78	3,973.12	3,936.64	20.70	11.82	165.68	-350.68	-348.33	1,376.66	1,355.80	20.86	65.991		
4,400.00	4,229.95	4,060.52	4,022.73	21.44	12.16	165.67	-362.79	-357.26	1,425.26	1,403.80	21.46	66.405		
4,500.00	4,323.13	4,147.92	4,108.82	22.19	12.50	165.66	-374.90	-366.20	1,473.86	1,451.80	22.07	66.793		
4,600.00	4,416.31	4,235.31	4,194.91	22.94	12.85	165.65	-387.00	-375.13	1,522.46	1,499.79	22.67	67.157		
4,700.00	4,509.48	4,322.71	4,281.01	23.69	13.19	165.64	-399.11	-384.07	1,571.06	1,547.78	23.28	67.500		
4,800.00	4,602.66	4,410.11	4,367.10	24.44	13.54	165.63	-411.22	-393.00	1,619.66	1,595.78	23.88	67.823		
4,900.00	4,695.83	4,497.50	4,453.19	25.19	13.88	165.62	-423.33	-401.93	1,668.26	1,643.77	24.49	68.127		
5,000.00	4,789.01	4,584.90	4,539.28	25.94	14.23	165.62	-435.44	-410.87	1,716.85	1,691.76	25.09	68.415		

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 41-2
<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 41-2	<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 41-2	<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	4,882.19	4,672.29	4,625.37	26.69	14.57	165.61	-447.55	-419.80	1,765.45	1,739.75	25.70	68.687	
5,200.00	4,975.36	4,759.69	4,711.46	27.44	14.92	165.61	-459.65	-428.74	1,814.05	1,787.74	26.31	68.945	
5,300.00	5,068.54	4,847.09	4,797.55	28.19	15.26	165.60	-471.76	-437.67	1,862.65	1,835.73	26.92	69.190	
5,400.00	5,161.72	4,934.48	4,883.64	28.94	15.61	165.59	-483.87	-446.61	1,911.25	1,883.72	27.53	69.423	
5,415.21	5,175.89	4,947.78	4,896.74	29.06	15.66	165.59	-485.71	-447.97	1,918.64	1,891.02	27.62	69.457	
5,500.00	5,255.34	5,022.46	4,970.31	29.61	15.96	165.80	-496.06	-455.60	1,958.78	1,930.51	28.27	69.286	
5,600.00	5,350.11	5,111.97	5,058.48	30.13	16.31	166.00	-508.46	-464.75	2,003.34	1,974.36	28.98	69.129	
5,700.00	5,445.94	5,202.92	5,148.07	30.61	16.67	166.16	-521.06	-474.05	2,044.85	2,015.19	29.66	68.947	
5,800.00	5,542.71	5,295.19	5,238.97	31.04	17.04	166.27	-533.85	-483.48	2,083.25	2,052.95	30.30	68.746	
5,900.00	5,640.30	5,388.69	5,331.07	31.42	17.41	166.33	-546.80	-493.04	2,118.51	2,087.59	30.91	68.531	
6,000.00	5,738.59	5,483.29	5,424.26	31.74	17.78	166.36	-559.91	-502.71	2,150.58	2,119.09	31.48	68.305	
6,100.00	5,837.46	5,578.88	5,518.42	32.02	18.16	166.36	-573.15	-512.49	2,179.43	2,147.41	32.02	68.072	
6,200.00	5,936.80	5,675.35	5,613.44	32.25	18.55	166.32	-586.51	-522.35	2,205.04	2,172.53	32.51	67.833	
6,300.00	6,036.47	5,772.56	5,709.21	32.43	18.94	166.24	-599.98	-532.29	2,227.37	2,194.41	32.95	67.591	
6,400.00	6,136.36	6,008.22	5,942.44	32.57	19.63	165.93	-626.76	-552.04	2,244.32	2,210.68	33.65	66.701	
6,479.65	6,216.00	6,249.55	6,183.27	32.64	20.06	-112.37	-638.23	-560.51	2,249.42	2,215.28	34.15	65.872	
6,500.00	6,236.35	6,302.63	6,236.35	32.66	20.14	-112.38	-638.56	-560.76	2,249.54	2,215.27	34.27	65.642	
6,600.00	6,336.35	6,402.63	6,336.35	32.75	20.26	-112.38	-638.56	-560.76	2,249.54	2,214.96	34.58	65.060	
6,700.00	6,436.35	6,502.63	6,436.35	32.85	20.39	-112.38	-638.56	-560.76	2,249.54	2,214.65	34.89	64.482	
6,800.00	6,536.35	6,602.63	6,536.35	32.94	20.52	-112.38	-638.56	-560.76	2,249.54	2,214.34	35.20	63.910	
6,900.00	6,636.35	6,702.63	6,636.35	33.04	20.65	-112.38	-638.56	-560.76	2,249.54	2,214.03	35.51	63.341	
7,000.00	6,736.35	6,802.63	6,736.35	33.13	20.78	-112.38	-638.56	-560.76	2,249.54	2,213.71	35.83	62.778	
7,100.00	6,836.35	6,902.63	6,836.35	33.23	20.92	-112.38	-638.56	-560.76	2,249.54	2,213.39	36.15	62.220	
7,200.00	6,936.35	7,002.63	6,936.35	33.33	21.05	-112.38	-638.56	-560.76	2,249.54	2,213.06	36.48	61.668	
7,300.00	7,036.35	7,102.63	7,036.35	33.43	21.19	-112.38	-638.56	-560.76	2,249.54	2,212.74	36.81	61.120	
7,400.00	7,136.35	7,202.63	7,136.35	33.53	21.33	-112.38	-638.56	-560.76	2,249.54	2,212.41	37.13	60.578	
7,500.00	7,236.35	7,302.63	7,236.35	33.63	21.47	-112.38	-638.56	-560.76	2,249.54	2,212.07	37.47	60.042	
7,600.00	7,336.35	7,402.63	7,336.35	33.74	21.61	-112.38	-638.56	-560.76	2,249.54	2,211.74	37.80	59.511	
7,700.00	7,436.35	7,502.63	7,436.35	33.84	21.75	-112.38	-638.56	-560.76	2,249.54	2,211.40	38.14	58.986	
7,800.00	7,536.35	7,602.63	7,536.35	33.95	21.90	-112.38	-638.56	-560.76	2,249.54	2,211.06	38.48	58.466	
7,900.00	7,636.35	7,702.63	7,636.35	34.06	22.04	-112.38	-638.56	-560.76	2,249.54	2,210.72	38.82	57.953	
8,000.00	7,736.35	7,802.63	7,736.35	34.16	22.19	-112.38	-638.56	-560.76	2,249.54	2,210.38	39.16	57.445	
8,100.00	7,836.35	7,902.63	7,836.35	34.27	22.34	-112.38	-638.56	-560.76	2,249.54	2,210.03	39.51	56.942	
8,200.00	7,936.35	8,002.63	7,936.35	34.39	22.49	-112.38	-638.56	-560.76	2,249.54	2,209.69	39.85	56.446	
8,300.00	8,036.35	8,102.63	8,036.35	34.50	22.64	-112.38	-638.56	-560.76	2,249.54	2,209.34	40.20	55.955	
8,394.65	8,131.00	8,197.27	8,131.00	34.60	22.78	-112.38	-638.56	-560.76	2,249.54	2,209.00	40.54	55.496	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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	-90.52	-0.36	-40.01	40.01				
100.00	100.00	100.00	100.00	0.10	0.10	-90.52	-0.36	-40.01	40.01	39.82	0.19	209.445	
200.00	200.00	200.00	200.00	0.32	0.32	-90.52	-0.36	-40.01	40.01	39.37	0.64	62.466	
300.00	300.00	300.00	300.00	0.55	0.55	-90.52	-0.36	-40.01	40.01	38.92	1.09	36.707	
400.00	400.00	400.00	400.00	0.77	0.77	-90.52	-0.36	-40.01	40.01	38.48	1.54	25.990	
500.00	500.00	500.00	500.00	0.99	0.99	-90.52	-0.36	-40.01	40.01	38.03	1.99	20.116	
600.00	600.00	600.00	600.00	1.22	1.22	-90.52	-0.36	-40.01	40.01	37.58	2.44	16.408	
700.00	700.00	700.00	700.00	1.44	1.44	-90.52	-0.36	-40.01	40.01	37.13	2.89	13.854	
800.00	800.00	800.00	800.00	1.67	1.67	-90.52	-0.36	-40.01	40.01	36.68	3.34	11.988	
900.00	900.00	900.00	900.00	1.89	1.89	-90.52	-0.36	-40.01	40.01	36.23	3.79	10.565	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.52	-0.36	-40.01	40.01	35.78	4.24	9.444	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.52	-0.36	-40.01	40.01	35.33	4.69	8.539	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	-90.52	-0.36	-40.01	40.01	34.88	5.14	7.791 CC	
1,300.00	1,299.98	1,301.25	1,301.23	2.78	2.78	-173.86	-1.17	-38.41	40.19	34.63	5.55	7.239 ES	
1,400.00	1,399.84	1,402.43	1,402.26	2.99	2.97	-178.26	-3.57	-33.62	40.86	34.92	5.94	6.883	
1,500.00	1,499.45	1,503.47	1,502.90	3.21	3.18	174.80	-7.57	-25.66	42.48	36.16	6.33	6.713 SF	
1,600.00	1,598.70	1,604.31	1,602.96	3.45	3.41	166.13	-13.14	-14.56	45.69	38.95	6.74	6.776	
1,700.00	1,697.47	1,704.88	1,702.27	3.71	3.67	156.88	-20.27	-0.35	51.08	43.87	7.21	7.088	
1,800.00	1,795.62	1,805.11	1,800.63	4.02	3.97	148.14	-28.92	16.89	59.04	51.29	7.75	7.619	
1,900.00	1,893.06	1,904.85	1,897.77	4.36	4.32	140.62	-39.04	37.06	69.72	61.33	8.39	8.306	
2,000.00	1,989.64	2,003.72	1,993.80	4.76	4.70	135.97	-49.60	58.09	83.47	74.36	9.11	9.162	
2,100.00	2,085.27	2,102.31	2,089.55	5.23	5.10	134.02	-60.12	79.07	99.95	90.08	9.87	10.127	
2,200.00	2,179.82	2,200.50	2,184.92	5.76	5.52	133.77	-70.61	99.96	118.85	108.19	10.66	11.149	
2,264.43	2,240.11	2,263.50	2,246.11	6.14	5.80	134.17	-77.33	113.36	132.29	121.11	11.18	11.831	
2,300.00	2,273.25	2,298.21	2,279.83	6.35	5.95	134.57	-81.04	120.75	139.99	128.50	11.49	12.188	
2,400.00	2,366.43	2,395.81	2,374.62	6.99	6.39	135.50	-91.46	141.51	161.67	149.30	12.36	13.077	
2,500.00	2,459.60	2,493.40	2,469.40	7.65	6.84	136.20	-101.88	162.28	183.37	170.11	13.26	13.827	
2,600.00	2,552.78	2,591.00	2,564.19	8.32	7.30	136.76	-112.30	183.04	205.10	190.92	14.18	14.464	
2,700.00	2,645.96	2,688.59	2,658.98	9.01	7.76	137.21	-122.72	203.81	226.84	211.73	15.11	15.011	
2,800.00	2,739.13	2,786.18	2,753.77	9.71	8.23	137.58	-133.14	224.57	248.59	232.54	16.05	15.484	
2,900.00	2,832.31	2,883.78	2,848.56	10.42	8.70	137.89	-143.56	245.33	270.35	253.34	17.01	15.895	
3,000.00	2,925.48	2,981.37	2,943.35	11.13	9.17	138.16	-153.98	266.10	292.12	274.15	17.97	16.256	
3,100.00	3,018.66	3,078.97	3,038.13	11.85	9.65	138.39	-164.40	286.86	313.89	294.95	18.94	16.574	
3,200.00	3,111.84	3,176.56	3,132.92	12.58	10.13	138.58	-174.82	307.63	335.67	315.76	19.91	16.856	
3,300.00	3,205.01	3,274.15	3,227.71	13.30	10.61	138.76	-185.24	328.39	357.45	336.56	20.89	17.108	
3,400.00	3,298.19	3,371.75	3,322.50	14.03	11.10	138.91	-195.66	349.15	379.23	357.35	21.88	17.335	
3,500.00	3,391.37	3,469.34	3,417.29	14.77	11.58	139.05	-206.08	369.92	401.02	378.15	22.86	17.538	
3,600.00	3,484.54	3,566.93	3,512.08	15.50	12.07	139.17	-216.50	390.68	422.80	398.95	23.86	17.723	
3,700.00	3,577.72	3,664.53	3,606.86	16.24	12.56	139.29	-226.92	411.45	444.59	419.74	24.85	17.891	
3,800.00	3,670.89	3,762.12	3,701.65	16.98	13.05	139.39	-237.34	432.21	466.38	440.54	25.85	18.044	
3,900.00	3,764.07	3,859.72	3,796.44	17.72	13.54	139.48	-247.76	452.98	488.17	461.33	26.85	18.184	
4,000.00	3,857.25	3,957.31	3,891.23	18.46	14.03	139.56	-258.18	473.74	509.97	482.12	27.85	18.313	
4,100.00	3,950.42	4,054.90	3,986.02	19.21	14.53	139.64	-268.60	494.50	531.76	502.91	28.85	18.432	
4,200.00	4,043.60	4,152.50	4,080.81	19.95	15.02	139.71	-279.02	515.27	553.55	523.70	29.85	18.542	
4,300.00	4,136.78	4,250.09	4,175.60	20.70	15.51	139.78	-289.44	536.03	575.35	544.49	30.86	18.644	
4,400.00	4,229.95	4,347.69	4,270.38	21.44	16.01	139.84	-299.86	556.80	597.15	565.28	31.87	18.739	
4,500.00	4,323.13	4,445.28	4,365.17	22.19	16.50	139.90	-310.28	577.56	618.94	586.07	32.88	18.827	
4,600.00	4,416.31	4,542.87	4,459.96	22.94	17.00	139.95	-320.70	598.33	640.74	606.85	33.88	18.909	
4,700.00	4,509.48	4,640.47	4,554.75	23.69	17.50	140.00	-331.12	619.09	662.54	627.64	34.90	18.986	
4,800.00	4,602.66	4,738.06	4,649.54	24.44	17.99	140.04	-341.54	639.85	684.33	648.43	35.91	19.059	
4,900.00	4,695.83	4,835.66	4,744.33	25.19	18.49	140.09	-351.96	660.62	706.13	669.21	36.92	19.126	
5,000.00	4,789.01	4,933.25	4,839.11	25.94	18.99	140.13	-362.38	681.38	727.93	690.00	37.93	19.190	

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 41-2
<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 41-2	<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 41-2	<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						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	4,882.19	5,030.84	4,933.90	26.69	19.49	140.17	-372.80	702.15	749.73	710.78	38.95	19.250	
5,200.00	4,975.36	5,128.44	5,028.69	27.44	19.98	140.20	-383.22	722.91	771.53	731.57	39.96	19.307	
5,300.00	5,068.54	5,226.03	5,123.48	28.19	20.48	140.24	-393.64	743.67	793.33	752.35	40.98	19.361	
5,400.00	5,161.72	5,323.63	5,218.27	28.94	20.98	140.27	-404.06	764.44	815.13	773.14	41.99	19.412	
5,415.21	5,175.89	5,338.47	5,232.69	29.06	21.06	140.27	-405.65	767.60	818.45	776.30	42.15	19.419	
5,500.00	5,255.34	5,421.42	5,313.25	29.61	21.48	140.47	-414.50	785.25	835.98	792.98	43.00	19.441	
5,600.00	5,350.11	5,519.70	5,408.71	30.13	21.98	140.53	-425.00	806.16	854.23	810.27	43.97	19.429	
5,700.00	5,445.94	5,618.36	5,504.53	30.61	22.49	140.42	-435.53	827.15	869.84	824.90	44.94	19.356	
5,800.00	5,542.71	5,712.71	5,596.28	31.04	22.92	140.19	-445.38	846.78	882.98	837.15	45.83	19.266	
5,900.00	5,640.30	5,804.16	5,685.80	31.42	23.24	140.00	-453.76	863.48	894.30	847.75	46.55	19.213	
6,000.00	5,738.59	5,895.89	5,776.15	31.74	23.52	139.83	-460.87	877.64	903.84	856.68	47.17	19.162	
6,100.00	5,837.46	5,987.86	5,867.20	32.02	23.76	139.70	-466.69	889.25	911.60	863.91	47.69	19.114	
6,200.00	5,936.80	6,080.02	5,958.80	32.25	23.97	139.60	-471.21	898.25	917.54	869.42	48.12	19.068	
6,300.00	6,036.47	6,172.33	6,050.83	32.43	24.15	139.52	-474.40	904.62	921.67	873.22	48.45	19.022	
6,400.00	6,136.36	6,264.73	6,143.13	32.57	24.29	139.47	-476.27	908.34	923.97	875.28	48.69	18.975	
6,479.65	6,216.00	6,338.36	6,216.75	32.64	24.38	-138.72	-476.80	909.39	924.49	875.66	48.82	18.935	
6,492.98	6,229.34	6,350.95	6,229.34	32.66	24.39	-138.72	-476.81	909.41	924.48	875.63	48.85	18.924	
6,500.00	6,236.35	6,357.96	6,236.35	32.66	24.40	-138.72	-476.81	909.41	924.48	875.61	48.87	18.918	
6,600.00	6,336.35	6,457.96	6,336.35	32.75	24.52	-138.72	-476.81	909.41	924.48	875.38	49.10	18.829	
6,700.00	6,436.35	6,557.96	6,436.35	32.85	24.63	-138.72	-476.81	909.41	924.48	875.15	49.33	18.740	
6,800.00	6,536.35	6,657.96	6,536.35	32.94	24.75	-138.72	-476.81	909.41	924.48	874.91	49.57	18.651	
6,900.00	6,636.35	6,757.96	6,636.35	33.04	24.87	-138.72	-476.81	909.41	924.48	874.68	49.81	18.562	
7,000.00	6,736.35	6,857.96	6,736.35	33.13	24.99	-138.72	-476.81	909.41	924.48	874.43	50.05	18.472	
7,100.00	6,836.35	6,957.96	6,836.35	33.23	25.11	-138.72	-476.81	909.41	924.48	874.19	50.29	18.382	
7,200.00	6,936.35	7,057.96	6,936.35	33.33	25.23	-138.72	-476.81	909.41	924.48	873.94	50.54	18.292	
7,300.00	7,036.35	7,157.96	7,036.35	33.43	25.36	-138.72	-476.81	909.41	924.48	873.69	50.79	18.202	
7,400.00	7,136.35	7,257.96	7,136.35	33.53	25.48	-138.72	-476.81	909.41	924.48	873.44	51.04	18.111	
7,500.00	7,236.35	7,357.96	7,236.35	33.63	25.61	-138.72	-476.81	909.41	924.48	873.18	51.30	18.021	
7,600.00	7,336.35	7,457.96	7,336.35	33.74	25.74	-138.72	-476.81	909.41	924.48	872.92	51.56	17.931	
7,700.00	7,436.35	7,557.96	7,436.35	33.84	25.87	-138.72	-476.81	909.41	924.48	872.66	51.82	17.840	
7,800.00	7,536.35	7,657.96	7,536.35	33.95	26.00	-138.72	-476.81	909.41	924.48	872.40	52.08	17.750	
7,900.00	7,636.35	7,757.96	7,636.35	34.06	26.13	-138.72	-476.81	909.41	924.48	872.13	52.35	17.660	
8,000.00	7,736.35	7,857.96	7,736.35	34.16	26.27	-138.72	-476.81	909.41	924.48	871.86	52.62	17.570	
8,100.00	7,836.35	7,957.96	7,836.35	34.27	26.40	-138.72	-476.81	909.41	924.48	871.59	52.89	17.480	
8,200.00	7,936.35	8,057.96	7,936.35	34.39	26.54	-138.72	-476.81	909.41	924.48	871.32	53.16	17.390	
8,300.00	8,036.35	8,157.96	8,036.35	34.50	26.68	-138.72	-476.81	909.41	924.48	871.04	53.44	17.300	
8,394.65	8,131.00	8,252.61	8,131.00	34.60	26.81	-138.72	-476.81	909.41	924.48	870.78	53.70	17.215	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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 8-2S - P_HIGHWAY 160 8-2S - 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	-90.42	-0.36	-49.81	49.81				
100.00	100.00	100.00	100.00	0.10	0.10	-90.42	-0.36	-49.81	49.81	49.62	0.19	260.704	
200.00	200.00	200.00	200.00	0.32	0.32	-90.42	-0.36	-49.81	49.81	49.17	0.64	77.754	
300.00	300.00	300.00	300.00	0.55	0.55	-90.42	-0.36	-49.81	49.81	48.72	1.09	45.690	
400.00	400.00	400.00	400.00	0.77	0.77	-90.42	-0.36	-49.81	49.81	48.27	1.54	32.350	
500.00	500.00	500.00	500.00	0.99	0.99	-90.42	-0.36	-49.81	49.81	47.82	1.99	25.039	
600.00	600.00	600.00	600.00	1.22	1.22	-90.42	-0.36	-49.81	49.81	47.37	2.44	20.424	
700.00	700.00	700.00	700.00	1.44	1.44	-90.42	-0.36	-49.81	49.81	46.92	2.89	17.245	
800.00	800.00	800.00	800.00	1.67	1.67	-90.42	-0.36	-49.81	49.81	46.47	3.34	14.922	
900.00	900.00	900.00	900.00	1.89	1.89	-90.42	-0.36	-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	-90.42	-0.36	-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	-90.42	-0.36	-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	-90.42	-0.36	-49.81	49.81	44.67	5.14	9.698 CC, ES	
1,300.00	1,299.98	1,301.02	1,301.01	2.78	2.77	-173.46	-1.18	-48.75	50.51	44.96	5.55	9.103	
1,400.00	1,399.84	1,401.98	1,401.88	2.99	2.96	-176.88	-3.64	-45.59	52.74	46.81	5.93	8.897 SF	
1,500.00	1,499.45	1,502.79	1,502.47	3.21	3.16	178.07	-7.72	-40.33	56.82	50.51	6.31	9.002	
1,600.00	1,598.70	1,603.40	1,602.65	3.45	3.37	172.16	-13.41	-32.99	63.15	56.44	6.71	9.413	
1,700.00	1,697.47	1,703.73	1,702.27	3.71	3.60	166.17	-20.69	-23.60	72.05	64.92	7.13	10.107	
1,800.00	1,795.62	1,803.72	1,801.21	4.02	3.86	160.64	-29.54	-12.18	83.71	76.12	7.59	11.033	
1,900.00	1,893.06	1,903.30	1,899.34	4.36	4.14	155.82	-39.93	1.21	98.17	90.07	8.10	12.123	
2,000.00	1,989.64	2,002.42	1,996.53	4.76	4.46	151.76	-51.83	16.55	115.41	106.74	8.68	13.304	
2,100.00	2,085.27	2,101.01	2,092.68	5.23	4.82	148.39	-65.19	33.78	135.37	126.04	9.33	14.509	
2,200.00	2,179.82	2,199.02	2,187.67	5.76	5.21	145.60	-79.97	52.84	157.95	147.88	10.07	15.685	
2,264.43	2,240.11	2,261.84	2,248.21	6.14	5.50	144.05	-90.23	66.07	173.86	163.26	10.60	16.401	
2,300.00	2,273.25	2,296.43	2,281.43	6.35	5.65	143.34	-96.14	73.69	182.91	171.99	10.92	16.745	
2,400.00	2,366.43	2,393.39	2,374.11	6.99	6.14	141.24	-113.62	96.22	208.29	196.39	11.91	17.494	
2,500.00	2,459.60	2,489.85	2,466.13	7.65	6.65	139.46	-131.33	119.06	233.83	220.89	12.94	18.067	
2,600.00	2,552.78	2,586.31	2,558.16	8.32	7.17	138.03	-149.05	141.90	259.53	245.52	14.01	18.524	
2,700.00	2,645.96	2,682.76	2,650.18	9.01	7.71	136.86	-166.76	164.74	285.35	270.25	15.11	18.891	
2,800.00	2,739.13	2,779.22	2,742.21	9.71	8.26	135.89	-184.48	187.59	311.27	295.05	16.22	19.190	
2,900.00	2,832.31	2,875.68	2,834.23	10.42	8.82	135.06	-202.20	210.43	337.26	319.91	17.35	19.435	
3,000.00	2,925.48	2,972.14	2,926.25	11.13	9.38	134.35	-219.91	233.27	363.31	344.81	18.50	19.639	
3,100.00	3,018.66	3,068.60	3,018.28	11.85	9.95	133.74	-237.63	256.11	389.40	369.74	19.66	19.810	
3,200.00	3,111.84	3,165.05	3,110.30	12.58	10.52	133.20	-255.34	278.95	415.53	394.70	20.82	19.954	
3,300.00	3,205.01	3,261.51	3,202.33	13.30	11.10	132.73	-273.06	301.80	441.69	419.69	22.00	20.077	
3,400.00	3,298.19	3,357.97	3,294.35	14.03	11.68	132.31	-290.78	324.64	467.87	444.69	23.18	20.183	
3,500.00	3,391.37	3,454.43	3,386.38	14.77	12.27	131.93	-308.49	347.48	494.07	469.70	24.37	20.274	
3,600.00	3,484.54	3,550.88	3,478.40	15.50	12.86	131.60	-326.21	370.32	520.29	494.73	25.56	20.354	
3,700.00	3,577.72	3,647.34	3,570.43	16.24	13.45	131.29	-343.92	393.17	546.53	519.77	26.76	20.424	
3,800.00	3,670.89	3,743.80	3,662.45	16.98	14.04	131.01	-361.64	416.01	572.78	544.82	27.96	20.486	
3,900.00	3,764.07	3,840.26	3,754.47	17.72	14.63	130.76	-379.35	438.85	599.04	569.88	29.16	20.541	
4,000.00	3,857.25	3,936.72	3,846.50	18.46	15.23	130.53	-397.07	461.69	625.31	594.94	30.37	20.589	
4,100.00	3,950.42	4,033.17	3,938.52	19.21	15.82	130.31	-414.79	484.53	651.59	620.01	31.58	20.633	
4,200.00	4,043.60	4,129.63	4,030.55	19.95	16.42	130.12	-432.50	507.38	677.88	645.09	32.79	20.672	
4,300.00	4,136.78	4,226.09	4,122.57	20.70	17.02	129.94	-450.22	530.22	704.17	670.17	34.01	20.708	
4,400.00	4,229.95	4,322.55	4,214.60	21.44	17.62	129.77	-467.93	553.06	730.47	695.25	35.22	20.740	
4,500.00	4,323.13	4,419.00	4,306.62	22.19	18.22	129.61	-485.65	575.90	756.78	720.34	36.44	20.769	
4,600.00	4,416.31	4,515.46	4,398.65	22.94	18.82	129.46	-503.37	598.75	783.09	745.43	37.66	20.795	
4,700.00	4,509.48	4,611.92	4,490.67	23.69	19.42	129.33	-521.08	621.59	809.41	770.53	38.88	20.820	
4,800.00	4,602.66	4,708.38	4,582.69	24.44	20.02	129.20	-538.80	644.43	835.73	795.63	40.10	20.842	
4,900.00	4,695.83	4,804.84	4,674.72	25.19	20.63	129.08	-556.51	667.27	862.05	820.73	41.32	20.862	
5,000.00	4,789.01	4,901.29	4,766.74	25.94	21.23	128.96	-574.23	690.11	888.38	845.83	42.54	20.881	

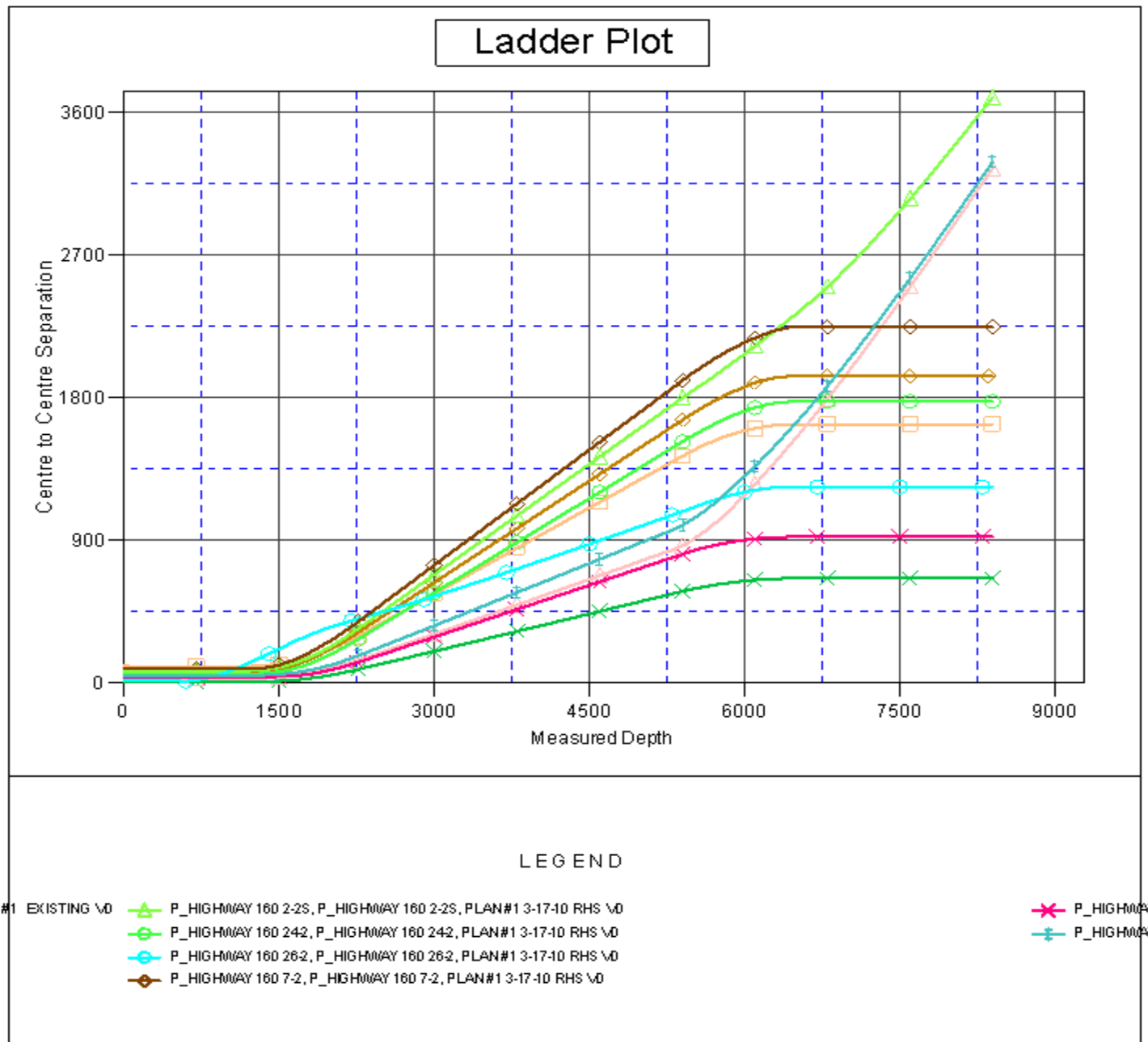
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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	4,882.19	4,997.75	4,858.77	26.69	21.84	128.86	-591.94	712.96	914.71	870.94	43.77	20.899	
5,200.00	4,975.36	5,094.21	4,950.79	27.44	22.44	128.76	-609.66	735.80	941.04	896.05	44.99	20.915	
5,300.00	5,068.54	5,190.67	5,042.82	28.19	23.05	128.66	-627.38	758.64	967.37	921.15	46.22	20.930	
5,400.00	5,161.72	5,194.00	5,046.00	28.94	23.07	128.66	-627.99	759.43	998.07	951.20	46.87	21.295	
5,415.21	5,175.89	5,194.00	5,046.00	29.06	23.07	128.66	-627.99	759.43	1,003.52	956.56	46.96	21.368	
5,500.00	5,255.34	5,194.00	5,046.00	29.61	23.07	129.22	-627.99	759.43	1,036.81	989.38	47.43	21.861	
5,600.00	5,350.11	5,194.00	5,046.00	30.13	23.07	129.99	-627.99	759.43	1,081.53	1,033.70	47.83	22.612	
5,700.00	5,445.94	5,194.00	5,046.00	30.61	23.07	130.87	-627.99	759.43	1,131.44	1,083.29	48.15	23.499	
5,800.00	5,542.71	5,194.00	5,046.00	31.04	23.07	131.84	-627.99	759.43	1,185.83	1,137.45	48.38	24.510	
5,900.00	5,640.30	5,194.00	5,046.00	31.42	23.07	132.90	-627.99	759.43	1,244.06	1,195.53	48.53	25.635	
6,000.00	5,738.59	5,194.00	5,046.00	31.74	23.07	134.03	-627.99	759.43	1,305.54	1,256.95	48.59	26.868	
6,100.00	5,837.46	5,194.00	5,046.00	32.02	23.07	135.23	-627.99	759.43	1,369.76	1,321.20	48.57	28.203	
6,200.00	5,936.80	5,194.00	5,046.00	32.25	23.07	136.47	-627.99	759.43	1,436.29	1,387.83	48.46	29.638	
6,300.00	6,036.47	5,194.00	5,046.00	32.43	23.07	137.75	-627.99	759.43	1,504.75	1,456.48	48.27	31.172	
6,400.00	6,136.36	5,194.00	5,046.00	32.57	23.07	139.05	-627.99	759.43	1,574.80	1,526.79	48.01	32.804	
6,479.65	6,216.00	5,194.00	5,046.00	32.64	23.07	-138.06	-627.99	759.43	1,631.54	1,583.80	47.74	34.175	
6,500.00	6,236.35	5,194.00	5,046.00	32.66	23.07	-138.06	-627.99	759.43	1,646.20	1,598.44	47.76	34.467	
6,600.00	6,336.35	5,194.00	5,046.00	32.75	23.07	-138.06	-627.99	759.43	1,719.90	1,672.02	47.88	35.923	
6,700.00	6,436.35	5,194.00	5,046.00	32.85	23.07	-138.06	-627.99	759.43	1,796.14	1,748.14	48.00	37.423	
6,800.00	6,536.35	5,194.00	5,046.00	32.94	23.07	-138.06	-627.99	759.43	1,874.62	1,826.50	48.11	38.962	
6,900.00	6,636.35	5,194.00	5,046.00	33.04	23.07	-138.06	-627.99	759.43	1,955.06	1,906.82	48.23	40.533	
7,000.00	6,736.35	5,194.00	5,046.00	33.13	23.07	-138.06	-627.99	759.43	2,037.23	1,988.88	48.36	42.130	
7,100.00	6,836.35	5,194.00	5,046.00	33.23	23.07	-138.06	-627.99	759.43	2,120.94	2,072.46	48.48	43.750	
7,200.00	6,936.35	5,194.00	5,046.00	33.33	23.07	-138.06	-627.99	759.43	2,206.01	2,157.40	48.60	45.388	
7,300.00	7,036.35	5,194.00	5,046.00	33.43	23.07	-138.06	-627.99	759.43	2,292.28	2,243.55	48.73	47.041	
7,400.00	7,136.35	5,194.00	5,046.00	33.53	23.07	-138.06	-627.99	759.43	2,379.62	2,330.77	48.86	48.707	
7,500.00	7,236.35	5,194.00	5,046.00	33.63	23.07	-138.06	-627.99	759.43	2,467.93	2,418.95	48.98	50.382	
7,600.00	7,336.35	5,194.00	5,046.00	33.74	23.07	-138.06	-627.99	759.43	2,557.10	2,507.98	49.11	52.064	
7,700.00	7,436.35	5,194.00	5,046.00	33.84	23.07	-138.06	-627.99	759.43	2,647.04	2,597.79	49.25	53.752	
7,800.00	7,536.35	5,194.00	5,046.00	33.95	23.07	-138.06	-627.99	759.43	2,737.68	2,688.30	49.38	55.444	
7,900.00	7,636.35	5,194.00	5,046.00	34.06	23.07	-138.06	-627.99	759.43	2,828.95	2,779.44	49.51	57.138	
8,000.00	7,736.35	5,194.00	5,046.00	34.16	23.07	-138.06	-627.99	759.43	2,920.79	2,871.15	49.65	58.833	
8,100.00	7,836.35	5,194.00	5,046.00	34.27	23.07	-138.06	-627.99	759.43	3,013.16	2,963.37	49.78	60.527	
8,200.00	7,936.35	5,194.00	5,046.00	34.39	23.07	-138.06	-627.99	759.43	3,105.99	3,056.07	49.92	62.221	
8,300.00	8,036.35	5,194.00	5,046.00	34.50	23.07	-138.06	-627.99	759.43	3,199.26	3,149.20	50.06	63.912	
8,394.65	8,131.00	5,194.00	5,046.00	34.60	23.07	-138.06	-627.99	759.43	3,287.89	3,237.71	50.19	65.510	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 41-2
<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 41-2	<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 41-2	<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 41-2  
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 41-2
<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 41-2	<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 41-2	<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 41-2  
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°

