



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

**P\_HIGHWAY 160 7-2**

**P\_HIGHWAY 160 7-2**

**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 7-2  
 Wellbore: P\_HIGHWAY 160 7-2  
 Section: SECTION 2 T1N R66W  
 SHL: 1496 FNL 1659 FEL  
 Design: PLAN #1 3-17-10 RHS  
 Latitude: 40° 4' 59.707 N  
 Longitude: 104° 44' 26.765 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
4262.00	4303.41	PARKMAN
4752.00	4800.84	SUSSEX
7232.00	7298.27	NIO A
7552.00	7618.27	CODELL
8012.00	8078.27	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	
1695.73	9.91	216.42	1693.26	-34.43	-25.40	2.00	216.42	42.78	Start 4106.81 hold at 1695.73 MD	
5802.54	9.91	216.42	5738.74	-603.40	-445.25	0.00	0.00	749.90	Start Drop -2.00	
6298.27	0.00	0.00	6232.00	-637.83	-470.66	2.00	180.00	792.68	Start 1915.00 hold at 6298.27 MD	
8213.27	0.00	0.00	8147.00	-637.83	-470.66	0.00	0.00	792.68	TD at 8213.27	

#### LEGEND

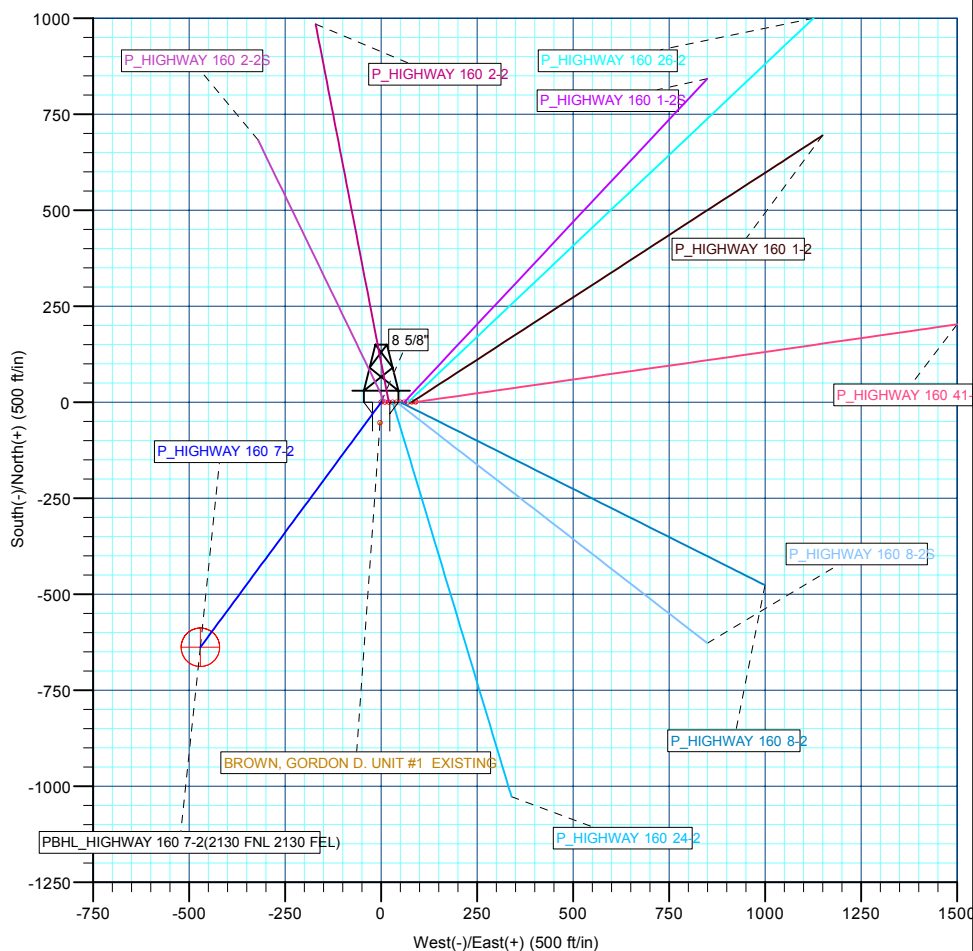
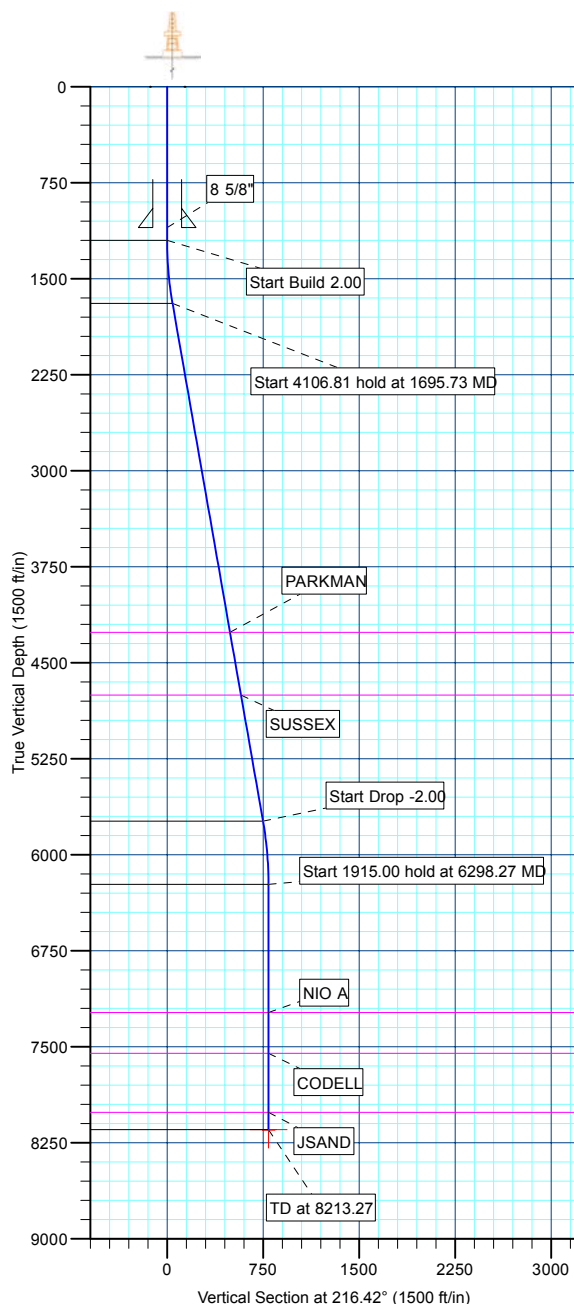
— BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING, BROWN, GORDON D. UNIT #1 EXISTING V0  
 — P\_HIGHWAY 160 1-2, P\_HIGHWAY 160 1-2, PLAN #1 3-17-10 RHS V0  
 — P\_HIGHWAY 160 1-2S, P\_HIGHWAY 160 1-2S, PLAN #1 3-17-10 RHS V0  
 — P\_HIGHWAY 160 2-2, P\_HIGHWAY 160 2-2, PLAN #1 3-17-10 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 41-2, P\_HIGHWAY 160 41-2, 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	8147.00	-637.83	-470.66	40° 4' 53.404 N	104° 44' 32.820 W	Circle (Radius: 50.00)

#### WELL DETAILS: P\_HIGHWAY 160 7-2

+N/-S	+E/-W	Northing	Ground Level: Easting	5104.00 Latitude	Longitude	Slot
0.00	0.00	1274082.93	3212439.32	40° 4' 59.707 N	104° 44' 26.765 W	



Plan: PLAN #1 3-17-10 RHS (P\_HIGHWAY 160 7-2/P\_HIGHWAY 160 7-2)

Created By: Robert H. Scott Date: 15:04, March 17 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 7-2		
<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 7-2					
Well Position	+N/-S	-0.75 ft	Northing:	1,274,082.93 ft	Latitude:	40° 4' 59.707 N
	+E/-W	-80.03 ft	Easting:	3,212,439.32 ft	Longitude:	104° 44' 26.765 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,104.00 ft

<b>Wellbore</b>	P_HIGHWAY 160 7-2				
<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	216.42

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,695.73	9.91	216.42	1,693.26	-34.43	-25.40	2.00	2.00	0.00	216.42	
5,802.54	9.91	216.42	5,738.74	-603.40	-445.25	0.00	0.00	0.00	0.00	
6,298.27	0.00	0.00	6,232.00	-637.83	-470.66	2.00	-2.00	0.00	180.00	
8,213.27	0.00	0.00	8,147.00	-637.83	-470.66	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 7-2
<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 7-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 7-2		
<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	216.42	1,299.98	-1.40	-1.04	1.75	2.00	2.00	0.00
1,400.00	4.00	216.42	1,399.84	-5.62	-4.14	6.98	2.00	2.00	0.00
1,500.00	6.00	216.42	1,499.45	-12.63	-9.32	15.69	2.00	2.00	0.00
1,600.00	8.00	216.42	1,598.70	-22.43	-16.55	27.88	2.00	2.00	0.00
<b>Start 4106.81 hold at 1695.73 MD</b>									
1,695.73	9.91	216.42	1,693.26	-34.43	-25.40	42.78	2.00	2.00	0.00
1,700.00	9.91	216.42	1,697.47	-35.02	-25.84	43.52	0.00	0.00	0.00
1,800.00	9.91	216.42	1,795.97	-48.87	-36.06	60.74	0.00	0.00	0.00
1,900.00	9.91	216.42	1,894.48	-62.73	-46.29	77.96	0.00	0.00	0.00
2,000.00	9.91	216.42	1,992.99	-76.58	-56.51	95.17	0.00	0.00	0.00
2,100.00	9.91	216.42	2,091.49	-90.44	-66.73	112.39	0.00	0.00	0.00
2,200.00	9.91	216.42	2,190.00	-104.29	-76.96	129.61	0.00	0.00	0.00
2,300.00	9.91	216.42	2,288.51	-118.14	-87.18	146.83	0.00	0.00	0.00
2,400.00	9.91	216.42	2,387.01	-132.00	-97.40	164.05	0.00	0.00	0.00
2,500.00	9.91	216.42	2,485.52	-145.85	-107.63	181.26	0.00	0.00	0.00
2,600.00	9.91	216.42	2,584.02	-159.71	-117.85	198.48	0.00	0.00	0.00
2,700.00	9.91	216.42	2,682.53	-173.56	-128.07	215.70	0.00	0.00	0.00
2,800.00	9.91	216.42	2,781.04	-187.42	-138.30	232.92	0.00	0.00	0.00
2,900.00	9.91	216.42	2,879.54	-201.27	-148.52	250.14	0.00	0.00	0.00
3,000.00	9.91	216.42	2,978.05	-215.13	-158.74	267.35	0.00	0.00	0.00
3,100.00	9.91	216.42	3,076.56	-228.98	-168.97	284.57	0.00	0.00	0.00
3,200.00	9.91	216.42	3,175.06	-242.83	-179.19	301.79	0.00	0.00	0.00
3,300.00	9.91	216.42	3,273.57	-256.69	-189.41	319.01	0.00	0.00	0.00
3,400.00	9.91	216.42	3,372.08	-270.54	-199.63	336.23	0.00	0.00	0.00
3,500.00	9.91	216.42	3,470.58	-284.40	-209.86	353.44	0.00	0.00	0.00
3,600.00	9.91	216.42	3,569.09	-298.25	-220.08	370.66	0.00	0.00	0.00
3,700.00	9.91	216.42	3,667.60	-312.11	-230.30	387.88	0.00	0.00	0.00
3,800.00	9.91	216.42	3,766.10	-325.96	-240.53	405.10	0.00	0.00	0.00
3,900.00	9.91	216.42	3,864.61	-339.82	-250.75	422.32	0.00	0.00	0.00
4,000.00	9.91	216.42	3,963.12	-353.67	-260.97	439.53	0.00	0.00	0.00
4,100.00	9.91	216.42	4,061.62	-367.52	-271.20	456.75	0.00	0.00	0.00
4,200.00	9.91	216.42	4,160.13	-381.38	-281.42	473.97	0.00	0.00	0.00
4,300.00	9.91	216.42	4,258.64	-395.23	-291.64	491.19	0.00	0.00	0.00
<b>PARKMAN</b>									
4,303.41	9.91	216.42	4,262.00	-395.71	-291.99	491.78	0.00	0.00	0.00
4,400.00	9.91	216.42	4,357.14	-409.09	-301.87	508.41	0.00	0.00	0.00
4,500.00	9.91	216.42	4,455.65	-422.94	-312.09	525.62	0.00	0.00	0.00
4,600.00	9.91	216.42	4,554.16	-436.80	-322.31	542.84	0.00	0.00	0.00
4,700.00	9.91	216.42	4,652.66	-450.65	-332.54	560.06	0.00	0.00	0.00
4,800.00	9.91	216.42	4,751.17	-464.51	-342.76	577.28	0.00	0.00	0.00
<b>SUSSEX</b>									
4,800.84	9.91	216.42	4,752.00	-464.62	-342.85	577.42	0.00	0.00	0.00
4,900.00	9.91	216.42	4,849.68	-478.36	-352.98	594.50	0.00	0.00	0.00
5,000.00	9.91	216.42	4,948.18	-492.21	-363.21	611.71	0.00	0.00	0.00
5,100.00	9.91	216.42	5,046.69	-506.07	-373.43	628.93	0.00	0.00	0.00
5,200.00	9.91	216.42	5,145.19	-519.92	-383.65	646.15	0.00	0.00	0.00
5,300.00	9.91	216.42	5,243.70	-533.78	-393.88	663.37	0.00	0.00	0.00
5,400.00	9.91	216.42	5,342.21	-547.63	-404.10	680.59	0.00	0.00	0.00
5,500.00	9.91	216.42	5,440.71	-561.49	-414.32	697.80	0.00	0.00	0.00
5,600.00	9.91	216.42	5,539.22	-575.34	-424.55	715.02	0.00	0.00	0.00
5,700.00	9.91	216.42	5,637.73	-589.20	-434.77	732.24	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 7-2		
<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)
5,800.00	9.91	216.42	5,736.23	-603.05	-444.99	749.46	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,802.54	9.91	216.42	5,738.74	-603.40	-445.25	749.90	0.00	0.00	0.00
5,900.00	7.97	216.42	5,835.01	-615.59	-454.24	765.04	2.00	-2.00	0.00
6,000.00	5.97	216.42	5,934.26	-625.35	-461.44	777.17	2.00	-2.00	0.00
6,100.00	3.97	216.42	6,033.88	-632.31	-466.58	785.82	2.00	-2.00	0.00
6,200.00	1.97	216.42	6,133.75	-636.47	-469.66	791.00	2.00	-2.00	0.00
<b>Start 1915.00 hold at 6298.27 MD</b>									
6,298.27	0.00	0.00	6,232.00	-637.83	-470.66	792.68	2.00	-2.00	146.10
6,300.00	0.00	0.00	6,233.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,400.00	0.00	0.00	6,333.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,500.00	0.00	0.00	6,433.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,600.00	0.00	0.00	6,533.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,700.00	0.00	0.00	6,633.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,800.00	0.00	0.00	6,733.73	-637.83	-470.66	792.68	0.00	0.00	0.00
6,900.00	0.00	0.00	6,833.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,000.00	0.00	0.00	6,933.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,100.00	0.00	0.00	7,033.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,200.00	0.00	0.00	7,133.73	-637.83	-470.66	792.68	0.00	0.00	0.00
<b>NIO A</b>									
7,298.27	0.00	0.00	7,232.00	-637.83	-470.66	792.68	0.00	0.00	0.00
7,300.00	0.00	0.00	7,233.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,400.00	0.00	0.00	7,333.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,500.00	0.00	0.00	7,433.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,600.00	0.00	0.00	7,533.73	-637.83	-470.66	792.68	0.00	0.00	0.00
<b>CODELL</b>									
7,618.27	0.00	0.00	7,552.00	-637.83	-470.66	792.68	0.00	0.00	0.00
7,700.00	0.00	0.00	7,633.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,800.00	0.00	0.00	7,733.73	-637.83	-470.66	792.68	0.00	0.00	0.00
7,900.00	0.00	0.00	7,833.73	-637.83	-470.66	792.68	0.00	0.00	0.00
8,000.00	0.00	0.00	7,933.73	-637.83	-470.66	792.68	0.00	0.00	0.00
<b>JSAND</b>									
8,078.27	0.00	0.00	8,012.00	-637.83	-470.66	792.68	0.00	0.00	0.00
8,100.00	0.00	0.00	8,033.73	-637.83	-470.66	792.68	0.00	0.00	0.00
8,200.00	0.00	0.00	8,133.73	-637.83	-470.66	792.68	0.00	0.00	0.00
<b>PBHL_HIGHWAY 160 7-2(2130 FNL 2130 FEL)</b>									
8,213.27	0.00	0.00	8,147.00	-637.83	-470.66	792.68	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	8,147.00	-637.83	-470.66	1,273,441.10	3,211,974.14	40° 4' 53.404 N	104° 44' 32.820 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 7-2
<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 7-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_HIGHWAY 160 7-2		
<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 (°)	
4,303.41	4,262.00	PARKMAN				
4,800.84	4,752.00	SUSSEX				
7,298.27	7,232.00	NIO A				
7,618.27	7,552.00	CODELL				
8,078.27	8,012.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,200.00	1,200.00	0.00	0.00	Start Build 2.00	
1,695.73	1,693.26	-34.43	-25.40	Start 4106.81 hold at 1695.73 MD	
5,802.54	5,738.74	-603.40	-445.25	Start Drop -2.00	
6,298.27	6,232.00	-637.83	-470.66	Start 1915.00 hold at 6298.27 MD	
8,213.27	8,147.00	-637.83	-470.66	TD at 8213.27	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_HIGHWAY 160 17-2 pad  
P\_HIGHWAY 160 7-2**

**P\_HIGHWAY 160 7-2  
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 7-2
<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 7-2	<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 7-2	<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	8,213.27	PLAN #1 3-17-10 RHS (P_HIGHWAY 160	MWD	MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
WELD_HIGHWAY 160 17-2 pad						
BROWN, GORDON D. UNIT #1 EXISTING - BROWN, C	1,705.42	1,687.80	29.32	-39.83	0.424	Level 1, CC, ES, SF
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,200.00	1,200.00	80.03	74.89	15.582	CC, ES
P_HIGHWAY 160 1-2 - P_HIGHWAY 160 1-2 - PLAN #1	1,300.00	1,297.59	82.55	77.00	14.886	SF
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,200.00	1,200.00	60.16	55.02	11.714	CC, ES
P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN	1,300.00	1,298.84	62.14	56.59	11.195	SF
P_HIGHWAY 160 2-2 - P_HIGHWAY 160 2-2 - PLAN #1	1,200.00	1,200.00	20.15	15.01	3.923	CC, ES
P_HIGHWAY 160 2-2 - P_HIGHWAY 160 2-2 - PLAN #1	1,300.00	1,300.03	21.08	15.53	3.795	SF
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,200.00	1,200.00	10.07	4.94	1.961	CC, ES
P_HIGHWAY 160 2-2S - P_HIGHWAY 160 2-2S - PLAN	1,300.00	1,300.05	10.85	5.30	1.953	SF
P_HIGHWAY 160 24-2 - P_HIGHWAY 160 24-2 - PLAN	1,200.00	1,200.00	30.22	25.09	5.884	CC, ES
P_HIGHWAY 160 24-2 - P_HIGHWAY 160 24-2 - PLAN	1,300.00	1,299.68	31.76	26.23	5.744	SF
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	300.00	300.00	70.23	69.14	64.428	CC, ES
P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN	800.00	786.48	105.38	102.06	31.728	SF
P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN	1,200.00	1,200.00	90.10	84.97	17.544	CC, ES
P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN	1,300.00	1,296.88	92.84	87.30	16.762	SF
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,200.00	1,200.00	50.09	44.95	9.752	CC, ES
P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1	1,300.00	1,298.40	52.67	47.13	9.518	SF
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,200.00	1,200.00	40.29	35.16	7.846	CC, ES
P_HIGHWAY 160 8-2S - P_HIGHWAY 160 8-2S - PLAN	1,300.00	1,299.14	42.37	36.83	7.657	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 Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-176.99	-53.18	-2.80	55.33					
100.00	100.00	85.00	85.00	0.10	1.70	-176.99	-53.18	-2.80	53.25	51.46	1.80	29.659		
200.00	200.00	185.00	185.00	0.32	5.40	-176.99	-53.18	-2.80	53.25	47.53	5.72	9.310		
300.00	300.00	285.00	285.00	0.55	9.40	-176.99	-53.18	-2.80	53.25	43.31	9.95	5.355		
400.00	400.00	385.00	385.00	0.77	13.40	-176.99	-53.18	-2.80	53.25	39.08	14.17	3.758		
500.00	500.00	485.00	485.00	0.99	17.40	-176.99	-53.18	-2.80	53.25	34.86	18.39	2.895		
600.00	600.00	585.00	585.00	1.22	21.40	-176.99	-53.18	-2.80	53.25	30.63	22.62	2.354		
700.00	700.00	685.00	685.00	1.44	25.40	-176.99	-53.18	-2.80	53.25	26.41	26.84	1.984		
800.00	800.00	785.00	785.00	1.67	29.40	-176.99	-53.18	-2.80	53.25	22.19	31.07	1.714		

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 7-2
<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 7-2	<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 7-2	<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						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
900.00	900.00	885.00	885.00	1.89	33.40	-176.99	-53.18	-2.80	53.25	17.96	35.29	1.509	
1,000.00	1,000.00	985.00	985.00	2.12	37.40	-176.99	-53.18	-2.80	53.25	13.74	39.52	1.348	Level 3
1,100.00	1,100.00	1,085.00	1,085.00	2.34	41.40	-176.99	-53.18	-2.80	53.25	9.51	43.74	1.217	Level 2
1,200.00	1,200.00	1,185.00	1,185.00	2.57	45.40	-176.99	-53.18	-2.80	53.25	5.29	47.97	1.110	Level 2
1,300.00	1,299.98	1,284.98	1,284.98	2.77	49.40	-34.49	-53.18	-2.80	51.81	-0.34	52.15	0.994	Level 1
1,400.00	1,399.84	1,384.84	1,384.84	2.95	53.39	-38.11	-53.18	-2.80	47.58	-8.67	56.26	0.846	Level 1
1,500.00	1,499.45	1,484.45	1,484.45	3.14	57.38	-45.71	-53.18	-2.80	41.07	-19.28	60.36	0.681	Level 1
1,600.00	1,598.70	1,583.70	1,583.70	3.36	61.35	-60.77	-53.18	-2.80	33.68	-30.87	64.55	0.522	Level 1
1,695.73	1,693.26	1,678.26	1,678.26	3.59	65.13	-86.79	-53.18	-2.80	29.37	-39.36	68.73	0.427	Level 1
1,700.00	1,697.47	1,682.47	1,682.47	3.60	65.30	-88.20	-53.18	-2.80	29.34	-39.57	68.91	0.426	Level 1
1,705.42	1,702.80	1,687.80	1,687.80	3.62	65.51	-90.00	-53.18	-2.80	29.32	-39.83	69.15	0.424	Level 1, CC, ES, SF
1,800.00	1,795.97	1,780.97	1,780.97	3.88	69.24	-118.68	-53.18	-2.80	33.54	-39.33	72.87	0.460	Level 1
1,900.00	1,894.48	1,879.48	1,879.48	4.17	73.18	-138.38	-53.18	-2.80	44.52	-32.12	76.64	0.581	Level 1
2,000.00	1,992.99	1,977.99	1,977.99	4.49	77.12	-149.59	-53.18	-2.80	58.59	-21.94	80.53	0.728	Level 1
2,100.00	2,091.49	2,076.49	2,076.49	4.81	81.06	-156.34	-53.18	-2.80	74.00	-10.52	84.52	0.875	Level 1
2,200.00	2,190.00	2,175.00	2,175.00	5.15	85.00	-160.73	-53.18	-2.80	90.06	1.50	88.56	1.017	Level 2
2,300.00	2,288.51	2,273.51	2,273.51	5.49	88.94	-163.79	-53.18	-2.80	106.49	13.86	92.63	1.150	Level 2
2,400.00	2,387.01	2,372.01	2,372.01	5.85	92.88	-166.02	-53.18	-2.80	123.14	26.42	96.71	1.273	Level 3
2,500.00	2,485.52	2,470.52	2,470.52	6.21	96.82	-167.72	-53.18	-2.80	139.92	39.11	100.81	1.388	Level 3
2,600.00	2,584.02	2,569.02	2,569.02	6.57	100.76	-169.06	-53.18	-2.80	156.80	51.89	104.91	1.495	Level 3
2,700.00	2,682.53	2,667.53	2,667.53	6.94	104.70	-170.14	-53.18	-2.80	173.74	64.72	109.02	1.594	
2,800.00	2,781.04	2,766.04	2,766.04	7.31	108.64	-171.02	-53.18	-2.80	190.73	77.60	113.13	1.686	
2,900.00	2,879.54	2,864.54	2,864.54	7.68	112.58	-171.76	-53.18	-2.80	207.76	90.52	117.24	1.772	
3,000.00	2,978.05	2,963.05	2,963.05	8.06	116.52	-172.39	-53.18	-2.80	224.82	103.46	121.36	1.853	
3,100.00	3,076.56	3,061.56	3,061.56	8.44	120.46	-172.93	-53.18	-2.80	241.90	116.42	125.48	1.928	
3,200.00	3,175.06	3,160.06	3,160.06	8.82	124.40	-173.40	-53.18	-2.80	259.00	129.40	129.60	1.998	
3,300.00	3,273.57	3,258.57	3,258.57	9.21	128.34	-173.81	-53.18	-2.80	276.12	142.39	133.72	2.065	
3,400.00	3,372.08	3,357.08	3,357.08	9.59	132.28	-174.17	-53.18	-2.80	293.24	155.40	137.85	2.127	
3,500.00	3,470.58	3,455.58	3,455.58	9.98	136.22	-174.50	-53.18	-2.80	310.38	168.41	141.97	2.186	
3,600.00	3,569.09	3,554.09	3,554.09	10.37	140.16	-174.79	-53.18	-2.80	327.52	181.43	146.10	2.242	
3,700.00	3,667.60	3,652.60	3,652.60	10.75	144.10	-175.05	-53.18	-2.80	344.68	194.45	150.22	2.294	
3,800.00	3,766.10	3,751.10	3,751.10	11.14	148.04	-175.28	-53.18	-2.80	361.84	207.49	154.35	2.344	
3,900.00	3,864.61	3,849.61	3,849.61	11.53	151.98	-175.50	-53.18	-2.80	379.00	220.52	158.48	2.392	
4,000.00	3,963.12	3,948.12	3,948.12	11.92	155.92	-175.69	-53.18	-2.80	396.17	233.56	162.61	2.436	
4,100.00	4,061.62	4,046.62	4,046.62	12.32	159.86	-175.87	-53.18	-2.80	413.34	246.61	166.74	2.479	
4,200.00	4,160.13	4,145.13	4,145.13	12.71	163.81	-176.04	-53.18	-2.80	430.52	259.65	170.86	2.520	
4,300.00	4,258.64	4,243.64	4,243.64	13.10	167.75	-176.19	-53.18	-2.80	447.70	272.70	174.99	2.558	
4,400.00	4,357.14	4,342.14	4,342.14	13.50	171.69	-176.33	-53.18	-2.80	464.88	285.75	179.13	2.595	
4,500.00	4,455.65	4,440.65	4,440.65	13.89	175.63	-176.46	-53.18	-2.80	482.06	298.81	183.26	2.631	
4,600.00	4,554.16	4,539.16	4,539.16	14.28	179.57	-176.58	-53.18	-2.80	499.25	311.86	187.39	2.664	
4,700.00	4,652.66	4,637.66	4,637.66	14.68	183.51	-176.70	-53.18	-2.80	516.44	324.92	191.52	2.697	
4,800.00	4,751.17	4,736.17	4,736.17	15.08	187.45	-176.80	-53.18	-2.80	533.63	337.98	195.65	2.727	
4,900.00	4,849.68	4,834.68	4,834.68	15.47	191.39	-176.90	-53.18	-2.80	550.82	351.04	199.78	2.757	
5,000.00	4,948.18	4,933.18	4,933.18	15.87	195.33	-177.00	-53.18	-2.80	568.02	364.10	203.91	2.786	
5,100.00	5,046.69	5,031.69	5,031.69	16.26	199.27	-177.08	-53.18	-2.80	585.21	377.17	208.05	2.813	
5,200.00	5,145.19	5,130.19	5,130.19	16.66	203.21	-177.17	-53.18	-2.80	602.41	390.23	212.18	2.839	
5,300.00	5,243.70	5,228.70	5,228.70	17.06	207.15	-177.25	-53.18	-2.80	619.61	403.30	216.31	2.864	
5,400.00	5,342.21	5,327.21	5,327.21	17.45	211.09	-177.32	-53.18	-2.80	636.81	416.36	220.45	2.889	
5,500.00	5,440.71	5,425.71	5,425.71	17.85	215.03	-177.39	-53.18	-2.80	654.01	429.43	224.58	2.912	
5,600.00	5,539.22	5,524.22	5,524.22	18.25	218.97	-177.46	-53.18	-2.80	671.21	442.50	228.71	2.935	
5,700.00	5,637.73	5,622.73	5,622.73	18.65	222.91	-177.52	-53.18	-2.80	688.41	455.57	232.85	2.957	
5,802.54	5,738.74	5,723.74	5,723.74	19.05	226.95	-177.58	-53.18	-2.80	706.05	468.97	237.09	2.978	

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 7-2
<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 7-2	<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 7-2	<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
5,900.00	5,835.01	5,820.01	5,820.01	19.37	230.80	-177.65	-53.18	-2.80	721.18	478.92	242.26	2.977	
6,000.00	5,934.26	5,919.26	5,919.26	19.61	234.77	-177.70	-53.18	-2.80	733.30	485.92	247.38	2.964	
6,100.00	6,033.88	6,018.88	6,018.88	19.82	238.76	-177.73	-53.18	-2.80	741.95	489.71	252.24	2.941	
6,200.00	6,133.75	6,118.75	6,118.75	19.99	242.75	-177.75	-53.18	-2.80	747.12	490.32	256.80	2.909	
6,298.27	6,232.00	6,217.00	6,217.00	20.13	246.68	38.67	-53.18	-2.80	748.80	487.80	261.01	2.869	
6,300.00	6,233.73	6,218.73	6,218.73	20.13	246.75	38.67	-53.18	-2.80	748.80	487.72	261.08	2.868	
6,400.00	6,333.73	6,318.73	6,318.73	20.26	250.75	38.67	-53.18	-2.80	748.80	483.55	265.26	2.823	
6,500.00	6,433.73	6,418.73	6,418.73	20.39	254.75	38.67	-53.18	-2.80	748.80	479.37	269.43	2.779	
6,600.00	6,533.73	6,518.73	6,518.73	20.52	258.75	38.67	-53.18	-2.80	748.80	475.19	273.61	2.737	
6,700.00	6,633.73	6,618.73	6,618.73	20.65	262.75	38.67	-53.18	-2.80	748.80	471.01	277.80	2.696	
6,800.00	6,733.73	6,718.73	6,718.73	20.78	266.75	38.67	-53.18	-2.80	748.80	466.82	281.98	2.656	
6,900.00	6,833.73	6,818.73	6,818.73	20.91	270.75	38.67	-53.18	-2.80	748.80	462.64	286.16	2.617	
7,000.00	6,933.73	6,918.73	6,918.73	21.05	274.75	38.67	-53.18	-2.80	748.80	458.46	290.35	2.579	
7,100.00	7,033.73	7,018.73	7,018.73	21.19	278.75	38.67	-53.18	-2.80	748.80	454.27	294.53	2.542	
7,200.00	7,133.73	7,118.73	7,118.73	21.32	282.75	38.67	-53.18	-2.80	748.80	450.08	298.72	2.507	
7,300.00	7,233.73	7,218.73	7,218.73	21.46	286.75	38.67	-53.18	-2.80	748.80	445.90	302.91	2.472	
7,400.00	7,333.73	7,318.73	7,318.73	21.61	290.75	38.67	-53.18	-2.80	748.80	441.71	307.09	2.438	
7,500.00	7,433.73	7,418.73	7,418.73	21.75	294.75	38.67	-53.18	-2.80	748.80	437.52	311.28	2.406	
7,600.00	7,533.73	7,518.73	7,518.73	21.89	298.75	38.67	-53.18	-2.80	748.80	433.33	315.47	2.374	
7,700.00	7,633.73	7,618.73	7,618.73	22.04	302.75	38.67	-53.18	-2.80	748.80	429.14	319.67	2.342	
7,800.00	7,733.73	7,718.73	7,718.73	22.18	306.75	38.67	-53.18	-2.80	748.80	424.94	323.86	2.312	
7,900.00	7,833.73	7,818.73	7,818.73	22.33	310.75	38.67	-53.18	-2.80	748.80	420.75	328.05	2.283	
8,000.00	7,933.73	7,918.73	7,918.73	22.48	314.75	38.67	-53.18	-2.80	748.80	416.56	332.24	2.254	
8,100.00	8,033.73	8,018.73	8,018.73	22.63	318.75	38.67	-53.18	-2.80	748.80	412.36	336.44	2.226	
8,200.00	8,133.73	8,118.73	8,118.73	22.78	322.75	38.67	-53.18	-2.80	748.80	408.17	340.63	2.198	
8,213.27	8,147.00	8,132.00	8,132.00	22.80	323.28	38.67	-53.18	-2.80	748.80	407.61	341.19	2.195	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.47	0.75	80.03	80.03				
100.00	100.00	100.00	100.00	0.10	0.10	89.47	0.75	80.03	80.03	79.84	0.19	418.891	
200.00	200.00	200.00	200.00	0.32	0.32	89.47	0.75	80.03	80.03	79.39	0.64	124.933	
300.00	300.00	300.00	300.00	0.55	0.55	89.47	0.75	80.03	80.03	78.94	1.09	73.414	
400.00	400.00	400.00	400.00	0.77	0.77	89.47	0.75	80.03	80.03	78.49	1.54	51.979	
500.00	500.00	500.00	500.00	0.99	0.99	89.47	0.75	80.03	80.03	78.04	1.99	40.233	
600.00	600.00	600.00	600.00	1.22	1.22	89.47	0.75	80.03	80.03	77.59	2.44	32.816	
700.00	700.00	700.00	700.00	1.44	1.44	89.47	0.75	80.03	80.03	77.14	2.89	27.709	
800.00	800.00	800.00	800.00	1.67	1.67	89.47	0.75	80.03	80.03	76.69	3.34	23.977	
900.00	900.00	900.00	900.00	1.89	1.89	89.47	0.75	80.03	80.03	76.24	3.79	21.131	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.47	0.75	80.03	80.03	75.79	4.24	18.889	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.47	0.75	80.03	80.03	75.34	4.69	17.077	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.47	0.75	80.03	80.03	74.89	5.14	15.582 CC, ES	
1,300.00	1,299.98	1,297.59	1,297.57	2.77	2.78	-128.48	1.65	81.42	82.55	77.00	5.55	14.886 SF	
1,400.00	1,399.84	1,394.50	1,394.35	2.95	2.99	-132.51	4.34	85.56	90.42	84.50	5.92	15.263	
1,500.00	1,499.45	1,490.10	1,489.61	3.14	3.21	-137.75	8.74	92.34	104.34	98.04	6.30	16.552	
1,600.00	1,598.70	1,583.77	1,582.62	3.36	3.43	-142.99	14.72	101.56	124.85	118.17	6.68	18.686	
1,695.73	1,693.26	1,671.11	1,668.99	3.59	3.66	-147.35	21.79	112.45	150.84	143.80	7.04	21.427	
1,700.00	1,697.47	1,674.95	1,672.78	3.60	3.67	-147.54	22.13	112.97	152.13	145.08	7.06	21.560	
1,800.00	1,795.97	1,763.78	1,760.15	3.88	3.93	-151.26	30.85	126.41	184.49	177.03	7.46	24.736	
1,900.00	1,894.48	1,850.59	1,845.01	4.17	4.21	-153.92	40.79	141.73	220.25	212.39	7.87	28.003	
2,000.00	1,992.99	1,935.29	1,927.25	4.49	4.52	-155.86	51.84	158.74	259.13	250.85	8.28	31.312	
2,100.00	2,091.49	2,017.83	2,006.76	4.81	4.85	-157.31	63.87	177.28	300.88	292.20	8.69	34.634	
2,200.00	2,190.00	2,103.61	2,088.83	5.15	5.24	-158.46	77.46	198.21	344.94	335.83	9.11	37.844	
2,300.00	2,288.51	2,193.05	2,174.34	5.49	5.67	-159.40	91.74	220.22	389.33	379.77	9.56	40.730	
2,400.00	2,387.01	2,282.50	2,259.86	5.85	6.12	-160.15	106.03	242.22	433.78	423.77	10.01	43.334	
2,500.00	2,485.52	2,371.95	2,345.37	6.21	6.58	-160.75	120.31	264.23	478.29	467.82	10.47	45.692	
2,600.00	2,584.02	2,461.39	2,430.88	6.57	7.05	-161.26	134.59	286.23	522.82	511.89	10.93	47.832	
2,700.00	2,682.53	2,550.84	2,516.40	6.94	7.53	-161.68	148.88	308.24	567.39	555.99	11.40	49.780	
2,800.00	2,781.04	2,640.29	2,601.91	7.31	8.02	-162.05	163.16	330.24	611.98	600.11	11.87	51.557	
2,900.00	2,879.54	2,729.73	2,687.42	7.68	8.52	-162.36	177.44	352.25	656.58	644.24	12.35	53.183	
3,000.00	2,978.05	2,819.18	2,772.94	8.06	9.02	-162.63	191.73	374.25	701.20	688.38	12.82	54.676	
3,100.00	3,076.56	2,908.63	2,858.45	8.44	9.52	-162.87	206.01	396.26	745.83	732.52	13.31	56.048	
3,200.00	3,175.06	2,998.07	2,943.96	8.82	10.03	-163.09	220.29	418.26	790.47	776.68	13.79	57.313	
3,300.00	3,273.57	3,087.52	3,029.48	9.21	10.54	-163.28	234.58	440.27	835.12	820.84	14.28	58.482	
3,400.00	3,372.08	3,176.97	3,114.99	9.59	11.06	-163.45	248.86	462.27	879.77	865.00	14.77	59.565	
3,500.00	3,470.58	3,266.42	3,200.50	9.98	11.57	-163.61	263.15	484.28	924.43	909.17	15.26	60.571	
3,600.00	3,569.09	3,355.86	3,286.02	10.37	12.09	-163.75	277.43	506.28	969.09	953.34	15.76	61.507	
3,700.00	3,667.60	3,445.31	3,371.53	10.75	12.61	-163.88	291.71	528.29	1,013.76	997.51	16.25	62.380	
3,800.00	3,766.10	3,534.76	3,457.04	11.14	13.14	-163.99	306.00	550.29	1,058.44	1,041.69	16.75	63.197	
3,900.00	3,864.61	3,624.20	3,542.56	11.53	13.66	-164.10	320.28	572.30	1,103.11	1,085.86	17.25	63.961	
4,000.00	3,963.12	3,713.65	3,628.07	11.92	14.18	-164.20	334.56	594.30	1,147.79	1,130.04	17.75	64.678	
4,100.00	4,061.62	3,803.10	3,713.58	12.32	14.71	-164.29	348.85	616.31	1,192.47	1,174.22	18.25	65.351	
4,200.00	4,160.13	3,892.54	3,799.10	12.71	15.24	-164.38	363.13	638.31	1,237.15	1,218.41	18.75	65.985	
4,300.00	4,258.64	3,981.99	3,884.61	13.10	15.76	-164.46	377.41	660.32	1,281.84	1,262.59	19.25	66.582	
4,400.00	4,357.14	4,071.44	3,970.12	13.50	16.29	-164.53	391.70	682.32	1,326.53	1,306.77	19.76	67.145	
4,500.00	4,455.65	4,160.89	4,055.64	13.89	16.82	-164.60	405.98	704.33	1,371.22	1,350.96	20.26	67.678	
4,600.00	4,554.16	4,250.33	4,141.15	14.28	17.35	-164.67	420.26	726.33	1,415.91	1,395.14	20.77	68.183	
4,700.00	4,652.66	4,339.78	4,226.66	14.68	17.88	-164.73	434.55	748.34	1,460.60	1,439.33	21.27	68.661	
4,800.00	4,751.17	4,429.23	4,312.17	15.08	18.42	-164.79	448.83	770.34	1,505.29	1,483.51	21.78	69.115	
4,900.00	4,849.68	4,518.67	4,397.69	15.47	18.95	-164.84	463.11	792.35	1,549.99	1,527.70	22.29	69.546	
5,000.00	4,948.18	4,608.12	4,483.20	15.87	19.48	-164.89	477.40	814.36	1,594.68	1,571.89	22.80	69.957	

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 7-2
<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 7-2	<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 7-2	<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	5,046.69	4,697.57	4,568.71	16.26	20.01	-164.94	491.68	836.36	1,639.38	1,616.07	23.30	70.348	
5,200.00	5,145.19	4,787.01	4,654.23	16.66	20.55	-164.99	505.97	858.37	1,684.08	1,660.26	23.81	70.720	
5,300.00	5,243.70	4,876.46	4,739.74	17.06	21.08	-165.03	520.25	880.37	1,728.77	1,704.45	24.32	71.076	
5,400.00	5,342.21	4,965.91	4,825.25	17.45	21.61	-165.07	534.53	902.38	1,773.47	1,748.64	24.83	71.415	
5,500.00	5,440.71	5,055.35	4,910.77	17.85	22.15	-165.11	548.82	924.38	1,818.17	1,792.83	25.34	71.740	
5,600.00	5,539.22	5,144.80	4,996.28	18.25	22.68	-165.15	563.10	946.39	1,862.87	1,837.02	25.85	72.051	
5,700.00	5,637.73	5,234.25	5,081.79	18.65	23.22	-165.18	577.38	968.39	1,907.57	1,881.21	26.37	72.349	
5,802.54	5,738.74	5,325.97	5,169.48	19.05	23.76	-165.22	592.03	990.96	1,953.41	1,926.52	26.89	72.641	
5,900.00	5,835.01	5,413.85	5,253.49	19.37	24.29	-165.47	606.06	1,012.58	1,995.53	1,967.99	27.54	72.448	
6,000.00	5,934.26	5,505.41	5,341.03	19.61	24.84	-165.68	620.68	1,035.10	2,035.72	2,007.56	28.17	72.278	
6,100.00	6,033.88	5,742.53	5,569.63	19.82	25.94	-165.80	654.86	1,087.76	2,070.83	2,041.75	29.08	71.219	
6,200.00	6,133.75	6,094.10	5,916.13	19.99	27.01	-165.84	686.51	1,136.52	2,092.23	2,062.14	30.10	69.521	
6,298.27	6,232.00	6,410.52	6,232.00	20.13	27.50	50.56	695.08	1,149.72	2,098.16	2,067.28	30.88	67.941	
6,300.00	6,233.73	6,412.24	6,233.73	20.13	27.51	50.56	695.08	1,149.72	2,098.16	2,067.27	30.89	67.928	
6,400.00	6,333.73	6,512.24	6,333.73	20.26	27.61	50.56	695.08	1,149.72	2,098.16	2,066.92	31.24	67.171	
6,500.00	6,433.73	6,612.24	6,433.73	20.39	27.72	50.56	695.08	1,149.72	2,098.16	2,066.57	31.59	66.425	
6,600.00	6,533.73	6,712.24	6,533.73	20.52	27.83	50.56	695.08	1,149.72	2,098.16	2,066.22	31.94	65.691	
6,700.00	6,633.73	6,812.24	6,633.73	20.65	27.95	50.56	695.08	1,149.72	2,098.16	2,065.86	32.30	64.968	
6,800.00	6,733.73	6,912.24	6,733.73	20.78	28.06	50.56	695.08	1,149.72	2,098.16	2,065.50	32.65	64.256	
6,900.00	6,833.73	7,012.24	6,833.73	20.91	28.17	50.56	695.08	1,149.72	2,098.16	2,065.14	33.01	63.555	
7,000.00	6,933.73	7,112.24	6,933.73	21.05	28.29	50.56	695.08	1,149.72	2,098.16	2,064.78	33.38	62.866	
7,100.00	7,033.73	7,212.24	7,033.73	21.19	28.41	50.56	695.08	1,149.72	2,098.16	2,064.42	33.74	62.187	
7,200.00	7,133.73	7,312.24	7,133.73	21.32	28.53	50.56	695.08	1,149.72	2,098.16	2,064.05	34.11	61.519	
7,300.00	7,233.73	7,412.24	7,233.73	21.46	28.65	50.56	695.08	1,149.72	2,098.16	2,063.68	34.47	60.861	
7,400.00	7,333.73	7,512.24	7,333.73	21.61	28.77	50.56	695.08	1,149.72	2,098.16	2,063.31	34.84	60.215	
7,500.00	7,433.73	7,612.24	7,433.73	21.75	28.89	50.56	695.08	1,149.72	2,098.16	2,062.94	35.22	59.578	
7,600.00	7,533.73	7,712.24	7,533.73	21.89	29.01	50.56	695.08	1,149.72	2,098.16	2,062.57	35.59	58.953	
7,700.00	7,633.73	7,812.24	7,633.73	22.04	29.14	50.56	695.08	1,149.72	2,098.16	2,062.19	35.97	58.337	
7,800.00	7,733.73	7,912.24	7,733.73	22.18	29.26	50.56	695.08	1,149.72	2,098.16	2,061.81	36.34	57.731	
7,900.00	7,833.73	8,012.24	7,833.73	22.33	29.39	50.56	695.08	1,149.72	2,098.16	2,061.44	36.72	57.135	
8,000.00	7,933.73	8,112.24	7,933.73	22.48	29.52	50.56	695.08	1,149.72	2,098.16	2,061.05	37.10	56.549	
8,100.00	8,033.73	8,212.24	8,033.73	22.63	29.65	50.56	695.08	1,149.72	2,098.16	2,060.67	37.49	55.973	
8,200.00	8,133.73	8,312.24	8,133.73	22.78	29.78	50.56	695.08	1,149.72	2,098.16	2,060.29	37.87	55.406	
8,213.27	8,147.00	8,325.52	8,147.00	22.80	29.80	50.56	695.08	1,149.72	2,098.16	2,060.24	37.92	55.331	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 1-2S - P_HIGHWAY 160 1-2S - PLAN #1 3-17-10 f												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.65	0.37	60.16	60.16				
100.00	100.00	100.00	100.00	0.10	0.10	89.65	0.37	60.16	60.16	59.97	0.19	314.893	
200.00	200.00	200.00	200.00	0.32	0.32	89.65	0.37	60.16	60.16	59.52	0.64	93.916	
300.00	300.00	300.00	300.00	0.55	0.55	89.65	0.37	60.16	60.16	59.07	1.09	55.187	
400.00	400.00	400.00	400.00	0.77	0.77	89.65	0.37	60.16	60.16	58.62	1.54	39.074	
500.00	500.00	500.00	500.00	0.99	0.99	89.65	0.37	60.16	60.16	58.17	1.99	30.244	
600.00	600.00	600.00	600.00	1.22	1.22	89.65	0.37	60.16	60.16	57.72	2.44	24.669	
700.00	700.00	700.00	700.00	1.44	1.44	89.65	0.37	60.16	60.16	57.27	2.89	20.830	
800.00	800.00	800.00	800.00	1.67	1.67	89.65	0.37	60.16	60.16	56.82	3.34	18.024	
900.00	900.00	900.00	900.00	1.89	1.89	89.65	0.37	60.16	60.16	56.37	3.79	15.885	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.65	0.37	60.16	60.16	55.92	4.24	14.199	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.65	0.37	60.16	60.16	55.47	4.69	12.837	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.65	0.37	60.16	60.16	55.02	5.14	11.714 CC, ES	
1,300.00	1,299.98	1,298.84	1,298.83	2.77	2.79	-128.87	1.30	61.03	62.14	56.59	5.55	11.195 SF	
1,400.00	1,399.84	1,397.16	1,397.08	2.95	3.00	-134.38	4.08	63.64	68.53	62.59	5.94	11.543	
1,500.00	1,499.45	1,494.46	1,494.17	3.14	3.22	-141.42	8.65	67.92	80.29	73.96	6.32	12.699	
1,600.00	1,598.70	1,590.25	1,589.58	3.36	3.44	-148.24	14.90	73.78	98.17	91.47	6.70	14.645	
1,695.73	1,693.26	1,680.11	1,678.85	3.59	3.66	-153.70	22.36	80.77	121.26	114.20	7.06	17.170	
1,700.00	1,697.47	1,684.07	1,682.78	3.60	3.67	-153.92	22.72	81.11	122.42	115.34	7.08	17.293	
1,800.00	1,795.97	1,776.10	1,773.92	3.88	3.91	-158.31	32.01	89.81	151.24	143.75	7.48	20.208	
1,900.00	1,894.48	1,866.67	1,863.29	4.17	4.16	-161.43	42.71	99.84	182.87	174.98	7.89	23.168	
2,000.00	1,992.99	1,955.72	1,950.80	4.49	4.43	-163.72	54.74	111.11	217.08	208.77	8.31	26.134	
2,100.00	2,091.49	2,043.18	2,036.35	4.81	4.73	-165.45	68.00	123.54	253.66	244.94	8.72	29.085	
2,200.00	2,190.00	2,129.02	2,119.89	5.15	5.04	-166.78	82.40	137.04	292.51	283.37	9.14	32.009	
2,300.00	2,288.51	2,213.19	2,201.35	5.49	5.38	-167.83	97.84	151.51	333.50	323.94	9.56	34.898	
2,400.00	2,387.01	2,300.00	2,284.86	5.85	5.75	-168.70	115.14	167.72	376.57	366.58	9.98	37.714	
2,500.00	2,485.52	2,376.42	2,357.91	6.21	6.12	-169.34	131.51	183.06	421.56	411.17	10.40	40.545	
2,600.00	2,584.02	2,455.43	2,432.95	6.57	6.52	-169.90	149.55	199.97	468.49	457.67	10.82	43.301	
2,700.00	2,682.53	2,532.69	2,505.82	6.94	6.94	-170.37	168.29	217.53	517.24	506.00	11.24	46.023	
2,800.00	2,781.04	2,618.68	2,586.59	7.31	7.44	-170.81	189.81	237.70	567.00	555.31	11.69	48.519	
2,900.00	2,879.54	2,705.34	2,667.99	7.68	7.95	-171.18	211.51	258.03	616.79	604.65	12.14	50.815	
3,000.00	2,978.05	2,792.00	2,749.39	8.06	8.48	-171.49	233.20	278.37	666.59	654.00	12.60	52.925	
3,100.00	3,076.56	2,878.67	2,830.79	8.44	9.01	-171.76	254.90	298.70	716.41	703.35	13.06	54.871	
3,200.00	3,175.06	2,965.33	2,912.19	8.82	9.55	-172.00	276.59	319.03	766.24	752.72	13.52	56.672	
3,300.00	3,273.57	3,051.99	2,993.60	9.21	10.10	-172.20	298.28	339.36	816.08	802.09	13.99	58.342	
3,400.00	3,372.08	3,138.65	3,075.00	9.59	10.66	-172.39	319.98	359.69	865.92	851.46	14.46	59.894	
3,500.00	3,470.58	3,225.31	3,156.40	9.98	11.21	-172.55	341.67	380.02	915.77	900.84	14.93	61.338	
3,600.00	3,569.09	3,311.97	3,237.80	10.37	11.77	-172.70	363.37	400.35	965.63	950.22	15.40	62.685	
3,700.00	3,667.60	3,398.63	3,319.20	10.75	12.34	-172.83	385.06	420.68	1,015.49	999.60	15.88	63.943	
3,800.00	3,766.10	3,485.29	3,400.60	11.14	12.91	-172.95	406.76	441.02	1,065.35	1,048.99	16.36	65.119	
3,900.00	3,864.61	3,571.95	3,482.00	11.53	13.48	-173.06	428.45	461.35	1,115.21	1,098.37	16.84	66.221	
4,000.00	3,963.12	3,658.61	3,563.40	11.92	14.05	-173.16	450.14	481.68	1,165.08	1,147.76	17.32	67.256	
4,100.00	4,061.62	3,745.28	3,644.80	12.32	14.63	-173.25	471.84	502.01	1,214.96	1,197.15	17.81	68.230	
4,200.00	4,160.13	3,831.94	3,726.21	12.71	15.20	-173.33	493.53	522.34	1,264.83	1,246.54	18.29	69.148	
4,300.00	4,258.64	3,918.60	3,807.61	13.10	15.78	-173.41	515.23	542.67	1,314.70	1,295.93	18.78	70.014	
4,400.00	4,357.14	4,005.26	3,889.01	13.50	16.36	-173.48	536.92	563.00	1,364.58	1,345.32	19.27	70.832	
4,500.00	4,455.65	4,091.92	3,970.41	13.89	16.94	-173.55	558.61	583.33	1,414.46	1,394.71	19.75	71.606	
4,600.00	4,554.16	4,178.58	4,051.81	14.28	17.52	-173.61	580.31	603.67	1,464.34	1,444.10	20.24	72.338	
4,700.00	4,652.66	4,265.24	4,133.21	14.68	18.11	-173.67	602.00	624.00	1,514.22	1,493.49	20.73	73.033	
4,800.00	4,751.17	4,351.90	4,214.61	15.08	18.69	-173.73	623.70	644.33	1,564.10	1,542.88	21.22	73.692	
4,900.00	4,849.68	4,438.56	4,296.01	15.47	19.27	-173.78	645.39	664.66	1,613.99	1,592.27	21.72	74.320	
5,000.00	4,948.18	4,525.22	4,377.41	15.87	19.86	-173.83	667.08	684.99	1,663.87	1,641.66	22.21	74.917	

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 7-2
<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 7-2	<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 7-2	<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	5,046.69	4,611.89	4,458.81	16.26	20.45	-173.87	688.78	705.32	1,713.76	1,691.05	22.70	75.486	
5,200.00	5,145.19	4,698.55	4,540.22	16.66	21.03	-173.91	710.47	725.65	1,763.64	1,740.45	23.20	76.029	
5,300.00	5,243.70	4,785.21	4,621.62	17.06	21.62	-173.95	732.17	745.98	1,813.53	1,789.84	23.69	76.546	
5,400.00	5,342.21	4,871.87	4,703.02	17.45	22.21	-173.99	753.86	766.32	1,863.42	1,839.23	24.19	77.041	
5,500.00	5,440.71	4,958.53	4,784.42	17.85	22.80	-174.03	775.56	786.65	1,913.30	1,888.62	24.68	77.514	
5,600.00	5,539.22	5,045.19	4,865.82	18.25	23.39	-174.06	797.25	806.98	1,963.19	1,938.01	25.18	77.968	
5,700.00	5,637.73	5,131.85	4,947.22	18.65	23.98	-174.10	818.94	827.31	2,013.08	1,987.41	25.68	78.402	
5,802.54	5,738.74	5,220.72	5,030.69	19.05	24.58	-174.13	841.19	848.16	2,064.24	2,038.05	26.19	78.829	
5,900.00	5,835.01	5,226.37	5,036.00	19.37	24.62	-174.24	842.60	849.48	2,112.92	2,086.30	26.62	79.377	
6,000.00	5,934.26	5,226.37	5,036.00	19.61	24.62	-174.36	842.60	849.48	2,163.40	2,136.41	26.99	80.159	
6,100.00	6,033.88	5,226.37	5,036.00	19.82	24.62	-174.48	842.60	849.48	2,214.31	2,186.99	27.32	81.054	
6,200.00	6,133.75	5,226.37	5,036.00	19.99	24.62	-174.59	842.60	849.48	2,265.58	2,237.97	27.61	82.061	
6,298.27	6,232.00	5,226.37	5,036.00	20.13	24.62	41.72	842.60	849.48	2,316.22	2,288.35	27.87	83.122	
6,300.00	6,233.73	5,226.37	5,036.00	20.13	24.62	41.72	842.60	849.48	2,317.11	2,289.24	27.87	83.144	
6,400.00	6,333.73	5,226.37	5,036.00	20.26	24.62	41.72	842.60	849.48	2,370.35	2,342.30	28.04	84.519	
6,500.00	6,433.73	5,226.37	5,036.00	20.39	24.62	41.72	842.60	849.48	2,426.54	2,398.32	28.22	85.978	
6,600.00	6,533.73	5,226.37	5,036.00	20.52	24.62	41.72	842.60	849.48	2,485.48	2,457.08	28.40	87.511	
6,700.00	6,633.73	5,226.37	5,036.00	20.65	24.62	41.72	842.60	849.48	2,546.99	2,518.41	28.58	89.112	
6,800.00	6,733.73	5,226.37	5,036.00	20.78	24.62	41.72	842.60	849.48	2,610.89	2,582.12	28.76	90.771	
6,900.00	6,833.73	5,226.37	5,036.00	20.91	24.62	41.72	842.60	849.48	2,676.99	2,648.04	28.95	92.482	
7,000.00	6,933.73	5,226.37	5,036.00	21.05	24.62	41.72	842.60	849.48	2,745.14	2,716.01	29.13	94.238	
7,100.00	7,033.73	5,226.37	5,036.00	21.19	24.62	41.72	842.60	849.48	2,815.20	2,785.89	29.31	96.034	
7,200.00	7,133.73	5,226.37	5,036.00	21.32	24.62	41.72	842.60	849.48	2,887.02	2,857.52	29.50	97.864	
7,300.00	7,233.73	5,226.37	5,036.00	21.46	24.62	41.72	842.60	849.48	2,960.48	2,930.79	29.69	99.723	
7,400.00	7,333.73	5,226.37	5,036.00	21.61	24.62	41.72	842.60	849.48	3,035.46	3,005.58	29.87	101.606	
7,500.00	7,433.73	5,226.37	5,036.00	21.75	24.62	41.72	842.60	849.48	3,111.84	3,081.78	30.06	103.509	
7,600.00	7,533.73	5,226.37	5,036.00	21.89	24.62	41.72	842.60	849.48	3,189.53	3,159.27	30.25	105.428	
7,700.00	7,633.73	5,226.37	5,036.00	22.04	24.62	41.72	842.60	849.48	3,268.43	3,237.99	30.44	107.361	
7,800.00	7,733.73	5,226.37	5,036.00	22.18	24.62	41.72	842.60	849.48	3,348.46	3,317.82	30.63	109.303	
7,900.00	7,833.73	5,226.37	5,036.00	22.33	24.62	41.72	842.60	849.48	3,429.54	3,398.71	30.83	111.252	
8,000.00	7,933.73	5,226.37	5,036.00	22.48	24.62	41.72	842.60	849.48	3,511.59	3,480.57	31.02	113.206	
8,100.00	8,033.73	5,226.37	5,036.00	22.63	24.62	41.72	842.60	849.48	3,594.55	3,563.34	31.21	115.162	
8,200.00	8,133.73	5,226.37	5,036.00	22.78	24.62	41.72	842.60	849.48	3,678.36	3,646.96	31.41	117.118	
8,213.27	8,147.00	5,226.37	5,036.00	22.80	24.62	41.72	842.60	849.48	3,689.55	3,658.12	31.43	117.377	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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	89.99	0.00	20.15	20.15				
100.00	100.00	100.00	100.00	0.10	0.10	89.99	0.00	20.15	20.15	19.96	0.19	105.451	
200.00	200.00	200.00	200.00	0.32	0.32	89.99	0.00	20.15	20.15	19.51	0.64	31.450	
300.00	300.00	300.00	300.00	0.55	0.55	89.99	0.00	20.15	20.15	19.06	1.09	18.481	
400.00	400.00	400.00	400.00	0.77	0.77	89.99	0.00	20.15	20.15	18.61	1.54	13.085	
500.00	500.00	500.00	500.00	0.99	0.99	89.99	0.00	20.15	20.15	18.16	1.99	10.128	
600.00	600.00	600.00	600.00	1.22	1.22	89.99	0.00	20.15	20.15	17.71	2.44	8.261	
700.00	700.00	700.00	700.00	1.44	1.44	89.99	0.00	20.15	20.15	17.26	2.89	6.975	
800.00	800.00	800.00	800.00	1.67	1.67	89.99	0.00	20.15	20.15	16.81	3.34	6.036	
900.00	900.00	900.00	900.00	1.89	1.89	89.99	0.00	20.15	20.15	16.36	3.79	5.319	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.99	0.00	20.15	20.15	15.91	4.24	4.755	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.99	0.00	20.15	20.15	15.46	4.69	4.299	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.99	0.00	20.15	20.15	15.01	5.14	3.923 CC, ES	
1,300.00	1,299.98	1,300.03	1,300.01	2.77	2.79	-134.93	1.72	19.81	21.08	15.53	5.56	3.795 SF	
1,400.00	1,399.84	1,399.45	1,399.29	2.95	3.02	-154.76	6.82	18.83	26.13	20.18	5.95	4.393	
1,500.00	1,499.45	1,497.67	1,497.13	3.14	3.24	-172.68	15.17	17.21	38.50	32.16	6.34	6.075	
1,600.00	1,598.70	1,594.11	1,592.87	3.36	3.47	176.27	26.58	15.00	58.58	51.86	6.73	8.710	
1,695.73	1,693.26	1,684.30	1,682.00	3.59	3.71	170.09	40.10	12.39	84.32	77.22	7.10	11.877	
1,700.00	1,697.47	1,688.27	1,685.91	3.60	3.72	169.89	40.76	12.26	85.60	78.48	7.12	12.027	
1,800.00	1,795.97	1,780.24	1,776.28	3.88	3.99	165.93	57.50	9.02	117.20	109.64	7.55	15.518	
1,900.00	1,894.48	1,871.19	1,865.08	4.17	4.28	163.06	76.78	5.29	151.61	143.61	8.00	18.951	
2,000.00	1,992.99	1,964.54	1,956.03	4.49	4.61	161.04	97.42	1.30	187.04	178.57	8.47	22.088	
2,100.00	2,091.49	2,057.89	2,046.98	4.81	4.95	159.67	118.06	-2.70	222.60	213.66	8.95	24.884	
2,200.00	2,190.00	2,151.24	2,137.93	5.15	5.31	158.67	138.70	-6.69	258.25	248.82	9.43	27.378	
2,300.00	2,288.51	2,244.59	2,228.88	5.49	5.68	157.92	159.35	-10.69	293.95	284.02	9.93	29.610	
2,400.00	2,387.01	2,337.93	2,319.83	5.85	6.06	157.33	179.99	-14.68	329.69	319.26	10.43	31.613	
2,500.00	2,485.52	2,431.28	2,410.78	6.21	6.45	156.85	200.63	-18.68	365.44	354.51	10.94	33.417	
2,600.00	2,584.02	2,524.63	2,501.73	6.57	6.85	156.46	221.28	-22.67	401.22	389.77	11.45	35.047	
2,700.00	2,682.53	2,617.98	2,592.69	6.94	7.25	156.13	241.92	-26.67	437.01	425.05	11.96	36.525	
2,800.00	2,781.04	2,711.33	2,683.64	7.31	7.65	155.86	262.56	-30.66	472.81	460.33	12.49	37.870	
2,900.00	2,879.54	2,804.68	2,774.59	7.68	8.06	155.62	283.20	-34.66	508.62	495.61	13.01	39.098	
3,000.00	2,978.05	2,898.03	2,865.54	8.06	8.48	155.41	303.85	-38.65	544.44	530.90	13.54	40.222	
3,100.00	3,076.56	2,991.38	2,956.49	8.44	8.89	155.23	324.49	-42.65	580.26	566.19	14.07	41.254	
3,200.00	3,175.06	3,084.73	3,047.44	8.82	9.31	155.07	345.13	-46.64	616.09	601.49	14.60	42.205	
3,300.00	3,273.57	3,178.08	3,138.39	9.21	9.73	154.93	365.77	-50.63	651.92	636.78	15.13	43.083	
3,400.00	3,372.08	3,271.43	3,229.34	9.59	10.15	154.80	386.42	-54.63	687.75	672.08	15.67	43.896	
3,500.00	3,470.58	3,364.77	3,320.29	9.98	10.57	154.68	407.06	-58.62	723.58	707.38	16.21	44.651	
3,600.00	3,569.09	3,458.12	3,411.24	10.37	11.00	154.58	427.70	-62.62	759.42	742.68	16.74	45.353	
3,700.00	3,667.60	3,551.47	3,502.19	10.75	11.43	154.48	448.34	-66.61	795.26	777.98	17.29	46.008	
3,800.00	3,766.10	3,644.82	3,593.14	11.14	11.85	154.40	468.99	-70.61	831.10	813.28	17.83	46.620	
3,900.00	3,864.61	3,738.17	3,684.09	11.53	12.28	154.32	489.63	-74.60	866.95	848.58	18.37	47.193	
4,000.00	3,963.12	3,831.52	3,775.04	11.92	12.71	154.24	510.27	-78.60	902.79	883.88	18.91	47.730	
4,100.00	4,061.62	3,924.87	3,865.99	12.32	13.14	154.18	530.91	-82.59	938.64	919.18	19.46	48.235	
4,200.00	4,160.13	4,018.22	3,956.94	12.71	13.57	154.11	551.56	-86.59	974.48	954.48	20.01	48.710	
4,300.00	4,258.64	4,111.57	4,047.89	13.10	14.00	154.06	572.20	-90.58	1,010.33	989.78	20.55	49.158	
4,400.00	4,357.14	4,204.92	4,138.84	13.50	14.44	154.00	592.84	-94.58	1,046.18	1,025.08	21.10	49.581	
4,500.00	4,455.65	4,298.27	4,229.79	13.89	14.87	153.95	613.49	-98.57	1,082.03	1,060.38	21.65	49.981	
4,600.00	4,554.16	4,391.62	4,320.74	14.28	15.30	153.90	634.13	-102.57	1,117.88	1,095.68	22.20	50.360	
4,700.00	4,652.66	4,484.96	4,411.69	14.68	15.74	153.86	654.77	-106.56	1,153.73	1,130.98	22.75	50.719	
4,800.00	4,751.17	4,578.31	4,502.64	15.08	16.17	153.82	675.41	-110.55	1,189.58	1,166.28	23.30	51.060	
4,900.00	4,849.68	4,671.66	4,593.60	15.47	16.61	153.78	696.06	-114.55	1,225.43	1,201.58	23.85	51.384	
5,000.00	4,948.18	4,765.01	4,684.55	15.87	17.04	153.74	716.70	-118.54	1,261.28	1,236.88	24.40	51.692	

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 7-2
<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 7-2	<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 7-2	<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-MWID												<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	5,046.69	4,858.36	4,775.50	16.26	17.48	153.71	737.34	-122.54	1,297.14	1,272.18	24.95	51.986	
5,200.00	5,145.19	4,951.71	4,866.45	16.66	17.91	153.67	757.98	-126.53	1,332.99	1,307.49	25.50	52.267	
5,300.00	5,243.70	5,045.06	4,957.40	17.06	18.35	153.64	778.63	-130.53	1,368.84	1,342.79	26.06	52.534	
5,400.00	5,342.21	5,138.41	5,048.35	17.45	18.78	153.61	799.27	-134.52	1,404.70	1,378.09	26.61	52.790	
5,500.00	5,440.71	5,231.76	5,139.30	17.85	19.22	153.58	819.91	-138.52	1,440.55	1,413.39	27.16	53.035	
5,600.00	5,539.22	5,325.11	5,230.25	18.25	19.66	153.56	840.55	-142.51	1,476.40	1,448.69	27.72	53.270	
5,700.00	5,637.73	5,418.46	5,321.20	18.65	20.10	153.53	861.20	-146.51	1,512.26	1,483.99	28.27	53.494	
5,802.54	5,738.74	5,514.18	5,414.46	19.05	20.54	153.51	882.36	-150.60	1,549.03	1,520.19	28.84	53.715	
5,900.00	5,835.01	5,605.66	5,503.60	19.37	20.97	153.77	902.60	-154.52	1,582.58	1,553.09	29.49	53.660	
6,000.00	5,934.26	5,756.19	5,650.67	19.61	21.57	153.91	933.99	-160.59	1,613.22	1,583.01	30.21	53.398	
6,100.00	6,033.88	5,862.69	5,854.69	19.82	22.17	153.97	965.10	-166.61	1,635.18	1,604.24	30.93	52.863	
6,200.00	6,133.75	6,175.39	6,066.64	19.99	22.60	154.02	981.97	-169.88	1,647.34	1,615.78	31.56	52.195	
6,298.27	6,232.00	6,340.79	6,232.00	20.13	22.82	10.48	984.66	-170.40	1,650.04	1,618.01	32.03	51.518	
6,300.00	6,233.73	6,342.52	6,233.73	20.13	22.83	10.48	984.66	-170.40	1,650.04	1,618.00	32.03	51.508	
6,400.00	6,333.73	6,442.52	6,333.73	20.26	22.95	10.48	984.66	-170.40	1,650.04	1,617.67	32.37	50.972	
6,500.00	6,433.73	6,542.52	6,433.73	20.39	23.08	10.48	984.66	-170.40	1,650.04	1,617.32	32.72	50.426	
6,600.00	6,533.73	6,642.52	6,533.73	20.52	23.21	10.48	984.66	-170.40	1,650.04	1,616.96	33.08	49.888	
6,700.00	6,633.73	6,742.52	6,633.73	20.65	23.34	10.48	984.66	-170.40	1,650.04	1,616.61	33.43	49.357	
6,800.00	6,733.73	6,842.52	6,733.73	20.78	23.48	10.48	984.66	-170.40	1,650.04	1,616.25	33.79	48.835	
6,900.00	6,833.73	6,942.52	6,833.73	20.91	23.61	10.48	984.66	-170.40	1,650.04	1,615.89	34.15	48.321	
7,000.00	6,933.73	7,042.52	6,933.73	21.05	23.75	10.48	984.66	-170.40	1,650.04	1,615.53	34.51	47.814	
7,100.00	7,033.73	7,142.52	7,033.73	21.19	23.89	10.48	984.66	-170.40	1,650.04	1,615.17	34.87	47.315	
7,200.00	7,133.73	7,242.52	7,133.73	21.32	24.03	10.48	984.66	-170.40	1,650.04	1,614.80	35.24	46.824	
7,300.00	7,233.73	7,342.52	7,233.73	21.46	24.17	10.48	984.66	-170.40	1,650.04	1,614.43	35.61	46.340	
7,400.00	7,333.73	7,442.52	7,333.73	21.61	24.31	10.48	984.66	-170.40	1,650.04	1,614.06	35.98	45.864	
7,500.00	7,433.73	7,542.52	7,433.73	21.75	24.45	10.48	984.66	-170.40	1,650.04	1,613.69	36.35	45.395	
7,600.00	7,533.73	7,642.52	7,533.73	21.89	24.60	10.48	984.66	-170.40	1,650.04	1,613.32	36.72	44.934	
7,700.00	7,633.73	7,742.52	7,633.73	22.04	24.74	10.48	984.66	-170.40	1,650.04	1,612.94	37.10	44.479	
7,800.00	7,733.73	7,842.52	7,733.73	22.18	24.89	10.48	984.66	-170.40	1,650.04	1,612.57	37.47	44.032	
7,900.00	7,833.73	7,942.52	7,833.73	22.33	25.04	10.48	984.66	-170.40	1,650.04	1,612.19	37.85	43.592	
8,000.00	7,933.73	8,042.52	7,933.73	22.48	25.19	10.48	984.66	-170.40	1,650.04	1,611.81	38.23	43.159	
8,100.00	8,033.73	8,142.52	8,033.73	22.63	25.34	10.48	984.66	-170.40	1,650.04	1,611.43	38.61	42.733	
8,154.51	8,088.23	8,197.02	8,088.23	22.72	25.42	10.48	984.66	-170.40	1,650.04	1,611.22	38.82	42.504	
8,200.00	8,133.73	8,215.79	8,107.00	22.78	25.45	10.48	984.66	-170.40	1,650.26	1,611.31	38.94	42.377	
8,213.27	8,147.00	8,215.79	8,107.00	22.80	25.45	10.48	984.66	-170.40	1,650.52	1,611.56	38.97	42.357	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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 2-2S - P_HIGHWAY 160 2-2S - PLAN #1 3-17-10 f												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.98	0.00	10.07	10.07				
100.00	100.00	100.00	100.00	0.10	0.10	89.98	0.00	10.07	10.07	9.88	0.19	52.725	
200.00	200.00	200.00	200.00	0.32	0.32	89.98	0.00	10.07	10.07	9.43	0.64	15.725	
300.00	300.00	300.00	300.00	0.55	0.55	89.98	0.00	10.07	10.07	8.98	1.09	9.241	
400.00	400.00	400.00	400.00	0.77	0.77	89.98	0.00	10.07	10.07	8.53	1.54	6.543	
500.00	500.00	500.00	500.00	0.99	0.99	89.98	0.00	10.07	10.07	8.08	1.99	5.064	
600.00	600.00	600.00	600.00	1.22	1.22	89.98	0.00	10.07	10.07	7.63	2.44	4.131	
700.00	700.00	700.00	700.00	1.44	1.44	89.98	0.00	10.07	10.07	7.18	2.89	3.488	
800.00	800.00	800.00	800.00	1.67	1.67	89.98	0.00	10.07	10.07	6.74	3.34	3.018	
900.00	900.00	900.00	900.00	1.89	1.89	89.98	0.00	10.07	10.07	6.29	3.79	2.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.98	0.00	10.07	10.07	5.84	4.24	2.378	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.98	0.00	10.07	10.07	5.39	4.69	2.149	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.98	0.00	10.07	10.07	4.94	5.14	1.961 CC, ES	
1,300.00	1,299.98	1,300.05	1,300.04	2.77	2.79	-140.21	1.18	9.50	10.85	5.30	5.56	1.953 SF	
1,400.00	1,399.84	1,399.71	1,399.62	2.95	3.01	-167.21	4.70	7.80	15.79	9.84	5.95	2.655	
1,500.00	1,499.45	1,498.61	1,498.31	3.14	3.24	175.27	10.51	4.99	27.23	20.89	6.34	4.297	
1,600.00	1,598.70	1,596.38	1,595.67	3.36	3.47	166.69	18.50	1.13	44.70	37.96	6.73	6.639	
1,695.73	1,693.26	1,688.58	1,687.25	3.59	3.69	162.35	28.10	-3.51	66.52	59.40	7.12	9.349	
1,700.00	1,697.47	1,692.65	1,691.29	3.60	3.70	162.22	28.57	-3.74	67.60	60.47	7.13	9.476	
1,800.00	1,795.97	1,787.58	1,785.27	3.88	3.95	159.39	40.61	-9.56	93.94	86.36	7.58	12.390	
1,900.00	1,894.48	1,881.40	1,877.79	4.17	4.22	157.07	54.58	-16.31	122.22	114.17	8.04	15.192	
2,000.00	1,992.99	1,974.00	1,968.72	4.49	4.51	155.07	70.36	-23.95	152.45	143.93	8.52	17.887	
2,100.00	2,091.49	2,066.25	2,058.86	4.81	4.82	153.30	87.99	-32.47	184.59	175.57	9.02	20.472	
2,200.00	2,190.00	2,160.62	2,150.95	5.15	5.16	151.93	106.55	-41.45	217.35	207.82	9.53	22.806	
2,300.00	2,288.51	2,254.99	2,243.04	5.49	5.51	150.91	125.12	-50.43	250.19	240.14	10.05	24.887	
2,400.00	2,387.01	2,349.36	2,335.13	5.85	5.88	150.13	143.69	-59.40	283.09	272.50	10.58	26.746	
2,500.00	2,485.52	2,443.74	2,427.22	6.21	6.26	149.52	162.26	-68.38	316.02	304.90	11.12	28.412	
2,600.00	2,584.02	2,538.11	2,519.31	6.57	6.64	149.02	180.82	-77.36	348.98	337.31	11.67	29.910	
2,700.00	2,682.53	2,632.48	2,611.40	6.94	7.03	148.60	199.39	-86.34	381.96	369.74	12.22	31.263	
2,800.00	2,781.04	2,726.85	2,703.50	7.31	7.43	148.25	217.96	-95.32	414.96	402.18	12.77	32.488	
2,900.00	2,879.54	2,821.22	2,795.59	7.68	7.83	147.96	236.53	-104.29	447.96	434.63	13.33	33.602	
3,000.00	2,978.05	2,915.60	2,887.68	8.06	8.23	147.70	255.09	-113.27	480.98	467.09	13.89	34.618	
3,100.00	3,076.56	3,009.97	2,979.77	8.44	8.64	147.48	273.66	-122.25	514.00	499.54	14.46	35.547	
3,200.00	3,175.06	3,104.34	3,071.86	8.82	9.05	147.28	292.23	-131.23	547.03	532.00	15.03	36.399	
3,300.00	3,273.57	3,198.71	3,163.95	9.21	9.46	147.10	310.80	-140.21	580.07	564.47	15.60	37.184	
3,400.00	3,372.08	3,293.09	3,256.04	9.59	9.88	146.95	329.36	-149.18	613.11	596.93	16.17	37.908	
3,500.00	3,470.58	3,387.46	3,348.13	9.98	10.30	146.81	347.93	-158.16	646.15	629.40	16.75	38.577	
3,600.00	3,569.09	3,481.83	3,440.22	10.37	10.72	146.68	366.50	-167.14	679.19	661.87	17.33	39.199	
3,700.00	3,667.60	3,576.20	3,532.31	10.75	11.14	146.57	385.07	-176.12	712.24	694.34	17.91	39.776	
3,800.00	3,766.10	3,670.57	3,624.40	11.14	11.56	146.46	403.63	-185.10	745.29	726.81	18.49	40.314	
3,900.00	3,864.61	3,764.95	3,716.50	11.53	11.99	146.37	422.20	-194.07	778.35	759.28	19.07	40.817	
4,000.00	3,963.12	3,859.32	3,808.59	11.92	12.41	146.28	440.77	-203.05	811.40	791.75	19.65	41.287	
4,100.00	4,061.62	3,953.69	3,900.68	12.32	12.84	146.20	459.34	-212.03	844.46	824.22	20.24	41.728	
4,200.00	4,160.13	4,048.06	3,992.77	12.71	13.26	146.13	477.90	-221.01	877.51	856.69	20.82	42.142	
4,300.00	4,258.64	4,142.43	4,084.86	13.10	13.69	146.06	496.47	-229.99	910.57	889.16	21.41	42.532	
4,400.00	4,357.14	4,236.81	4,176.95	13.50	14.12	145.99	515.04	-238.97	943.63	921.63	22.00	42.899	
4,500.00	4,455.65	4,331.18	4,269.04	13.89	14.55	145.93	533.61	-247.94	976.69	954.11	22.58	43.245	
4,600.00	4,554.16	4,425.55	4,361.13	14.28	14.98	145.88	552.18	-256.92	1,009.75	986.58	23.17	43.573	
4,700.00	4,652.66	4,519.92	4,453.22	14.68	15.41	145.82	570.74	-265.90	1,042.81	1,019.05	23.76	43.883	
4,800.00	4,751.17	4,614.30	4,545.31	15.08	15.84	145.78	589.31	-274.88	1,075.88	1,051.52	24.35	44.177	
4,900.00	4,849.68	4,708.67	4,637.40	15.47	16.27	145.73	607.88	-283.86	1,108.94	1,084.00	24.94	44.456	
5,000.00	4,948.18	4,803.04	4,729.50	15.87	16.70	145.69	626.45	-292.83	1,142.01	1,116.47	25.54	44.721	

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 7-2
<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 7-2	<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 7-2	<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	5,046.69	4,897.41	4,821.59	16.26	17.13	145.64	645.01	-301.81	1,175.07	1,148.94	26.13	44.973	
5,200.00	5,145.19	4,991.78	4,913.68	16.66	17.57	145.61	663.58	-310.79	1,208.14	1,181.41	26.72	45.213	
5,300.00	5,243.70	5,086.16	5,005.77	17.06	18.00	145.57	682.15	-319.77	1,241.20	1,213.89	27.31	45.442	
5,400.00	5,342.21	5,092.54	5,012.00	17.45	18.03	145.57	683.40	-320.38	1,277.30	1,249.66	27.64	46.217	
5,500.00	5,440.71	5,092.54	5,012.00	17.85	18.03	145.57	683.40	-320.38	1,319.99	1,292.05	27.94	47.242	
5,600.00	5,539.22	5,092.54	5,012.00	18.25	18.03	145.57	683.40	-320.38	1,368.67	1,340.42	28.25	48.457	
5,700.00	5,637.73	5,092.54	5,012.00	18.65	18.03	145.57	683.40	-320.38	1,422.72	1,394.17	28.55	49.833	
5,802.54	5,738.74	5,092.54	5,012.00	19.05	18.03	145.57	683.40	-320.38	1,483.11	1,454.25	28.86	51.387	
5,900.00	5,835.01	5,092.54	5,012.00	19.37	18.03	146.43	683.40	-320.38	1,543.58	1,514.36	29.23	52.817	
6,000.00	5,934.26	5,092.54	5,012.00	19.61	18.03	147.33	683.40	-320.38	1,607.27	1,577.74	29.53	54.429	
6,100.00	6,033.88	5,092.54	5,012.00	19.82	18.03	148.24	683.40	-320.38	1,672.34	1,642.55	29.79	56.131	
6,200.00	6,133.75	5,092.54	5,012.00	19.99	18.03	149.16	683.40	-320.38	1,738.58	1,708.57	30.02	57.921	
6,298.27	6,232.00	5,092.54	5,012.00	20.13	18.03	6.49	683.40	-320.38	1,804.62	1,774.41	30.20	59.748	
6,300.00	6,233.73	5,092.54	5,012.00	20.13	18.03	6.49	683.40	-320.38	1,805.78	1,775.58	30.21	59.781	
6,400.00	6,333.73	5,092.54	5,012.00	20.26	18.03	6.49	683.40	-320.38	1,874.89	1,844.52	30.37	61.737	
6,500.00	6,433.73	5,092.54	5,012.00	20.39	18.03	6.49	683.40	-320.38	1,946.68	1,916.14	30.53	63.757	
6,600.00	6,533.73	5,092.54	5,012.00	20.52	18.03	6.49	683.40	-320.38	2,020.86	1,990.17	30.70	65.830	
6,700.00	6,633.73	5,092.54	5,012.00	20.65	18.03	6.49	683.40	-320.38	2,097.20	2,066.33	30.87	67.947	
6,800.00	6,733.73	5,092.54	5,012.00	20.78	18.03	6.49	683.40	-320.38	2,175.45	2,144.42	31.03	70.100	
6,900.00	6,833.73	5,092.54	5,012.00	20.91	18.03	6.49	683.40	-320.38	2,255.42	2,224.22	31.20	72.283	
7,000.00	6,933.73	5,092.54	5,012.00	21.05	18.03	6.49	683.40	-320.38	2,336.94	2,305.56	31.37	74.488	
7,100.00	7,033.73	5,092.54	5,012.00	21.19	18.03	6.49	683.40	-320.38	2,419.84	2,388.29	31.55	76.709	
7,200.00	7,133.73	5,092.54	5,012.00	21.32	18.03	6.49	683.40	-320.38	2,503.99	2,472.27	31.72	78.944	
7,300.00	7,233.73	5,092.54	5,012.00	21.46	18.03	6.49	683.40	-320.38	2,589.27	2,557.38	31.89	81.186	
7,400.00	7,333.73	5,092.54	5,012.00	21.61	18.03	6.49	683.40	-320.38	2,675.57	2,643.50	32.07	83.433	
7,500.00	7,433.73	5,092.54	5,012.00	21.75	18.03	6.49	683.40	-320.38	2,762.79	2,730.54	32.25	85.681	
7,600.00	7,533.73	5,092.54	5,012.00	21.89	18.03	6.49	683.40	-320.38	2,850.85	2,818.43	32.42	87.928	
7,700.00	7,633.73	5,092.54	5,012.00	22.04	18.03	6.49	683.40	-320.38	2,939.68	2,907.07	32.60	90.170	
7,800.00	7,733.73	5,092.54	5,012.00	22.18	18.03	6.49	683.40	-320.38	3,029.20	2,996.42	32.78	92.407	
7,900.00	7,833.73	5,092.54	5,012.00	22.33	18.03	6.49	683.40	-320.38	3,119.36	3,086.39	32.96	94.636	
8,000.00	7,933.73	5,092.54	5,012.00	22.48	18.03	6.49	683.40	-320.38	3,210.10	3,176.95	33.14	96.855	
8,100.00	8,033.73	5,092.54	5,012.00	22.63	18.03	6.49	683.40	-320.38	3,301.37	3,268.05	33.33	99.063	
8,200.00	8,133.73	5,092.54	5,012.00	22.78	18.03	6.49	683.40	-320.38	3,393.14	3,359.63	33.51	101.260	
8,213.27	8,147.00	5,092.54	5,012.00	22.80	18.03	6.49	683.40	-320.38	3,405.36	3,371.82	33.53	101.550	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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		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	89.30	0.37	30.22	30.22				
100.00	100.00	100.00	100.00	0.10	0.10	89.30	0.37	30.22	30.22	30.03	0.19	158.188	
200.00	200.00	200.00	200.00	0.32	0.32	89.30	0.37	30.22	30.22	29.58	0.64	47.179	
300.00	300.00	300.00	300.00	0.55	0.55	89.30	0.37	30.22	30.22	29.13	1.09	27.724	
400.00	400.00	400.00	400.00	0.77	0.77	89.30	0.37	30.22	30.22	28.68	1.54	19.629	
500.00	500.00	500.00	500.00	0.99	0.99	89.30	0.37	30.22	30.22	28.23	1.99	15.193	
600.00	600.00	600.00	600.00	1.22	1.22	89.30	0.37	30.22	30.22	27.78	2.44	12.393	
700.00	700.00	700.00	700.00	1.44	1.44	89.30	0.37	30.22	30.22	27.33	2.89	10.464	
800.00	800.00	800.00	800.00	1.67	1.67	89.30	0.37	30.22	30.22	26.88	3.34	9.055	
900.00	900.00	900.00	900.00	1.89	1.89	89.30	0.37	30.22	30.22	26.43	3.79	7.980	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.30	0.37	30.22	30.22	25.99	4.24	7.133	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.30	0.37	30.22	30.22	25.54	4.69	6.449	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.30	0.37	30.22	30.22	25.09	5.14	5.884 CC, ES	
1,300.00	1,299.98	1,299.68	1,299.66	2.77	2.76	-126.59	-1.29	30.72	31.76	26.23	5.53	5.744 SF	
1,400.00	1,399.84	1,399.22	1,399.06	2.95	2.94	-125.27	-6.26	32.22	36.37	30.50	5.88	6.189	
1,500.00	1,499.45	1,498.48	1,497.94	3.14	3.13	-123.66	-14.51	34.70	44.08	37.84	6.25	7.056	
1,600.00	1,598.70	1,597.30	1,596.03	3.36	3.33	-122.14	-25.97	38.15	54.88	48.23	6.65	8.249	
1,695.73	1,693.26	1,691.38	1,688.97	3.59	3.56	-120.90	-39.88	42.34	68.10	61.01	7.09	9.606	
1,700.00	1,697.47	1,695.56	1,693.09	3.60	3.57	-120.85	-40.57	42.55	68.75	61.64	7.11	9.670	
1,800.00	1,795.97	1,793.24	1,789.00	3.88	3.84	-118.97	-58.24	47.87	84.74	77.10	7.64	11.097	
1,900.00	1,894.48	1,890.23	1,883.57	4.17	4.16	-115.98	-78.87	54.08	102.24	94.02	8.22	12.440	
2,000.00	1,992.99	1,988.27	1,978.75	4.49	4.52	-113.09	-101.39	60.86	120.80	111.95	8.85	13.649	
2,100.00	2,091.49	2,086.38	2,073.99	4.81	4.91	-110.96	-123.92	67.65	139.59	130.08	9.51	14.678	
2,200.00	2,190.00	2,184.48	2,169.23	5.15	5.31	-109.34	-146.46	74.43	158.52	148.33	10.19	15.555	
2,300.00	2,288.51	2,282.59	2,264.47	5.49	5.73	-108.07	-169.00	81.22	177.54	166.65	10.89	16.305	
2,400.00	2,387.01	2,380.69	2,359.71	5.85	6.17	-107.04	-191.54	88.00	196.64	185.03	11.60	16.949	
2,500.00	2,485.52	2,478.80	2,454.95	6.21	6.61	-106.19	-214.07	94.79	215.78	203.45	12.33	17.507	
2,600.00	2,584.02	2,576.90	2,550.19	6.57	7.07	-105.48	-236.61	101.58	234.96	221.90	13.06	17.992	
2,700.00	2,682.53	2,675.01	2,645.43	6.94	7.53	-104.88	-259.15	108.36	254.17	240.37	13.80	18.418	
2,800.00	2,781.04	2,773.12	2,740.67	7.31	7.99	-104.37	-281.68	115.15	273.40	258.86	14.55	18.793	
2,900.00	2,879.54	2,871.22	2,835.91	7.68	8.46	-103.92	-304.22	121.93	292.66	277.35	15.30	19.125	
3,000.00	2,978.05	2,969.33	2,931.15	8.06	8.93	-103.52	-326.76	128.72	311.92	295.86	16.06	19.422	
3,100.00	3,076.56	3,067.43	3,026.39	8.44	9.41	-103.18	-349.30	135.51	331.20	314.38	16.82	19.688	
3,200.00	3,175.06	3,165.54	3,121.63	8.82	9.89	-102.87	-371.83	142.29	350.49	332.91	17.59	19.927	
3,300.00	3,273.57	3,263.64	3,216.87	9.21	10.37	-102.59	-394.37	149.08	369.79	351.44	18.36	20.144	
3,400.00	3,372.08	3,361.75	3,312.11	9.59	10.86	-102.34	-416.91	155.87	389.10	369.97	19.13	20.341	
3,500.00	3,470.58	3,459.85	3,407.35	9.98	11.34	-102.11	-439.45	162.65	408.41	388.51	19.90	20.521	
3,600.00	3,569.09	3,557.96	3,502.59	10.37	11.83	-101.91	-461.98	169.44	427.73	407.05	20.68	20.685	
3,700.00	3,667.60	3,656.06	3,597.83	10.75	12.32	-101.72	-484.52	176.22	447.06	425.60	21.45	20.837	
3,800.00	3,766.10	3,754.17	3,693.07	11.14	12.81	-101.55	-507.06	183.01	466.38	444.15	22.23	20.977	
3,900.00	3,864.61	3,852.27	3,788.31	11.53	13.30	-101.39	-529.59	189.80	485.72	462.70	23.01	21.106	
4,000.00	3,963.12	3,950.38	3,883.55	11.92	13.79	-101.24	-552.13	196.58	505.05	481.26	23.79	21.226	
4,100.00	4,061.62	4,048.48	3,978.79	12.32	14.28	-101.11	-574.67	203.37	524.39	499.81	24.57	21.338	
4,200.00	4,160.13	4,146.59	4,074.03	12.71	14.78	-100.98	-597.21	210.16	543.73	518.37	25.36	21.443	
4,300.00	4,258.64	4,244.69	4,169.27	13.10	15.27	-100.86	-619.74	216.94	563.07	536.93	26.14	21.541	
4,400.00	4,357.14	4,342.80	4,264.51	13.50	15.77	-100.75	-642.28	223.73	582.42	555.49	26.92	21.632	
4,500.00	4,455.65	4,440.90	4,359.75	13.89	16.26	-100.65	-664.82	230.51	601.76	574.06	27.71	21.718	
4,600.00	4,554.16	4,539.01	4,454.99	14.28	16.76	-100.56	-687.35	237.30	621.11	592.62	28.49	21.800	
4,700.00	4,652.66	4,637.11	4,550.23	14.68	17.26	-100.47	-709.89	244.09	640.46	611.19	29.28	21.876	
4,800.00	4,751.17	4,735.22	4,645.47	15.08	17.75	-100.38	-732.43	250.87	659.81	629.75	30.06	21.949	
4,900.00	4,849.68	4,833.32	4,740.71	15.47	18.25	-100.30	-754.97	257.66	679.17	648.32	30.85	22.018	
5,000.00	4,948.18	4,931.43	4,835.95	15.87	18.75	-100.22	-777.50	264.44	698.52	666.89	31.63	22.083	

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 7-2
<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 7-2	<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 7-2	<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	5,046.69	5,029.53	4,931.19	16.26	19.25	-100.15	-800.04	271.23	717.88	685.46	32.42	22.145	
5,200.00	5,145.19	5,127.64	5,026.43	16.66	19.75	-100.09	-822.58	278.02	737.23	704.03	33.20	22.204	
5,300.00	5,243.70	5,225.74	5,121.67	17.06	20.25	-100.02	-845.11	284.80	756.59	722.60	33.99	22.261	
5,400.00	5,342.21	5,323.85	5,216.91	17.45	20.74	-99.96	-867.65	291.59	775.95	741.17	34.77	22.315	
5,500.00	5,440.71	5,421.95	5,312.15	17.85	21.24	-99.90	-890.19	298.38	795.31	759.75	35.56	22.367	
5,600.00	5,539.22	5,520.06	5,407.39	18.25	21.74	-99.85	-912.73	305.16	814.67	778.32	36.34	22.416	
5,700.00	5,637.73	5,618.16	5,502.63	18.65	22.24	-99.79	-935.26	311.95	834.03	796.89	37.13	22.461	
5,802.54	5,738.74	5,731.90	5,613.22	19.05	22.74	-99.77	-960.70	319.61	853.48	815.53	37.95	22.491	
5,900.00	5,835.01	5,852.57	5,731.51	19.37	23.13	-100.15	-983.48	326.46	869.23	830.57	38.66	22.483	
6,000.00	5,934.26	5,977.52	5,854.95	19.61	23.48	-100.44	-1,002.01	332.05	881.93	842.67	39.26	22.464	
6,100.00	6,033.88	6,103.37	5,979.99	19.82	23.77	-100.65	-1,015.46	336.09	891.06	851.29	39.77	22.405	
6,200.00	6,133.75	6,229.81	6,106.14	19.99	23.99	-100.76	-1,023.65	338.56	896.60	856.41	40.19	22.312	
6,298.27	6,232.00	6,354.38	6,230.66	20.13	24.16	115.63	-1,026.51	339.42	898.50	857.97	40.53	22.171	
6,300.00	6,233.73	6,356.57	6,232.85	20.13	24.16	115.63	-1,026.51	339.42	898.50	857.97	40.53	22.168	
6,400.00	6,333.73	6,457.45	6,333.73	20.26	24.27	115.63	-1,026.52	339.42	898.50	857.72	40.78	22.031	
6,500.00	6,433.73	6,557.45	6,433.73	20.39	24.37	115.63	-1,026.52	339.42	898.50	857.47	41.03	21.898	
6,600.00	6,533.73	6,657.45	6,533.73	20.52	24.48	115.63	-1,026.52	339.42	898.50	857.22	41.28	21.765	
6,700.00	6,633.73	6,757.45	6,633.73	20.65	24.59	115.63	-1,026.52	339.42	898.50	856.97	41.54	21.631	
6,800.00	6,733.73	6,857.45	6,733.73	20.78	24.70	115.63	-1,026.52	339.42	898.50	856.71	41.80	21.498	
6,900.00	6,833.73	6,957.45	6,833.73	20.91	24.81	115.63	-1,026.52	339.42	898.50	856.45	42.06	21.364	
7,000.00	6,933.73	7,057.45	6,933.73	21.05	24.92	115.63	-1,026.52	339.42	898.50	856.18	42.32	21.231	
7,100.00	7,033.73	7,157.45	7,033.73	21.19	25.03	115.63	-1,026.52	339.42	898.50	855.92	42.59	21.097	
7,200.00	7,133.73	7,257.45	7,133.73	21.32	25.14	115.63	-1,026.52	339.42	898.50	855.64	42.86	20.964	
7,300.00	7,233.73	7,357.45	7,233.73	21.46	25.26	115.63	-1,026.52	339.42	898.50	855.37	43.13	20.831	
7,400.00	7,333.73	7,457.45	7,333.73	21.61	25.38	115.63	-1,026.52	339.42	898.50	855.09	43.41	20.699	
7,500.00	7,433.73	7,557.45	7,433.73	21.75	25.50	115.63	-1,026.52	339.42	898.50	854.82	43.69	20.566	
7,600.00	7,533.73	7,657.45	7,533.73	21.89	25.62	115.63	-1,026.52	339.42	898.50	854.53	43.97	20.434	
7,700.00	7,633.73	7,757.45	7,633.73	22.04	25.74	115.63	-1,026.52	339.42	898.50	854.25	44.26	20.303	
7,800.00	7,733.73	7,857.45	7,733.73	22.18	25.86	115.63	-1,026.52	339.42	898.50	853.96	44.54	20.172	
7,900.00	7,833.73	7,957.45	7,833.73	22.33	25.99	115.63	-1,026.52	339.42	898.50	853.67	44.83	20.041	
8,000.00	7,933.73	8,057.45	7,933.73	22.48	26.11	115.63	-1,026.52	339.42	898.50	853.38	45.13	19.911	
8,100.00	8,033.73	8,157.45	8,033.73	22.63	26.24	115.63	-1,026.52	339.42	898.50	853.08	45.42	19.781	
8,200.00	8,133.73	8,257.45	8,133.73	22.78	26.37	115.63	-1,026.52	339.42	898.50	852.78	45.72	19.653	
8,213.27	8,147.00	8,270.72	8,147.00	22.80	26.38	115.63	-1,026.52	339.42	898.50	852.74	45.76	19.635	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 26-2 - P_HIGHWAY 160 26-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.70	0.37	70.23	70.23				
100.00	100.00	100.00	100.00	0.10	0.10	89.70	0.37	70.23	70.23	70.04	0.19	367.617	
200.00	200.00	200.00	200.00	0.32	0.32	89.70	0.37	70.23	70.23	69.59	0.64	109.640	
300.00	300.00	300.00	300.00	0.55	0.55	89.70	0.37	70.23	70.23	69.14	1.09	64.428 CC, ES	
400.00	400.00	398.20	398.19	0.77	0.76	88.78	1.53	71.45	71.49	69.96	1.53	46.674	
500.00	500.00	496.18	496.03	0.99	0.98	86.20	4.99	75.11	75.38	73.40	1.97	38.208	
600.00	600.00	593.70	593.18	1.22	1.22	82.48	10.71	81.15	82.14	79.72	2.42	33.979	
700.00	700.00	690.53	689.33	1.44	1.49	78.23	18.65	89.53	92.07	89.20	2.87	32.123	
800.00	800.00	786.48	784.15	1.67	1.79	74.01	28.71	100.15	105.38	102.06	3.32	31.728 SF	
900.00	900.00	881.34	877.36	1.89	2.13	70.14	40.79	112.91	122.17	118.38	3.79	32.261	
1,000.00	1,000.00	974.93	968.70	2.12	2.51	66.78	54.79	127.69	142.43	138.16	4.27	33.382	
1,100.00	1,100.00	1,067.07	1,057.94	2.34	2.94	63.95	70.57	144.34	166.09	161.32	4.76	34.861	
1,200.00	1,200.00	1,157.61	1,144.86	2.57	3.40	61.60	87.99	162.73	193.04	187.75	5.29	36.517	
1,300.00	1,299.98	1,245.89	1,228.80	2.77	3.91	-156.65	106.79	182.57	224.69	219.07	5.62	40.006	
1,400.00	1,399.84	1,331.02	1,308.91	2.95	4.45	-158.32	126.59	203.48	262.40	256.39	6.01	43.694	
1,500.00	1,499.45	1,412.63	1,384.87	3.14	5.00	-159.75	147.10	225.13	305.95	299.57	6.38	47.938	
1,600.00	1,598.70	1,490.39	1,456.43	3.36	5.57	-160.94	168.02	247.21	355.09	348.34	6.75	52.626	
1,695.73	1,693.26	1,566.48	1,525.77	3.59	6.16	-161.96	189.56	269.96	406.77	399.67	7.10	57.301	
1,700.00	1,697.47	1,570.01	1,528.98	3.60	6.19	-162.03	190.57	271.02	409.14	402.03	7.12	57.489	
1,800.00	1,795.97	1,652.67	1,604.24	3.88	6.85	-163.29	214.09	295.85	464.84	457.29	7.55	61.580	
1,900.00	1,894.48	1,735.33	1,679.49	4.17	7.51	-164.29	237.61	320.68	520.67	512.67	7.99	65.161	
2,000.00	1,992.99	1,818.00	1,754.74	4.49	8.17	-165.09	261.14	345.52	576.58	568.14	8.44	68.306	
2,100.00	2,091.49	1,900.66	1,829.99	4.81	8.84	-165.75	284.66	370.35	632.55	623.65	8.90	71.080	
2,200.00	2,190.00	1,983.32	1,905.25	5.15	9.51	-166.31	308.19	395.19	688.58	679.21	9.36	73.532	
2,300.00	2,288.51	2,065.98	1,980.50	5.49	10.18	-166.78	331.71	420.02	744.64	734.80	9.83	75.717	
2,400.00	2,387.01	2,148.65	2,055.75	5.85	10.86	-167.18	355.24	444.85	800.73	790.42	10.31	77.674	
2,500.00	2,485.52	2,231.31	2,131.01	6.21	11.53	-167.54	378.76	469.69	856.85	846.06	10.79	79.432	
2,600.00	2,584.02	2,313.97	2,206.26	6.57	12.21	-167.85	402.28	494.52	912.98	901.72	11.27	81.019	
2,700.00	2,682.53	2,396.63	2,281.51	6.94	12.89	-168.12	425.81	519.35	969.14	957.38	11.75	82.456	
2,800.00	2,781.04	2,479.30	2,356.76	7.31	13.56	-168.36	449.33	544.19	1,025.30	1,013.06	12.24	83.762	
2,900.00	2,879.54	2,561.96	2,432.02	7.68	14.24	-168.58	472.86	569.02	1,081.48	1,068.75	12.73	84.953	
3,000.00	2,978.05	2,644.62	2,507.27	8.06	14.92	-168.78	496.38	593.86	1,137.67	1,124.44	13.22	86.045	
3,100.00	3,076.56	2,727.28	2,582.52	8.44	15.60	-168.96	519.91	618.69	1,193.86	1,180.15	13.72	87.048	
3,200.00	3,175.06	2,809.95	2,657.77	8.82	16.29	-169.12	543.43	643.52	1,250.06	1,235.85	14.21	87.971	
3,300.00	3,273.57	2,892.61	2,733.03	9.21	16.97	-169.27	566.96	668.36	1,306.27	1,291.56	14.71	88.824	
3,400.00	3,372.08	2,975.27	2,808.28	9.59	17.65	-169.41	590.48	693.19	1,362.49	1,347.28	15.20	89.614	
3,500.00	3,470.58	3,057.93	2,883.53	9.98	18.33	-169.53	614.00	718.02	1,418.70	1,403.00	15.70	90.347	
3,600.00	3,569.09	3,140.60	2,958.79	10.37	19.01	-169.65	637.53	742.86	1,474.93	1,458.72	16.20	91.030	
3,700.00	3,667.60	3,223.26	3,034.04	10.75	19.70	-169.75	661.05	767.69	1,531.15	1,514.45	16.70	91.667	
3,800.00	3,766.10	3,305.92	3,109.29	11.14	20.38	-169.85	684.58	792.53	1,587.39	1,570.18	17.21	92.262	
3,900.00	3,864.61	3,388.58	3,184.54	11.53	21.06	-169.95	708.10	817.36	1,643.62	1,625.91	17.71	92.820	
4,000.00	3,963.12	3,471.25	3,259.80	11.92	21.75	-170.03	731.63	842.19	1,699.85	1,681.64	18.21	93.343	
4,100.00	4,061.62	3,553.91	3,335.05	12.32	22.43	-170.11	755.15	867.03	1,756.09	1,737.38	18.71	93.834	
4,200.00	4,160.13	3,636.57	3,410.30	12.71	23.11	-170.19	778.67	891.86	1,812.33	1,793.12	19.22	94.297	
4,300.00	4,258.64	3,719.23	3,485.55	13.10	23.80	-170.26	802.20	916.70	1,868.58	1,848.85	19.72	94.734	
4,400.00	4,357.14	3,801.90	3,560.81	13.50	24.48	-170.33	825.72	941.53	1,924.82	1,904.59	20.23	95.146	
4,500.00	4,455.65	3,884.56	3,636.06	13.89	25.16	-170.39	849.25	966.36	1,981.07	1,960.33	20.74	95.536	
4,600.00	4,554.16	3,967.22	3,711.31	14.28	25.85	-170.45	872.77	991.20	2,037.32	2,016.08	21.24	95.906	
4,700.00	4,652.66	4,049.88	3,786.57	14.68	26.53	-170.51	896.30	1,016.03	2,093.57	2,071.82	21.75	96.256	
4,800.00	4,751.17	4,132.55	3,861.82	15.08	27.22	-170.56	919.82	1,040.86	2,149.82	2,127.56	22.26	96.589	
4,900.00	4,849.68	4,215.21	3,937.07	15.47	27.90	-170.62	943.35	1,065.70	2,206.07	2,183.31	22.77	96.906	
5,000.00	4,948.18	4,297.87	4,012.32	15.87	28.59	-170.66	966.87	1,090.53	2,262.32	2,239.05	23.27	97.207	

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 7-2
<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 7-2	<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 7-2	<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-MWID												<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	5,046.69	4,380.53	4,087.58	16.26	29.27	-170.71	990.39	1,115.37	2,318.58	2,294.80	23.78	97.494	
5,200.00	5,145.19	4,463.20	4,162.83	16.66	29.96	-170.75	1,013.92	1,140.20	2,374.83	2,350.54	24.29	97.768	
5,300.00	5,243.70	4,545.86	4,238.08	17.06	30.64	-170.80	1,037.44	1,165.03	2,431.09	2,406.29	24.80	98.030	
5,400.00	5,342.21	4,628.52	4,313.33	17.45	31.33	-170.84	1,060.97	1,189.87	2,487.35	2,462.04	25.31	98.280	
5,500.00	5,440.71	4,711.18	4,388.59	17.85	32.01	-170.88	1,084.49	1,214.70	2,543.61	2,517.79	25.82	98.519	
5,600.00	5,539.22	4,793.85	4,463.84	18.25	32.69	-170.91	1,108.02	1,239.53	2,599.87	2,573.54	26.33	98.749	
5,700.00	5,637.73	4,876.51	4,539.09	18.65	33.38	-170.95	1,131.54	1,264.37	2,656.13	2,629.29	26.84	98.968	
5,802.54	5,738.74	4,961.27	4,616.26	19.05	34.08	-170.98	1,155.66	1,289.83	2,713.82	2,686.45	27.36	99.184	
5,900.00	5,835.01	5,042.74	4,690.43	19.37	34.76	-171.20	1,178.85	1,314.31	2,767.28	2,739.16	28.12	98.414	
6,000.00	5,934.26	5,128.16	4,768.19	19.61	35.47	-171.40	1,203.16	1,339.97	2,819.26	2,790.41	28.85	97.707	
6,100.00	6,033.88	5,215.33	4,847.54	19.82	36.19	-171.57	1,227.96	1,366.16	2,868.27	2,838.70	29.57	97.015	
6,200.00	6,133.75	5,304.13	4,928.38	19.99	36.92	-171.71	1,253.23	1,392.84	2,914.24	2,883.99	30.25	96.342	
6,298.27	6,232.00	6,653.56	6,232.00	20.13	42.26	44.78	1,458.63	1,609.67	2,953.46	2,919.76	33.70	87.648	
6,300.00	6,233.73	6,655.29	6,233.73	20.13	42.26	44.78	1,458.63	1,609.67	2,953.46	2,919.75	33.70	87.633	
6,400.00	6,333.73	6,755.29	6,333.73	20.26	42.32	44.78	1,458.63	1,609.67	2,953.46	2,919.44	34.02	86.827	
6,500.00	6,433.73	6,855.29	6,433.73	20.39	42.39	44.78	1,458.63	1,609.67	2,953.46	2,919.12	34.34	86.019	
6,600.00	6,533.73	6,955.29	6,533.73	20.52	42.46	44.78	1,458.63	1,609.67	2,953.46	2,918.80	34.66	85.218	
6,700.00	6,633.73	7,055.29	6,633.73	20.65	42.54	44.78	1,458.63	1,609.67	2,953.46	2,918.47	34.98	84.426	
6,800.00	6,733.73	7,155.29	6,733.73	20.78	42.61	44.78	1,458.63	1,609.67	2,953.46	2,918.15	35.31	83.642	
6,900.00	6,833.73	7,255.29	6,833.73	20.91	42.68	44.78	1,458.63	1,609.67	2,953.46	2,917.82	35.64	82.866	
7,000.00	6,933.73	7,355.29	6,933.73	21.05	42.76	44.78	1,458.63	1,609.67	2,953.46	2,917.48	35.97	82.099	
7,100.00	7,033.73	7,455.29	7,033.73	21.19	42.83	44.78	1,458.63	1,609.67	2,953.46	2,917.15	36.31	81.340	
7,200.00	7,133.73	7,555.29	7,133.73	21.32	42.91	44.78	1,458.63	1,609.67	2,953.46	2,916.81	36.65	80.590	
7,300.00	7,233.73	7,655.29	7,233.73	21.46	42.99	44.78	1,458.63	1,609.67	2,953.46	2,916.47	36.99	79.849	
7,400.00	7,333.73	7,755.29	7,333.73	21.61	43.06	44.78	1,458.63	1,609.67	2,953.46	2,916.13	37.33	79.117	
7,500.00	7,433.73	7,855.29	7,433.73	21.75	43.14	44.78	1,458.63	1,609.67	2,953.46	2,915.78	37.68	78.393	
7,600.00	7,533.73	7,955.29	7,533.73	21.89	43.22	44.78	1,458.63	1,609.67	2,953.46	2,915.44	38.02	77.678	
7,700.00	7,633.73	8,055.29	7,633.73	22.04	43.31	44.78	1,458.63	1,609.67	2,953.46	2,915.09	38.37	76.972	
7,800.00	7,733.73	8,155.29	7,733.73	22.18	43.39	44.78	1,458.63	1,609.67	2,953.46	2,914.74	38.72	76.274	
7,900.00	7,833.73	8,255.29	7,833.73	22.33	43.47	44.78	1,458.63	1,609.67	2,953.46	2,914.38	39.07	75.585	
8,000.00	7,933.73	8,355.29	7,933.73	22.48	43.56	44.78	1,458.63	1,609.67	2,953.46	2,914.03	39.43	74.905	
8,100.00	8,033.73	8,455.29	8,033.73	22.63	43.64	44.78	1,458.63	1,609.67	2,953.46	2,913.67	39.79	74.234	
8,161.81	8,095.53	8,517.09	8,095.53	22.73	43.70	44.78	1,458.63	1,609.67	2,953.46	2,913.45	40.01	73.823	
8,200.00	8,133.73	8,542.56	8,121.00	22.78	43.72	44.78	1,458.63	1,609.67	2,953.48	2,913.36	40.12	73.611	
8,213.27	8,147.00	8,542.56	8,121.00	22.80	43.72	44.78	1,458.63	1,609.67	2,953.57	2,913.42	40.15	73.566	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.53	0.73	90.10	90.10				
100.00	100.00	100.00	100.00	0.10	0.10	89.53	0.73	90.10	90.10	89.91	0.19	471.614	
200.00	200.00	200.00	200.00	0.32	0.32	89.53	0.73	90.10	90.10	89.46	0.64	140.657	
300.00	300.00	300.00	300.00	0.55	0.55	89.53	0.73	90.10	90.10	89.01	1.09	82.654	
400.00	400.00	400.00	400.00	0.77	0.77	89.53	0.73	90.10	90.10	88.56	1.54	58.522	
500.00	500.00	500.00	500.00	0.99	0.99	89.53	0.73	90.10	90.10	88.11	1.99	45.296	
600.00	600.00	600.00	600.00	1.22	1.22	89.53	0.73	90.10	90.10	87.66	2.44	36.947	
700.00	700.00	700.00	700.00	1.44	1.44	89.53	0.73	90.10	90.10	87.21	2.89	31.196	
800.00	800.00	800.00	800.00	1.67	1.67	89.53	0.73	90.10	90.10	86.76	3.34	26.995	
900.00	900.00	900.00	900.00	1.89	1.89	89.53	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	89.53	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	89.53	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	89.53	0.73	90.10	90.10	84.97	5.14	17.544 CC, ES	
1,300.00	1,299.98	1,296.88	1,296.86	2.77	2.78	-127.82	0.97	91.72	92.84	87.30	5.54	16.762 SF	
1,400.00	1,399.84	1,393.18	1,393.04	2.95	2.98	-130.28	1.66	96.54	101.18	95.27	5.91	17.127	
1,500.00	1,499.45	1,488.34	1,487.86	3.14	3.18	-133.55	2.79	104.45	115.39	109.11	6.28	18.373	
1,600.00	1,598.70	1,581.83	1,580.70	3.36	3.41	-136.89	4.34	115.25	135.70	129.04	6.66	20.380	
1,695.73	1,693.26	1,669.29	1,667.20	3.59	3.63	-139.77	6.18	128.06	160.87	153.85	7.02	22.904	
1,700.00	1,697.47	1,673.14	1,670.99	3.60	3.64	-139.90	6.27	128.69	162.12	155.08	7.04	23.025	
1,800.00	1,795.97	1,762.40	1,758.79	3.88	3.90	-142.46	8.54	144.57	193.15	185.69	7.45	25.909	
1,900.00	1,894.48	1,849.86	1,844.30	4.17	4.19	-144.17	11.15	162.75	227.31	219.43	7.88	28.847	
2,000.00	1,992.99	1,935.42	1,927.37	4.49	4.51	-145.30	14.06	183.03	264.38	256.07	8.32	31.794	
2,100.00	2,091.49	2,018.99	2,007.88	4.81	4.85	-146.04	17.24	205.19	304.19	295.43	8.76	34.726	
2,200.00	2,190.00	2,100.00	2,085.27	5.15	5.23	-146.51	20.64	228.89	346.58	337.37	9.21	37.630	
2,300.00	2,288.51	2,179.92	2,160.92	5.49	5.65	-146.80	24.29	254.38	391.45	381.78	9.67	40.471	
2,400.00	2,387.01	2,257.19	2,233.35	5.85	6.09	-146.94	28.11	281.01	438.68	428.54	10.14	43.274	
2,500.00	2,485.52	2,343.51	2,313.79	6.21	6.63	-147.03	32.56	312.02	487.26	476.63	10.64	45.802	
2,600.00	2,584.02	2,430.90	2,395.22	6.57	7.19	-147.11	37.06	343.43	535.86	524.71	11.15	48.055	
2,700.00	2,682.53	2,518.30	2,476.65	6.94	7.77	-147.17	41.57	374.84	584.46	572.78	11.67	50.074	
2,800.00	2,781.04	2,605.70	2,558.09	7.31	8.36	-147.22	46.07	406.25	633.05	620.85	12.20	51.888	
2,900.00	2,879.54	2,693.09	2,639.52	7.68	8.97	-147.27	50.58	437.66	681.65	668.91	12.74	53.523	
3,000.00	2,978.05	2,780.49	2,720.95	8.06	9.58	-147.31	55.08	469.07	730.25	716.97	13.28	55.000	
3,100.00	3,076.56	2,867.89	2,802.38	8.44	10.19	-147.34	59.59	500.48	778.84	765.02	13.82	56.342	
3,200.00	3,175.06	2,955.28	2,883.82	8.82	10.81	-147.37	64.09	531.89	827.44	813.07	14.37	57.563	
3,300.00	3,273.57	3,042.68	2,965.25	9.21	11.44	-147.40	68.60	563.30	876.04	861.11	14.93	58.679	
3,400.00	3,372.08	3,130.08	3,046.68	9.59	12.07	-147.42	73.10	594.71	924.64	909.15	15.49	59.702	
3,500.00	3,470.58	3,217.47	3,128.12	9.98	12.70	-147.44	77.60	626.12	973.23	957.18	16.05	60.641	
3,600.00	3,569.09	3,304.87	3,209.55	10.37	13.34	-147.46	82.11	657.53	1,021.83	1,005.22	16.61	61.505	
3,700.00	3,667.60	3,392.26	3,290.98	10.75	13.98	-147.48	86.61	688.94	1,070.43	1,053.25	17.18	62.303	
3,800.00	3,766.10	3,479.66	3,372.41	11.14	14.62	-147.50	91.12	720.34	1,119.03	1,101.28	17.75	63.042	
3,900.00	3,864.61	3,567.06	3,453.85	11.53	15.26	-147.51	95.62	751.75	1,167.63	1,149.30	18.32	63.727	
4,000.00	3,963.12	3,654.45	3,535.28	11.92	15.90	-147.53	100.13	783.16	1,216.22	1,197.33	18.90	64.364	
4,100.00	4,061.62	3,741.85	3,616.71	12.32	16.55	-147.54	104.63	814.57	1,264.82	1,245.35	19.47	64.958	
4,200.00	4,160.13	3,829.25	3,698.15	12.71	17.20	-147.55	109.14	845.98	1,313.42	1,293.37	20.05	65.512	
4,300.00	4,258.64	3,916.64	3,779.58	13.10	17.84	-147.56	113.64	877.39	1,362.02	1,341.39	20.63	66.031	
4,400.00	4,357.14	4,004.04	3,861.01	13.50	18.49	-147.57	118.15	908.80	1,410.62	1,389.41	21.21	66.517	
4,500.00	4,455.65	4,091.44	3,942.45	13.89	19.14	-147.58	122.65	940.21	1,459.21	1,437.43	21.79	66.974	
4,600.00	4,554.16	4,178.83	4,023.88	14.28	19.79	-147.59	127.15	971.62	1,507.81	1,485.44	22.37	67.403	
4,700.00	4,652.66	4,266.23	4,105.31	14.68	20.45	-147.60	131.66	1,003.03	1,556.41	1,533.46	22.95	67.807	
4,800.00	4,751.17	4,353.63	4,186.74	15.08	21.10	-147.61	136.16	1,034.44	1,605.01	1,581.47	23.54	68.188	
4,900.00	4,849.68	4,441.02	4,268.18	15.47	21.75	-147.61	140.67	1,065.85	1,653.61	1,629.49	24.12	68.548	
5,000.00	4,948.18	4,528.42	4,349.61	15.87	22.40	-147.62	145.17	1,097.26	1,702.21	1,677.50	24.71	68.889	

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 7-2
<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 7-2	<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 7-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 41-2 - P_HIGHWAY 160 41-2 - PLAN #1 3-17-10 F												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,046.69	4,615.82	4,431.04	16.26	23.06	-147.63	149.68	1,128.67	1,750.81	1,725.51	25.30	69.212	
5,200.00	5,145.19	4,703.21	4,512.48	16.66	23.71	-147.63	154.18	1,160.08	1,799.40	1,773.52	25.88	69.519	
5,300.00	5,243.70	4,790.61	4,593.91	17.06	24.37	-147.64	158.69	1,191.49	1,848.00	1,821.53	26.47	69.809	
5,400.00	5,342.21	4,878.01	4,675.34	17.45	25.02	-147.64	163.19	1,222.90	1,896.60	1,869.54	27.06	70.086	
5,500.00	5,440.71	4,965.40	4,756.77	17.85	25.68	-147.65	167.70	1,254.30	1,945.20	1,917.55	27.65	70.349	
5,600.00	5,539.22	5,052.80	4,838.21	18.25	26.33	-147.65	172.20	1,285.71	1,993.80	1,965.56	28.24	70.600	
5,700.00	5,637.73	5,140.20	4,919.64	18.65	26.99	-147.66	176.70	1,317.12	2,042.40	2,013.56	28.83	70.839	
5,802.54	5,738.74	5,229.82	5,003.14	19.05	27.66	-147.66	181.32	1,349.33	2,092.23	2,062.79	29.44	71.073	
5,900.00	5,835.01	5,315.65	5,083.13	19.37	28.31	-148.20	185.75	1,380.18	2,138.36	2,108.16	30.20	70.808	
6,000.00	5,934.26	5,405.05	5,166.42	19.61	28.98	-148.64	190.36	1,412.31	2,183.10	2,152.18	30.92	70.605	
6,100.00	6,033.88	5,739.32	5,483.89	19.82	30.78	-148.74	205.13	1,515.30	2,220.74	2,188.52	32.21	68.936	
6,200.00	6,133.75	6,137.45	5,874.61	19.99	32.11	-148.78	215.73	1,589.26	2,243.33	2,209.92	33.41	67.148	
6,298.27	6,232.00	6,495.65	6,232.00	20.13	32.66	67.62	218.63	1,609.47	2,249.54	2,215.28	34.26	65.667	
6,300.00	6,233.73	6,497.37	6,233.73	20.13	32.66	67.62	218.63	1,609.47	2,249.54	2,215.28	34.26	65.657	
6,400.00	6,333.73	6,597.37	6,333.73	20.26	32.75	67.62	218.63	1,609.47	2,249.54	2,214.97	34.57	65.075	
6,500.00	6,433.73	6,697.37	6,433.73	20.39	32.84	67.62	218.63	1,609.47	2,249.54	2,214.66	34.88	64.498	
6,600.00	6,533.73	6,797.37	6,533.73	20.52	32.94	67.62	218.63	1,609.47	2,249.54	2,214.35	35.19	63.925	
6,700.00	6,633.73	6,897.37	6,633.73	20.65	33.03	67.62	218.63	1,609.47	2,249.54	2,214.03	35.51	63.356	
6,800.00	6,733.73	6,997.37	6,733.73	20.78	33.13	67.62	218.63	1,609.47	2,249.54	2,213.72	35.82	62.793	
6,900.00	6,833.73	7,097.37	6,833.73	20.91	33.23	67.62	218.63	1,609.47	2,249.54	2,213.39	36.15	62.235	
7,000.00	6,933.73	7,197.37	6,933.73	21.05	33.33	67.62	218.63	1,609.47	2,249.54	2,213.07	36.47	61.682	
7,100.00	7,033.73	7,297.37	7,033.73	21.19	33.43	67.62	218.63	1,609.47	2,249.54	2,212.74	36.80	61.135	
7,200.00	7,133.73	7,397.37	7,133.73	21.32	33.53	67.62	218.63	1,609.47	2,249.54	2,212.41	37.13	60.593	
7,300.00	7,233.73	7,497.37	7,233.73	21.46	33.63	67.62	218.63	1,609.47	2,249.54	2,212.08	37.46	60.056	
7,400.00	7,333.73	7,597.37	7,333.73	21.61	33.73	67.62	218.63	1,609.47	2,249.54	2,211.75	37.79	59.525	
7,500.00	7,433.73	7,697.37	7,433.73	21.75	33.84	67.62	218.63	1,609.47	2,249.54	2,211.41	38.13	59.000	
7,600.00	7,533.73	7,797.37	7,533.73	21.89	33.95	67.62	218.63	1,609.47	2,249.54	2,211.07	38.47	58.480	
7,700.00	7,633.73	7,897.37	7,633.73	22.04	34.05	67.62	218.63	1,609.47	2,249.54	2,210.73	38.81	57.966	
7,800.00	7,733.73	7,997.37	7,733.73	22.18	34.16	67.62	218.63	1,609.47	2,249.54	2,210.39	39.15	57.458	
7,900.00	7,833.73	8,097.37	7,833.73	22.33	34.27	67.62	218.63	1,609.47	2,249.54	2,210.04	39.50	56.955	
8,000.00	7,933.73	8,197.37	7,933.73	22.48	34.38	67.62	218.63	1,609.47	2,249.54	2,209.70	39.84	56.459	
8,100.00	8,033.73	8,297.37	8,033.73	22.63	34.49	67.62	218.63	1,609.47	2,249.54	2,209.35	40.19	55.968	
8,165.73	8,099.46	8,363.10	8,099.46	22.73	34.57	67.62	218.63	1,609.47	2,249.54	2,209.12	40.42	55.648	
8,200.00	8,133.73	8,394.65	8,131.00	22.78	34.60	67.62	218.63	1,609.47	2,249.54	2,209.00	40.54	55.489	
8,213.27	8,147.00	8,394.65	8,131.00	22.80	34.60	67.62	218.63	1,609.47	2,249.60	2,209.03	40.56	55.458	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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	89.58	0.37	50.09	50.09					
100.00	100.00	100.00	100.00	0.10	0.10	89.58	0.37	50.09	50.09	49.90	0.19	262.169		
200.00	200.00	200.00	200.00	0.32	0.32	89.58	0.37	50.09	50.09	49.45	0.64	78.191		
300.00	300.00	300.00	300.00	0.55	0.55	89.58	0.37	50.09	50.09	49.00	1.09	45.947		
400.00	400.00	400.00	400.00	0.77	0.77	89.58	0.37	50.09	50.09	48.55	1.54	32.532		
500.00	500.00	500.00	500.00	0.99	0.99	89.58	0.37	50.09	50.09	48.10	1.99	25.180		
600.00	600.00	600.00	600.00	1.22	1.22	89.58	0.37	50.09	50.09	47.65	2.44	20.539		
700.00	700.00	700.00	700.00	1.44	1.44	89.58	0.37	50.09	50.09	47.20	2.89	17.342		
800.00	800.00	800.00	800.00	1.67	1.67	89.58	0.37	50.09	50.09	46.75	3.34	15.006		
900.00	900.00	900.00	900.00	1.89	1.89	89.58	0.37	50.09	50.09	46.30	3.79	13.225		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.58	0.37	50.09	50.09	45.85	4.24	11.822		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.58	0.37	50.09	50.09	45.40	4.69	10.688		
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.58	0.37	50.09	50.09	44.95	5.14	9.752 CC, ES		
1,300.00	1,299.98	1,298.40	1,298.38	2.77	2.77	-127.46	-0.39	51.60	52.67	47.13	5.53	9.518 SF		
1,400.00	1,399.84	1,396.39	1,396.23	2.95	2.96	-128.99	-2.65	56.10	60.42	54.53	5.89	10.256		
1,500.00	1,499.45	1,493.56	1,493.05	3.14	3.16	-130.78	-6.37	63.52	73.38	67.12	6.26	11.721		
1,600.00	1,598.70	1,589.53	1,588.33	3.36	3.38	-132.38	-11.49	73.72	91.52	84.88	6.65	13.772		
1,695.73	1,693.26	1,679.95	1,677.71	3.59	3.61	-133.58	-17.62	85.94	113.67	106.64	7.03	16.161		
1,700.00	1,697.47	1,683.94	1,681.64	3.60	3.62	-133.64	-17.92	86.53	114.76	107.71	7.05	16.274		
1,800.00	1,795.97	1,776.84	1,772.95	3.88	3.89	-134.41	-25.59	101.82	141.71	134.21	7.51	18.877		
1,900.00	1,894.48	1,868.34	1,862.29	4.17	4.19	-134.32	-34.44	119.45	171.19	163.19	7.99	21.417		
2,000.00	1,992.99	1,962.34	1,953.61	4.49	4.54	-133.89	-44.44	139.39	202.38	193.87	8.52	23.766		
2,100.00	2,091.49	2,057.32	2,045.85	4.81	4.92	-133.56	-54.59	159.59	233.65	224.59	9.06	25.783		
2,200.00	2,190.00	2,152.29	2,138.10	5.15	5.31	-133.31	-64.73	179.80	264.92	255.30	9.63	27.522		
2,300.00	2,288.51	2,247.27	2,230.35	5.49	5.73	-133.11	-74.87	200.01	296.20	285.99	10.20	29.027		
2,400.00	2,387.01	2,342.25	2,322.60	5.85	6.15	-132.95	-85.01	220.22	327.47	316.68	10.79	30.338		
2,500.00	2,485.52	2,437.23	2,414.85	6.21	6.58	-132.82	-95.15	240.43	358.75	347.36	11.39	31.485		
2,600.00	2,584.02	2,532.21	2,507.10	6.57	7.02	-132.71	-105.29	260.63	390.04	378.03	12.00	32.495		
2,700.00	2,682.53	2,627.19	2,599.35	6.94	7.47	-132.61	-115.43	280.84	421.32	408.70	12.62	33.389		
2,800.00	2,781.04	2,722.17	2,691.59	7.31	7.92	-132.53	-125.57	301.05	452.60	439.36	13.24	34.184		
2,900.00	2,879.54	2,817.15	2,783.84	7.68	8.37	-132.46	-135.71	321.26	483.89	470.02	13.87	34.895		
3,000.00	2,978.05	2,912.13	2,876.09	8.06	8.83	-132.40	-145.85	341.46	515.17	500.67	14.50	35.533		
3,100.00	3,076.56	3,007.11	2,968.34	8.44	9.30	-132.34	-155.99	361.67	546.46	531.32	15.13	36.110		
3,200.00	3,175.06	3,102.08	3,060.59	8.82	9.76	-132.29	-166.13	381.88	577.74	561.97	15.77	36.633		
3,300.00	3,273.57	3,197.06	3,152.84	9.21	10.23	-132.25	-176.28	402.09	609.03	592.62	16.41	37.109		
3,400.00	3,372.08	3,292.04	3,245.09	9.59	10.70	-132.21	-186.42	422.30	640.31	623.26	17.05	37.544		
3,500.00	3,470.58	3,387.02	3,337.33	9.98	11.17	-132.17	-196.56	442.50	671.60	653.90	17.70	37.944		
3,600.00	3,569.09	3,482.00	3,429.58	10.37	11.65	-132.14	-206.70	462.71	702.89	684.54	18.35	38.311		
3,700.00	3,667.60	3,576.98	3,521.83	10.75	12.12	-132.11	-216.84	482.92	734.17	715.18	18.99	38.651		
3,800.00	3,766.10	3,671.96	3,614.08	11.14	12.60	-132.08	-226.98	503.13	765.46	745.82	19.64	38.966		
3,900.00	3,864.61	3,766.94	3,706.33	11.53	13.07	-132.05	-237.12	523.34	796.75	776.45	20.30	39.247		
4,000.00	3,963.12	3,861.92	3,798.58	11.92	13.55	-132.03	-247.26	543.54	828.04	807.08	20.96	39.504		
4,100.00	4,061.62	3,956.89	3,890.83	12.32	14.03	-132.01	-257.40	563.75	859.32	837.70	21.62	39.743		
4,200.00	4,160.13	4,051.87	3,983.07	12.71	14.51	-131.99	-267.54	583.96	890.61	868.33	22.28	39.965		
4,300.00	4,258.64	4,146.85	4,075.32	13.10	14.99	-131.97	-277.68	604.17	921.90	898.95	22.95	40.173		
4,400.00	4,357.14	4,241.83	4,167.57	13.50	15.47	-131.95	-287.82	624.37	953.19	929.57	23.61	40.366		
4,500.00	4,455.65	4,336.81	4,259.82	13.89	15.95	-131.94	-297.97	644.58	984.48	960.20	24.28	40.548		
4,600.00	4,554.16	4,431.79	4,352.07	14.28	16.44	-131.92	-308.11	664.79	1,015.76	990.82	24.95	40.718		
4,700.00	4,652.66	4,526.77	4,444.32	14.68	16.92	-131.91	-318.25	685.00	1,047.05	1,021.44	25.61	40.878		
4,800.00	4,751.17	4,621.75	4,536.57	15.08	17.40	-131.89	-328.39	705.21	1,078.34	1,052.06	26.28	41.029		
4,900.00	4,849.68	4,716.73	4,628.81	15.47	17.88	-131.88	-338.53	725.41	1,109.63	1,082.68	26.95	41.171		
5,000.00	4,948.18	4,811.70	4,721.06	15.87	18.37	-131.87	-348.67	745.62	1,140.92	1,113.29	27.62	41.305		

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 7-2
<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 7-2	<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 7-2	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 3-17-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_HIGHWAY 160 17-2 pad - P_HIGHWAY 160 8-2 - P_HIGHWAY 160 8-2 - PLAN #1 3-17-10 RH:												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,046.69	4,906.68	4,813.31	16.26	18.85	-131.85	-358.81	765.83	1,172.20	1,143.91	28.29	41.431	
5,200.00	5,145.19	5,001.66	4,905.56	16.66	19.34	-131.84	-368.95	786.04	1,203.49	1,174.53	28.96	41.552	
5,300.00	5,243.70	5,096.64	4,997.81	17.06	19.82	-131.83	-379.09	806.25	1,234.78	1,205.15	29.64	41.665	
5,400.00	5,342.21	5,191.62	5,090.06	17.45	20.31	-131.82	-389.23	826.45	1,266.07	1,235.76	30.31	41.774	
5,500.00	5,440.71	5,286.60	5,182.31	17.85	20.79	-131.81	-399.37	846.66	1,297.36	1,266.38	30.98	41.876	
5,600.00	5,539.22	5,381.58	5,274.55	18.25	21.28	-131.80	-409.51	866.87	1,328.65	1,296.99	31.65	41.974	
5,700.00	5,637.73	5,476.56	5,366.80	18.65	21.76	-131.80	-419.66	887.08	1,359.93	1,327.61	32.33	42.067	
5,802.54	5,738.74	5,573.95	5,461.40	19.05	22.26	-131.79	-430.05	907.80	1,392.02	1,359.00	33.02	42.158	
5,900.00	5,835.01	5,672.39	5,557.01	19.37	22.76	-132.18	-440.55	928.71	1,421.44	1,387.68	33.76	42.098	
6,000.00	5,934.26	5,839.02	5,720.07	19.61	23.34	-132.41	-455.88	959.26	1,446.72	1,412.20	34.52	41.904	
6,100.00	6,033.88	6,010.38	5,889.55	19.82	23.82	-132.57	-467.18	981.79	1,464.88	1,429.70	35.18	41.634	
6,200.00	6,133.75	6,185.01	6,063.48	19.99	24.17	-132.67	-474.01	995.38	1,475.69	1,439.96	35.74	41.293	
6,298.27	6,232.00	6,353.61	6,232.00	20.13	24.40	83.72	-476.08	999.51	1,479.03	1,442.85	36.18	40.875	
6,300.00	6,233.73	6,355.34	6,233.73	20.13	24.40	83.72	-476.08	999.51	1,479.03	1,442.85	36.19	40.869	
6,400.00	6,333.73	6,455.34	6,333.73	20.26	24.51	83.72	-476.08	999.51	1,479.03	1,442.56	36.47	40.551	
6,500.00	6,433.73	6,555.34	6,433.73	20.39	24.63	83.72	-476.08	999.51	1,479.03	1,442.27	36.76	40.234	
6,600.00	6,533.73	6,655.34	6,533.73	20.52	24.75	83.72	-476.08	999.51	1,479.03	1,441.98	37.05	39.920	
6,700.00	6,633.73	6,755.34	6,633.73	20.65	24.86	83.72	-476.08	999.51	1,479.03	1,441.69	37.34	39.607	
6,800.00	6,733.73	6,855.34	6,733.73	20.78	24.98	83.72	-476.08	999.51	1,479.03	1,441.40	37.64	39.295	
6,900.00	6,833.73	6,955.34	6,833.73	20.91	25.11	83.72	-476.08	999.51	1,479.03	1,441.10	37.94	38.985	
7,000.00	6,933.73	7,055.34	6,933.73	21.05	25.23	83.72	-476.08	999.51	1,479.03	1,440.79	38.24	38.678	
7,100.00	7,033.73	7,155.34	7,033.73	21.19	25.35	83.72	-476.08	999.51	1,479.03	1,440.49	38.54	38.372	
7,200.00	7,133.73	7,255.34	7,133.73	21.32	25.48	83.72	-476.08	999.51	1,479.03	1,440.18	38.85	38.068	
7,300.00	7,233.73	7,355.34	7,233.73	21.46	25.61	83.72	-476.08	999.51	1,479.03	1,439.87	39.16	37.766	
7,400.00	7,333.73	7,455.34	7,333.73	21.61	25.74	83.72	-476.08	999.51	1,479.03	1,439.56	39.48	37.467	
7,500.00	7,433.73	7,555.34	7,433.73	21.75	25.87	83.72	-476.08	999.51	1,479.03	1,439.24	39.79	37.169	
7,600.00	7,533.73	7,655.34	7,533.73	21.89	26.00	83.72	-476.08	999.51	1,479.03	1,438.92	40.11	36.874	
7,700.00	7,633.73	7,755.34	7,633.73	22.04	26.13	83.72	-476.08	999.51	1,479.03	1,438.60	40.43	36.582	
7,800.00	7,733.73	7,855.34	7,733.73	22.18	26.26	83.72	-476.08	999.51	1,479.03	1,438.28	40.75	36.292	
7,900.00	7,833.73	7,955.34	7,833.73	22.33	26.40	83.72	-476.08	999.51	1,479.03	1,437.96	41.08	36.004	
8,000.00	7,933.73	8,055.34	7,933.73	22.48	26.53	83.72	-476.08	999.51	1,479.03	1,437.63	41.41	35.719	
8,100.00	8,033.73	8,155.34	8,033.73	22.63	26.67	83.72	-476.08	999.51	1,479.03	1,437.30	41.74	35.436	
8,200.00	8,133.73	8,255.34	8,133.73	22.78	26.81	83.72	-476.08	999.51	1,479.03	1,436.96	42.07	35.157	
8,200.20	8,133.93	8,255.54	8,133.93	22.78	26.81	83.72	-476.08	999.51	1,479.03	1,436.96	42.07	35.156	
8,213.27	8,147.00	8,262.61	8,141.00	22.80	26.82	83.72	-476.08	999.51	1,479.05	1,436.94	42.10	35.128	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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		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	89.48	0.37	40.29	40.29				
100.00	100.00	100.00	100.00	0.10	0.10	89.48	0.37	40.29	40.29	40.10	0.19	210.910	
200.00	200.00	200.00	200.00	0.32	0.32	89.48	0.37	40.29	40.29	39.65	0.64	62.903	
300.00	300.00	300.00	300.00	0.55	0.55	89.48	0.37	40.29	40.29	39.20	1.09	36.964	
400.00	400.00	400.00	400.00	0.77	0.77	89.48	0.37	40.29	40.29	38.75	1.54	26.171	
500.00	500.00	500.00	500.00	0.99	0.99	89.48	0.37	40.29	40.29	38.31	1.99	20.257	
600.00	600.00	600.00	600.00	1.22	1.22	89.48	0.37	40.29	40.29	37.86	2.44	16.523	
700.00	700.00	700.00	700.00	1.44	1.44	89.48	0.37	40.29	40.29	37.41	2.89	13.951	
800.00	800.00	800.00	800.00	1.67	1.67	89.48	0.37	40.29	40.29	36.96	3.34	12.072	
900.00	900.00	900.00	900.00	1.89	1.89	89.48	0.37	40.29	40.29	36.51	3.79	10.639	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.48	0.37	40.29	40.29	36.06	4.24	9.511	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	89.48	0.37	40.29	40.29	35.61	4.69	8.598	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	89.48	0.37	40.29	40.29	35.16	5.14	7.846 CC, ES	
1,300.00	1,299.98	1,299.14	1,299.13	2.77	2.77	-127.71	-0.42	41.31	42.37	36.83	5.53	7.657 SF	
1,400.00	1,399.84	1,398.03	1,397.94	2.95	2.95	-129.58	-2.78	44.35	48.61	42.72	5.89	8.256	
1,500.00	1,499.45	1,496.43	1,496.13	3.14	3.15	-131.80	-6.68	49.38	59.09	52.83	6.26	9.446	
1,600.00	1,598.70	1,594.09	1,593.39	3.36	3.35	-133.81	-12.08	56.34	73.82	67.18	6.64	11.119	
1,695.73	1,693.26	1,686.69	1,685.37	3.59	3.56	-135.34	-18.61	64.76	91.88	84.85	7.03	13.077	
1,700.00	1,697.47	1,690.80	1,689.45	3.60	3.57	-135.41	-18.93	65.17	92.77	85.73	7.04	13.170	
1,800.00	1,795.97	1,786.65	1,784.34	3.88	3.81	-136.26	-27.19	75.82	114.56	107.06	7.50	15.279	
1,900.00	1,894.48	1,881.78	1,878.16	4.17	4.08	-136.07	-36.82	88.24	137.97	129.98	7.99	17.277	
2,000.00	1,992.99	1,976.08	1,970.75	4.49	4.38	-135.30	-47.78	102.38	163.00	154.50	8.51	19.165	
2,100.00	2,091.49	2,069.46	2,061.97	4.81	4.70	-134.21	-60.02	118.15	189.68	180.62	9.06	20.946	
2,200.00	2,190.00	2,161.81	2,151.68	5.15	5.06	-132.95	-73.45	135.47	218.05	208.42	9.63	22.632	
2,300.00	2,288.51	2,253.04	2,239.75	5.49	5.46	-131.61	-88.03	154.27	248.15	237.92	10.24	24.235	
2,400.00	2,387.01	2,343.08	2,326.09	5.85	5.88	-130.25	-103.67	174.44	280.02	269.16	10.86	25.773	
2,500.00	2,485.52	2,436.13	2,414.88	6.21	6.36	-128.93	-120.73	196.44	313.17	301.64	11.53	27.173	
2,600.00	2,584.02	2,530.23	2,504.66	6.57	6.87	-127.84	-138.02	218.72	346.48	334.28	12.20	28.402	
2,700.00	2,682.53	2,624.33	2,594.44	6.94	7.38	-126.94	-155.30	241.01	379.89	367.00	12.88	29.491	
2,800.00	2,781.04	2,718.43	2,684.21	7.31	7.91	-126.19	-172.58	263.29	413.36	399.79	13.57	30.458	
2,900.00	2,879.54	2,812.54	2,773.99	7.68	8.45	-125.55	-189.87	285.58	446.89	432.62	14.27	31.323	
3,000.00	2,978.05	2,906.64	2,863.77	8.06	9.00	-125.00	-207.15	307.86	480.46	465.49	14.97	32.099	
3,100.00	3,076.56	3,000.74	2,953.54	8.44	9.55	-124.52	-224.43	330.14	514.06	498.39	15.67	32.799	
3,200.00	3,175.06	3,094.85	3,043.32	8.82	10.11	-124.10	-241.72	352.43	547.70	531.32	16.38	33.432	
3,300.00	3,273.57	3,188.95	3,133.10	9.21	10.67	-123.73	-259.00	374.71	581.36	564.26	17.09	34.008	
3,400.00	3,372.08	3,283.05	3,222.88	9.59	11.23	-123.39	-276.28	397.00	615.03	597.22	17.81	34.534	
3,500.00	3,470.58	3,377.15	3,312.65	9.98	11.80	-123.10	-293.57	419.28	648.72	630.20	18.53	35.016	
3,600.00	3,569.09	3,471.26	3,402.43	10.37	12.37	-122.83	-310.85	441.57	682.43	663.18	19.25	35.459	
3,700.00	3,667.60	3,565.36	3,492.21	10.75	12.95	-122.59	-328.13	463.85	716.15	696.18	19.97	35.868	
3,800.00	3,766.10	3,659.46	3,581.99	11.14	13.52	-122.37	-345.42	486.13	749.88	729.19	20.69	36.246	
3,900.00	3,864.61	3,753.56	3,671.76	11.53	14.10	-122.16	-362.70	508.42	783.62	762.20	21.41	36.597	
4,000.00	3,963.12	3,847.67	3,761.54	11.92	14.68	-121.98	-379.98	530.70	817.36	795.22	22.14	36.924	
4,100.00	4,061.62	3,941.77	3,851.32	12.32	15.26	-121.81	-397.27	552.99	851.11	828.25	22.86	37.230	
4,200.00	4,160.13	4,035.87	3,941.10	12.71	15.84	-121.65	-414.55	575.27	884.87	861.29	23.59	37.516	
4,300.00	4,258.64	4,129.97	4,030.87	13.10	16.42	-121.50	-431.83	597.56	918.64	894.32	24.31	37.784	
4,400.00	4,357.14	4,224.08	4,120.65	13.50	17.01	-121.37	-449.12	619.84	952.41	927.37	25.04	38.036	
4,500.00	4,455.65	4,318.18	4,210.43	13.89	17.59	-121.24	-466.40	642.13	986.18	960.41	25.77	38.273	
4,600.00	4,554.16	4,412.28	4,300.21	14.28	18.18	-121.12	-483.68	664.41	1,019.96	993.46	26.49	38.497	
4,700.00	4,652.66	4,506.38	4,389.98	14.68	18.76	-121.01	-500.97	686.69	1,053.74	1,026.52	27.22	38.710	
4,800.00	4,751.17	4,600.49	4,479.76	15.08	19.35	-120.91	-518.25	708.98	1,087.52	1,059.57	27.95	38.911	
4,900.00	4,849.68	4,694.59	4,569.54	15.47	19.94	-120.81	-535.53	731.26	1,121.31	1,092.63	28.68	39.102	
5,000.00	4,948.18	4,788.69	4,659.32	15.87	20.53	-120.72	-552.82	753.55	1,155.10	1,125.70	29.40	39.283	

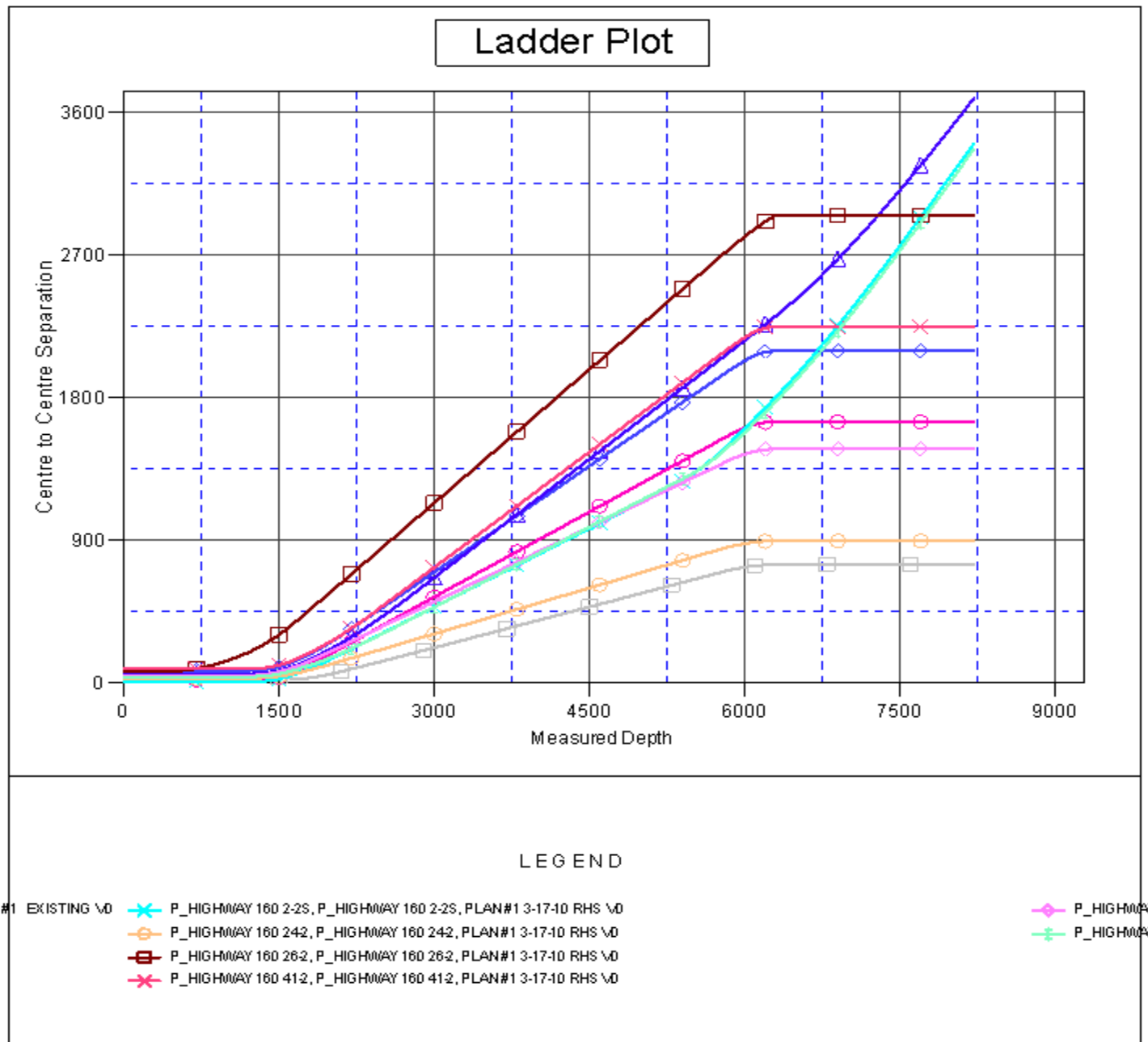
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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 8-2S - P_HIGHWAY 160 8-2S - 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	5,046.69	4,882.79	4,749.09	16.26	21.12	-120.64	-570.10	775.83	1,188.89	1,158.76	30.13	39.456	
5,200.00	5,145.19	4,976.90	4,838.87	16.66	21.71	-120.55	-587.38	798.12	1,222.69	1,191.83	30.86	39.622	
5,300.00	5,243.70	5,071.00	4,928.65	17.06	22.30	-120.48	-604.66	820.40	1,256.48	1,224.89	31.60	39.765	
5,400.00	5,342.21	5,165.10	5,018.43	17.45	22.89	-120.40	-621.95	842.69	1,290.28	1,257.94	32.34	39.899	
5,500.00	5,440.71	5,194.00	5,046.00	17.85	23.07	-120.38	-627.26	849.53	1,325.69	1,292.87	32.82	40.391	
5,600.00	5,539.22	5,194.00	5,046.00	18.25	23.07	-120.38	-627.26	849.53	1,367.20	1,334.01	33.19	41.195	
5,700.00	5,637.73	5,194.00	5,046.00	18.65	23.07	-120.38	-627.26	849.53	1,414.57	1,381.02	33.56	42.156	
5,802.54	5,738.74	5,194.00	5,046.00	19.05	23.07	-120.38	-627.26	849.53	1,468.65	1,434.71	33.93	43.281	
5,900.00	5,835.01	5,194.00	5,046.00	19.37	23.07	-121.54	-627.26	849.53	1,523.97	1,489.55	34.42	44.274	
6,000.00	5,934.26	5,194.00	5,046.00	19.61	23.07	-122.79	-627.26	849.53	1,583.56	1,548.72	34.84	45.449	
6,100.00	6,033.88	5,194.00	5,046.00	19.82	23.07	-124.11	-627.26	849.53	1,645.63	1,610.41	35.22	46.723	
6,200.00	6,133.75	5,194.00	5,046.00	19.99	23.07	-125.49	-627.26	849.53	1,709.83	1,674.28	35.55	48.091	
6,298.27	6,232.00	5,194.00	5,046.00	20.13	23.07	89.54	-627.26	849.53	1,774.71	1,738.85	35.86	49.491	
6,300.00	6,233.73	5,194.00	5,046.00	20.13	23.07	89.54	-627.26	849.53	1,775.87	1,740.00	35.86	49.520	
6,400.00	6,333.73	5,194.00	5,046.00	20.26	23.07	89.54	-627.26	849.53	1,844.25	1,808.25	36.00	51.232	
6,500.00	6,433.73	5,194.00	5,046.00	20.39	23.07	89.54	-627.26	849.53	1,915.41	1,879.27	36.14	53.006	
6,600.00	6,533.73	5,194.00	5,046.00	20.52	23.07	89.54	-627.26	849.53	1,989.05	1,952.78	36.28	54.832	
6,700.00	6,633.73	5,194.00	5,046.00	20.65	23.07	89.54	-627.26	849.53	2,064.92	2,028.50	36.42	56.703	
6,800.00	6,733.73	5,194.00	5,046.00	20.78	23.07	89.54	-627.26	849.53	2,142.76	2,106.20	36.56	58.610	
6,900.00	6,833.73	5,194.00	5,046.00	20.91	23.07	89.54	-627.26	849.53	2,222.38	2,185.68	36.70	60.549	
7,000.00	6,933.73	5,194.00	5,046.00	21.05	23.07	89.54	-627.26	849.53	2,303.59	2,266.74	36.85	62.513	
7,100.00	7,033.73	5,194.00	5,046.00	21.19	23.07	89.54	-627.26	849.53	2,386.22	2,349.23	37.00	64.498	
7,200.00	7,133.73	5,194.00	5,046.00	21.32	23.07	89.54	-627.26	849.53	2,470.14	2,433.00	37.15	66.498	
7,300.00	7,233.73	5,194.00	5,046.00	21.46	23.07	89.54	-627.26	849.53	2,555.22	2,517.92	37.30	68.511	
7,400.00	7,333.73	5,194.00	5,046.00	21.61	23.07	89.54	-627.26	849.53	2,641.34	2,603.90	37.45	70.534	
7,500.00	7,433.73	5,194.00	5,046.00	21.75	23.07	89.54	-627.26	849.53	2,728.41	2,690.81	37.60	72.562	
7,600.00	7,533.73	5,194.00	5,046.00	21.89	23.07	89.54	-627.26	849.53	2,816.34	2,778.59	37.76	74.594	
7,700.00	7,633.73	5,194.00	5,046.00	22.04	23.07	89.54	-627.26	849.53	2,905.05	2,867.14	37.91	76.628	
7,800.00	7,733.73	5,194.00	5,046.00	22.18	23.07	89.54	-627.26	849.53	2,994.47	2,956.41	38.07	78.661	
7,900.00	7,833.73	5,194.00	5,046.00	22.33	23.07	89.54	-627.26	849.53	3,084.55	3,046.32	38.23	80.691	
8,000.00	7,933.73	5,194.00	5,046.00	22.48	23.07	89.54	-627.26	849.53	3,175.21	3,136.82	38.39	82.718	
8,100.00	8,033.73	5,194.00	5,046.00	22.63	23.07	89.54	-627.26	849.53	3,266.42	3,227.87	38.55	84.739	
8,200.00	8,133.73	5,194.00	5,046.00	22.78	23.07	89.54	-627.26	849.53	3,358.13	3,319.42	38.71	86.754	
8,213.27	8,147.00	5,194.00	5,046.00	22.80	23.07	89.54	-627.26	849.53	3,370.34	3,331.61	38.73	87.021	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
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<b>Reference Site:</b>	WELD_HIGHWAY 160 17-2 pad	<b>MD Reference:</b>	WELL @ 5119.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_HIGHWAY 160 7-2	<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 7-2	<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

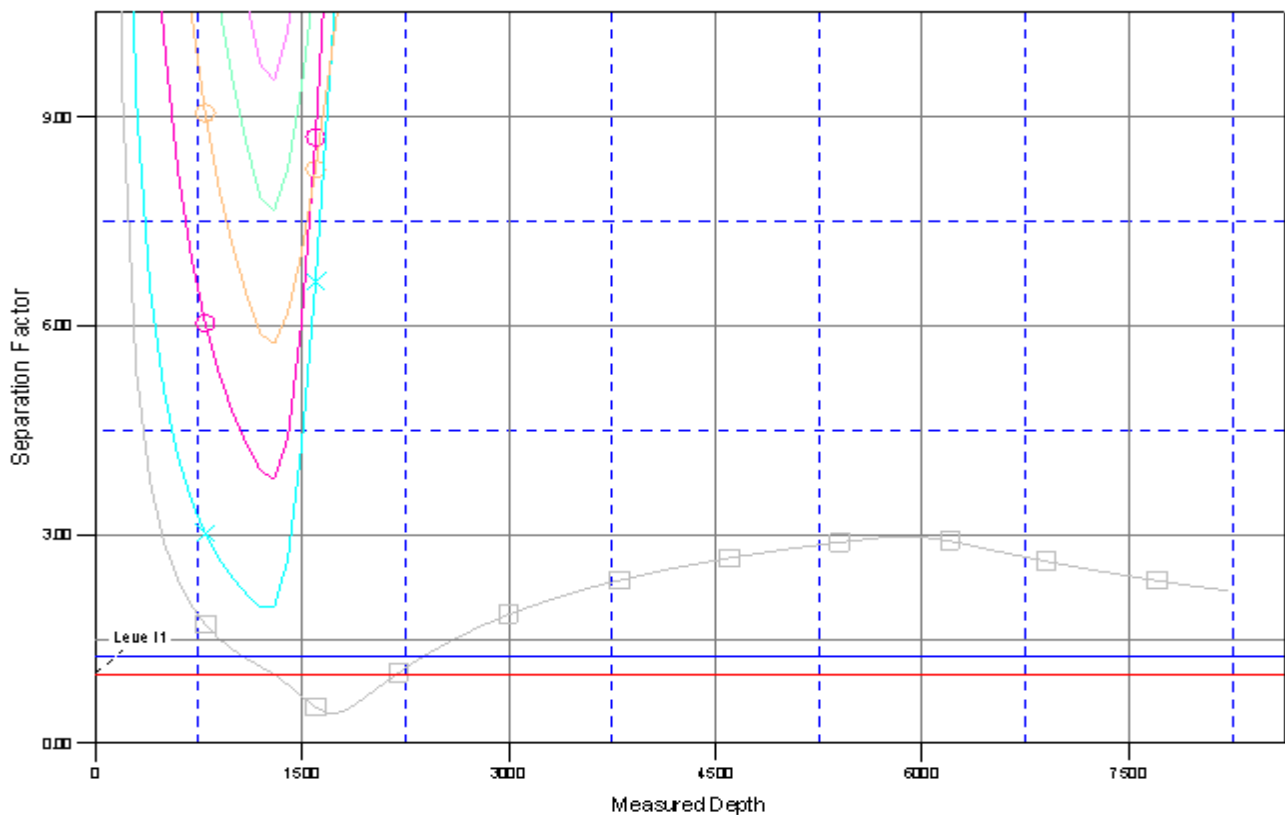
Reference Depths are relative to WELL @ 5119.00ft (Original Well Elev) Coordinates are relative to: P\_HIGHWAY 160 7-2  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.49°









<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_HIGHWAY 160 7-2
<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 7-2	<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 7-2	<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 7-2  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.49°

## Separation Factor Plot



## LEGEND

T#1 EXISTING \O		P_HIGHWAY 160 2-2S, P_HIGHWAY 160 2-2S, PLAN#1 3-17-10 RHS \O		P_HIGHWAY
		P_HIGHWAY 160 242, P_HIGHWAY 160 242, PLAN#1 3-17-10 RHS \O		P_HIGHWAY
		P_HIGHWAY 160 262, P_HIGHWAY 160 262, PLAN#1 3-17-10 RHS \O		
		P_HIGHWAY 160 412, P_HIGHWAY 160 412, PLAN#1 3-17-10 RHS \O		