

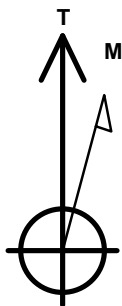
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Dunn 7Q-241**

Surface Location: Dunn 5N64W7 Pad Sec.7-T5N-R64W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 4625.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1392861.15 3251104.67 40.408301 -104.598275  
 Original Well Elev WELL @ 4638.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 705'FSL & 980'FWL, Sec.7	1.0	0.0	0.0	Point
BHL 200'FNL & 2235'FWL, Sec.6	6723.0	9589.5	1283.9	Point



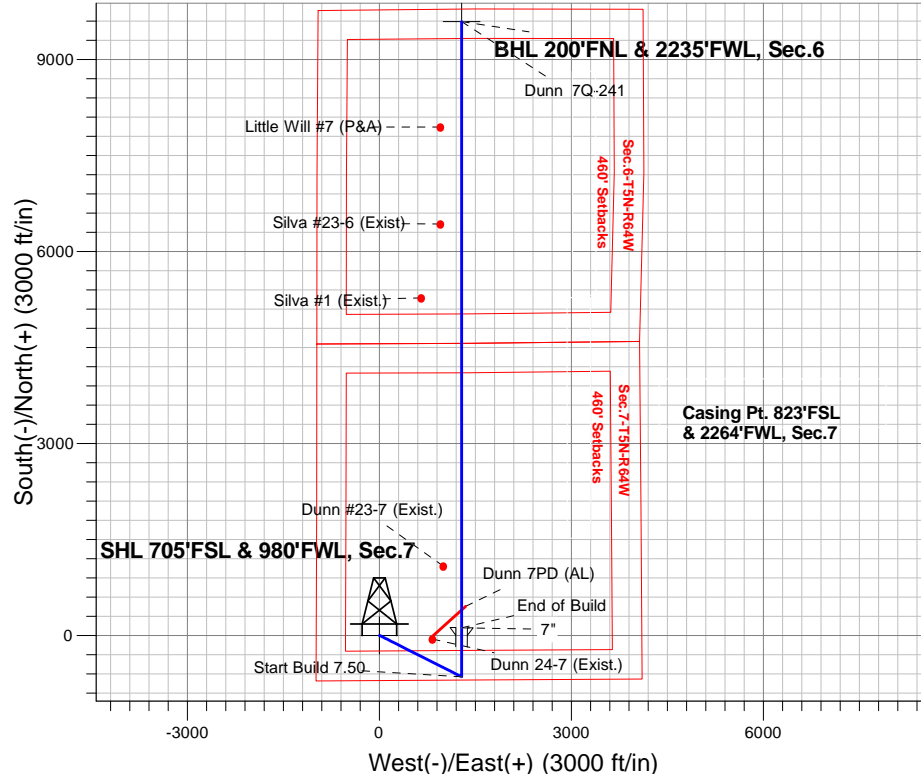
Azimuths to True North  
 Magnetic North: 8.20°

Magnetic Field  
 Strength: 52703.9snT  
 Dip Angle: 66.93°  
 Date: 9/24/2015  
 Model: IGRF2010

## ANNOTATIONS

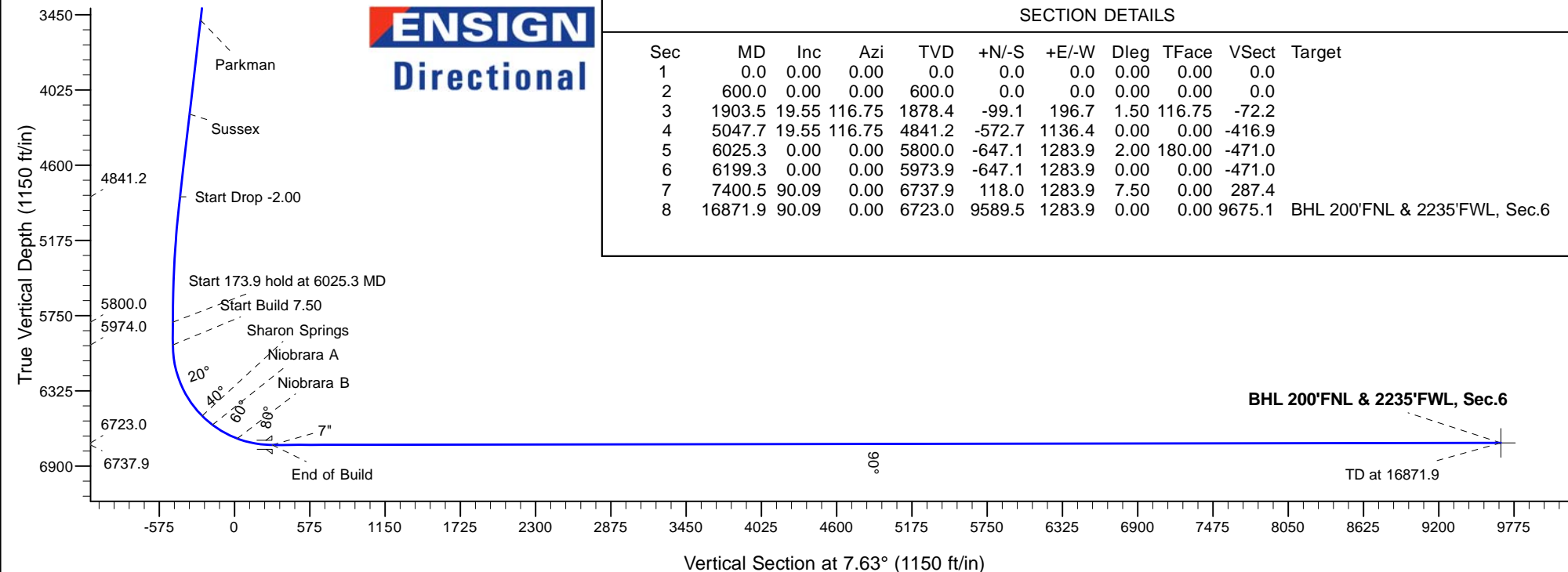
TVD	MD	Annotation
600.0	600.0	KOP - Start Build 1.50
4841.2	5047.7	Start Drop -2.00
5800.0	6025.3	Start 173.9 hold at 6025.3 MD
5973.9	6199.3	Start Build 7.50
6737.9	7400.5	End of Build
6723.0	16871.9	TD at 16871.9

Dunn 5N64W7 Pad Sec.7-T5N-R64W  
 Dunn 7Q-241  
 Plan #1 (9-11-15)  
 8:08, September 24 2015



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1903.5	19.55	116.75	1878.4	-99.1	196.7	1.50	116.75	-72.2	
4	5047.7	19.55	116.75	4841.2	-572.7	1136.4	0.00	0.00	-416.9	
5	6025.3	0.00	0.00	5800.0	-647.1	1283.9	2.00	180.00	-471.0	
6	6199.3	0.00	0.00	5973.9	-647.1	1283.9	0.00	0.00	-471.0	
7	7400.5	90.09	0.00	6737.9	118.0	1283.9	7.50	0.00	287.4	
8	16871.9	90.09	0.00	6723.0	9589.5	1283.9	0.00	0.00	9675.1	BHL 200'FNL & 2235'FWL, Sec.6





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T5N-R64W**

**Dunn 5N64W7 Pad Sec.7-T5N-R64W**

**Dunn 7Q-241**

**Wellbore #1**

**Plan: Plan #1 (9-11-15)**

## **Standard Planning Report**

**24 September, 2015**

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Project:</b>	SEC.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-11-15)		

<b>Project</b>	SEC.7-T5N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,392,981.02 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,251,104.57 usft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.408630
		<b>Longitude:</b>	-104.598271
		<b>Grid Convergence:</b>	0.58 °

<b>Well</b>	Dunn 7Q-241		
<b>Well Position</b>	<b>+N/-S</b>	-119.9 ft	<b>Northing:</b>
	<b>+E/-W</b>	-1.1 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	0.0 ft
		<b>Latitude:</b>	40.408301
		<b>Longitude:</b>	-104.598275
		<b>Ground Level:</b>	4,625.0 ft

<b>Wellbore</b>	Wellbore #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF2010	9/24/2015	8.20
			<b>Dip Angle (°)</b>
			66.93
			<b>Field Strength (nT)</b>
			52,704

<b>Design</b>	Plan #1 (9-11-15)		
<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>
			0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			<b>Direction (°)</b>
			7.63

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,903.5	19.55	116.75	1,878.4	-99.1	196.7	1.50	1.50	0.00	116.75	
5,047.7	19.55	116.75	4,841.2	-572.7	1,136.4	0.00	0.00	0.00	0.00	
6,025.3	0.00	0.00	5,800.0	-647.1	1,283.9	2.00	-2.00	0.00	180.00	
6,199.3	0.00	0.00	5,973.9	-647.1	1,283.9	0.00	0.00	0.00	0.00	
7,400.5	90.09	0.00	6,737.9	118.0	1,283.9	7.50	7.50	0.00	0.00	
16,871.9	90.09	0.00	6,723.0	9,589.5	1,283.9	0.00	0.00	0.00	0.00	BHL 200'FNL & 2235'

Database:	US_EDM	Local Co-ordinate Reference:	Well Dunn 7Q-241
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4638.0ft (Original Well Elev)
Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4638.0ft (Original Well Elev)
Site:	Dunn 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Dunn 7Q-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (9-11-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 705'FSL & 980'FWL, Sec.7									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
700.0	1.50	116.75	700.0	-0.6	1.2	-0.4	1.50	1.50	0.00
800.0	3.00	116.75	799.9	-2.4	4.7	-1.7	1.50	1.50	0.00
900.0	4.50	116.75	899.7	-5.3	10.5	-3.9	1.50	1.50	0.00
1,000.0	6.00	116.75	999.3	-9.4	18.7	-6.9	1.50	1.50	0.00
1,100.0	7.50	116.75	1,098.6	-14.7	29.2	-10.7	1.50	1.50	0.00
1,200.0	9.00	116.75	1,197.5	-21.2	42.0	-15.4	1.50	1.50	0.00
1,300.0	10.50	116.75	1,296.1	-28.8	57.1	-21.0	1.50	1.50	0.00
1,400.0	12.00	116.75	1,394.2	-37.6	74.5	-27.3	1.50	1.50	0.00
1,500.0	13.50	116.75	1,491.7	-47.5	94.2	-34.6	1.50	1.50	0.00
1,600.0	15.00	116.75	1,588.6	-58.6	116.2	-42.6	1.50	1.50	0.00
1,700.0	16.50	116.75	1,684.9	-70.8	140.5	-51.5	1.50	1.50	0.00
1,800.0	18.00	116.75	1,780.4	-84.1	166.9	-61.2	1.50	1.50	0.00
1,900.0	19.50	116.75	1,875.0	-98.6	195.6	-71.8	1.50	1.50	0.00
1,903.5	19.55	116.75	1,878.4	-99.1	196.7	-72.2	1.50	1.50	0.00
2,000.0	19.55	116.75	1,969.3	-113.7	225.5	-82.7	0.00	0.00	0.00
2,100.0	19.55	116.75	2,063.5	-128.7	255.4	-93.7	0.00	0.00	0.00
2,200.0	19.55	116.75	2,157.7	-143.8	285.3	-104.7	0.00	0.00	0.00
2,300.0	19.55	116.75	2,252.0	-158.9	315.2	-115.6	0.00	0.00	0.00
2,400.0	19.55	116.75	2,346.2	-173.9	345.1	-126.6	0.00	0.00	0.00
2,500.0	19.55	116.75	2,440.4	-189.0	375.0	-137.6	0.00	0.00	0.00
2,600.0	19.55	116.75	2,534.7	-204.0	404.8	-148.5	0.00	0.00	0.00
2,700.0	19.55	116.75	2,628.9	-219.1	434.7	-159.5	0.00	0.00	0.00
2,800.0	19.55	116.75	2,723.1	-234.2	464.6	-170.4	0.00	0.00	0.00
2,900.0	19.55	116.75	2,817.4	-249.2	494.5	-181.4	0.00	0.00	0.00
3,000.0	19.55	116.75	2,911.6	-264.3	524.4	-192.4	0.00	0.00	0.00
3,100.0	19.55	116.75	3,005.8	-279.4	554.3	-203.3	0.00	0.00	0.00
3,200.0	19.55	116.75	3,100.1	-294.4	584.2	-214.3	0.00	0.00	0.00
3,300.0	19.55	116.75	3,194.3	-309.5	614.0	-225.3	0.00	0.00	0.00
3,400.0	19.55	116.75	3,288.6	-324.6	643.9	-236.2	0.00	0.00	0.00
3,500.0	19.55	116.75	3,382.8	-339.6	673.8	-247.2	0.00	0.00	0.00
3,600.0	19.55	116.75	3,477.0	-354.7	703.7	-258.2	0.00	0.00	0.00
3,613.8	19.55	116.75	3,490.0	-356.8	707.8	-259.7	0.00	0.00	0.00
Parkman									
3,700.0	19.55	116.75	3,571.3	-369.7	733.6	-269.1	0.00	0.00	0.00
3,800.0	19.55	116.75	3,665.5	-384.8	763.5	-280.1	0.00	0.00	0.00
3,900.0	19.55	116.75	3,759.7	-399.9	793.4	-291.1	0.00	0.00	0.00
4,000.0	19.55	116.75	3,854.0	-414.9	823.2	-302.0	0.00	0.00	0.00
4,100.0	19.55	116.75	3,948.2	-430.0	853.1	-313.0	0.00	0.00	0.00
4,200.0	19.55	116.75	4,042.4	-445.1	883.0	-323.9	0.00	0.00	0.00
4,300.0	19.55	116.75	4,136.7	-460.1	912.9	-334.9	0.00	0.00	0.00
4,377.8	19.55	116.75	4,210.0	-471.8	936.2	-343.4	0.00	0.00	0.00
Sussex									
4,400.0	19.55	116.75	4,230.9	-475.2	942.8	-345.9	0.00	0.00	0.00

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Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4638.0ft (Original Well Elev)
Site:	Dunn 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Dunn 7Q-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (9-11-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.0	19.55	116.75	4,325.1	-490.2	972.7	-356.8	0.00	0.00	0.00
4,600.0	19.55	116.75	4,419.4	-505.3	1,002.6	-367.8	0.00	0.00	0.00
4,700.0	19.55	116.75	4,513.6	-520.4	1,032.5	-378.8	0.00	0.00	0.00
4,800.0	19.55	116.75	4,607.8	-535.4	1,062.3	-389.7	0.00	0.00	0.00
4,900.0	19.55	116.75	4,702.1	-550.5	1,092.2	-400.7	0.00	0.00	0.00
5,000.0	19.55	116.75	4,796.3	-565.6	1,122.1	-411.7	0.00	0.00	0.00
5,047.7	19.55	116.75	4,841.2	-572.7	1,136.4	-416.9	0.00	0.00	0.00
Start Drop -2.00									
5,100.0	18.51	116.75	4,890.7	-580.4	1,151.6	-422.5	2.00	-2.00	0.00
5,200.0	16.51	116.75	4,986.0	-594.0	1,178.5	-432.3	2.00	-2.00	0.00
5,300.0	14.51	116.75	5,082.4	-606.0	1,202.3	-441.1	2.00	-2.00	0.00
5,400.0	12.51	116.75	5,179.6	-616.5	1,223.2	-448.7	2.00	-2.00	0.00
5,500.0	10.51	116.75	5,277.6	-625.5	1,241.0	-455.3	2.00	-2.00	0.00
5,600.0	8.51	116.75	5,376.2	-632.9	1,255.7	-460.7	2.00	-2.00	0.00
5,700.0	6.51	116.75	5,475.4	-638.8	1,267.4	-465.0	2.00	-2.00	0.00
5,800.0	4.51	116.75	5,574.9	-643.1	1,276.0	-468.1	2.00	-2.00	0.00
5,900.0	2.51	116.75	5,674.7	-645.9	1,281.4	-470.1	2.00	-2.00	0.00
6,000.0	0.51	116.75	5,774.7	-647.0	1,283.8	-471.0	2.00	-2.00	0.00
6,025.3	0.00	116.75	5,800.0	-647.1	1,283.9	-471.0	2.00	-2.00	0.00
Start 173.9 hold at 6025.3 MD									
6,100.0	0.00	0.00	5,874.7	-647.1	1,283.9	-471.0	0.00	0.00	0.00
6,199.3	0.00	0.00	5,974.0	-647.1	1,283.9	-471.0	0.00	0.00	0.00
Start Build 7.50									
6,200.0	0.06	0.00	5,974.7	-647.1	1,283.9	-471.0	7.87	7.87	0.00
6,300.0	7.56	0.00	6,074.4	-640.5	1,283.9	-464.4	7.50	7.50	0.00
6,400.0	15.06	0.00	6,172.4	-620.9	1,283.9	-445.0	7.50	7.50	0.00
6,500.0	22.56	0.00	6,267.0	-588.7	1,283.9	-413.1	7.50	7.50	0.00
6,600.0	30.06	0.00	6,356.5	-544.4	1,283.9	-369.2	7.50	7.50	0.00
6,700.0	37.56	0.00	6,439.6	-488.8	1,283.9	-314.1	7.50	7.50	0.00
6,800.0	45.06	0.00	6,514.6	-422.8	1,283.9	-248.7	7.50	7.50	0.00
6,801.9	45.20	0.00	6,516.0	-421.5	1,283.9	-247.4	7.50	7.50	0.00
Sharon Springs									
6,900.0	52.56	0.00	6,580.5	-347.6	1,283.9	-174.2	7.50	7.50	0.00
6,907.5	53.12	0.00	6,585.0	-341.6	1,283.9	-168.2	7.50	7.50	0.00
Niobrara A									
7,000.0	60.06	0.00	6,635.9	-264.5	1,283.9	-91.8	7.50	7.50	0.00
7,100.0	67.55	0.00	6,680.0	-174.8	1,283.9	-2.9	7.50	7.50	0.00
7,127.4	69.61	0.00	6,690.0	-149.4	1,283.9	22.3	7.50	7.50	0.00
Niobrara B									
7,200.0	75.05	0.00	6,712.0	-80.2	1,283.9	90.9	7.50	7.50	0.00
7,300.0	82.55	0.00	6,731.4	17.9	1,283.9	188.1	7.50	7.50	0.00
7,400.0	90.05	0.00	6,737.9	117.6	1,283.9	286.9	7.50	7.50	0.00
7,400.5	90.09	0.00	6,737.9	118.1	1,283.9	287.4	7.01	7.01	0.00
End of Build - 7"									
7,500.0	90.09	0.00	6,737.7	217.6	1,283.9	386.0	0.00	0.00	0.00
7,600.0	90.09	0.00	6,737.6	317.6	1,283.9	485.1	0.00	0.00	0.00
7,700.0	90.09	0.00	6,737.4	417.6	1,283.9	584.3	0.00	0.00	0.00
7,800.0	90.09	0.00	6,737.3	517.6	1,283.9	683.4	0.00	0.00	0.00
7,900.0	90.09	0.00	6,737.1	617.6	1,283.9	782.5	0.00	0.00	0.00
8,000.0	90.09	0.00	6,736.9	717.6	1,283.9	881.6	0.00	0.00	0.00
8,100.0	90.09	0.00	6,736.8	817.6	1,283.9	980.7	0.00	0.00	0.00
8,200.0	90.09	0.00	6,736.6	917.6	1,283.9	1,079.8	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
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<b>Project:</b>	SEC.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-11-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,300.0	90.09	0.00	6,736.5	1,017.6	1,283.9	1,178.9	0.00	0.00	0.00
8,400.0	90.09	0.00	6,736.3	1,117.6	1,283.9	1,278.1	0.00	0.00	0.00
8,500.0	90.09	0.00	6,736.2	1,217.6	1,283.9	1,377.2	0.00	0.00	0.00
8,600.0	90.09	0.00	6,736.0	1,317.6	1,283.9	1,476.3	0.00	0.00	0.00
8,700.0	90.09	0.00	6,735.8	1,417.6	1,283.9	1,575.4	0.00	0.00	0.00
8,800.0	90.09	0.00	6,735.7	1,517.6	1,283.9	1,674.5	0.00	0.00	0.00
8,900.0	90.09	0.00	6,735.5	1,617.6	1,283.9	1,773.6	0.00	0.00	0.00
9,000.0	90.09	0.00	6,735.4	1,717.6	1,283.9	1,872.8	0.00	0.00	0.00
9,100.0	90.09	0.00	6,735.2	1,817.6	1,283.9	1,971.9	0.00	0.00	0.00
9,200.0	90.09	0.00	6,735.1	1,917.6	1,283.9	2,071.0	0.00	0.00	0.00
9,300.0	90.09	0.00	6,734.9	2,017.6	1,283.9	2,170.1	0.00	0.00	0.00
9,400.0	90.09	0.00	6,734.7	2,117.6	1,283.9	2,269.2	0.00	0.00	0.00
9,500.0	90.09	0.00	6,734.6	2,217.6	1,283.9	2,368.3	0.00	0.00	0.00
9,600.0	90.09	0.00	6,734.4	2,317.6	1,283.9	2,467.5	0.00	0.00	0.00
9,700.0	90.09	0.00	6,734.3	2,417.6	1,283.9	2,566.6	0.00	0.00	0.00
9,800.0	90.09	0.00	6,734.1	2,517.6	1,283.9	2,665.7	0.00	0.00	0.00
9,900.0	90.09	0.00	6,734.0	2,617.6	1,283.9	2,764.8	0.00	0.00	0.00
10,000.0	90.09	0.00	6,733.8	2,717.6	1,283.9	2,863.9	0.00	0.00	0.00
10,100.0	90.09	0.00	6,733.6	2,817.6	1,283.9	2,963.0	0.00	0.00	0.00
10,200.0	90.09	0.00	6,733.5	2,917.6	1,283.9	3,062.1	0.00	0.00	0.00
10,300.0	90.09	0.00	6,733.3	3,017.6	1,283.9	3,161.3	0.00	0.00	0.00
10,400.0	90.09	0.00	6,733.2	3,117.6	1,283.9	3,260.4	0.00	0.00	0.00
10,500.0	90.09	0.00	6,733.0	3,217.6	1,283.9	3,359.5	0.00	0.00	0.00
10,600.0	90.09	0.00	6,732.9	3,317.6	1,283.9	3,458.6	0.00	0.00	0.00
10,700.0	90.09	0.00	6,732.7	3,417.6	1,283.9	3,557.7	0.00	0.00	0.00
10,800.0	90.09	0.00	6,732.5	3,517.6	1,283.9	3,656.8	0.00	0.00	0.00
10,900.0	90.09	0.00	6,732.4	3,617.6	1,283.9	3,756.0	0.00	0.00	0.00
11,000.0	90.09	0.00	6,732.2	3,717.6	1,283.9	3,855.1	0.00	0.00	0.00
11,100.0	90.09	0.00	6,732.1	3,817.6	1,283.9	3,954.2	0.00	0.00	0.00
11,200.0	90.09	0.00	6,731.9	3,917.6	1,283.9	4,053.3	0.00	0.00	0.00
11,300.0	90.09	0.00	6,731.8	4,017.6	1,283.9	4,152.4	0.00	0.00	0.00
11,400.0	90.09	0.00	6,731.6	4,117.6	1,283.9	4,251.5	0.00	0.00	0.00
11,500.0	90.09	0.00	6,731.4	4,217.6	1,283.9	4,350.6	0.00	0.00	0.00
11,600.0	90.09	0.00	6,731.3	4,317.6	1,283.9	4,449.8	0.00	0.00	0.00
11,700.0	90.09	0.00	6,731.1	4,417.6	1,283.9	4,548.9	0.00	0.00	0.00
11,800.0	90.09	0.00	6,731.0	4,517.6	1,283.9	4,648.0	0.00	0.00	0.00
11,900.0	90.09	0.00	6,730.8	4,617.6	1,283.9	4,747.1	0.00	0.00	0.00
12,000.0	90.09	0.00	6,730.7	4,717.6	1,283.9	4,846.2	0.00	0.00	0.00
12,100.0	90.09	0.00	6,730.5	4,817.6	1,283.9	4,945.3	0.00	0.00	0.00
12,200.0	90.09	0.00	6,730.3	4,917.6	1,283.9	5,044.5	0.00	0.00	0.00
12,300.0	90.09	0.00	6,730.2	5,017.6	1,283.9	5,143.6	0.00	0.00	0.00
12,400.0	90.09	0.00	6,730.0	5,117.6	1,283.9	5,242.7	0.00	0.00	0.00
12,500.0	90.09	0.00	6,729.9	5,217.6	1,283.9	5,341.8	0.00	0.00	0.00
12,600.0	90.09	0.00	6,729.7	5,317.6	1,283.9	5,440.9	0.00	0.00	0.00
12,700.0	90.09	0.00	6,729.6	5,417.6	1,283.9	5,540.0	0.00	0.00	0.00
12,800.0	90.09	0.00	6,729.4	5,517.6	1,283.9	5,639.1	0.00	0.00	0.00
12,900.0	90.09	0.00	6,729.2	5,617.6	1,283.9	5,738.3	0.00	0.00	0.00
13,000.0	90.09	0.00	6,729.1	5,717.6	1,283.9	5,837.4	0.00	0.00	0.00
13,100.0	90.09	0.00	6,728.9	5,817.6	1,283.9	5,936.5	0.00	0.00	0.00
13,200.0	90.09	0.00	6,728.8	5,917.6	1,283.9	6,035.6	0.00	0.00	0.00
13,300.0	90.09	0.00	6,728.6	6,017.6	1,283.9	6,134.7	0.00	0.00	0.00
13,400.0	90.09	0.00	6,728.5	6,117.6	1,283.9	6,233.8	0.00	0.00	0.00
13,500.0	90.09	0.00	6,728.3	6,217.6	1,283.9	6,333.0	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Project:</b>	SEC.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-11-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,600.0	90.09	0.00	6,728.1	6,317.6	1,283.9	6,432.1	0.00	0.00	0.00
13,700.0	90.09	0.00	6,728.0	6,417.6	1,283.9	6,531.2	0.00	0.00	0.00
13,800.0	90.09	0.00	6,727.8	6,517.6	1,283.9	6,630.3	0.00	0.00	0.00
13,900.0	90.09	0.00	6,727.7	6,617.6	1,283.9	6,729.4	0.00	0.00	0.00
14,000.0	90.09	0.00	6,727.5	6,717.6	1,283.9	6,828.5	0.00	0.00	0.00
14,100.0	90.09	0.00	6,727.4	6,817.6	1,283.9	6,927.6	0.00	0.00	0.00
14,200.0	90.09	0.00	6,727.2	6,917.6	1,283.9	7,026.8	0.00	0.00	0.00
14,300.0	90.09	0.00	6,727.0	7,017.6	1,283.9	7,125.9	0.00	0.00	0.00
14,400.0	90.09	0.00	6,726.9	7,117.6	1,283.9	7,225.0	0.00	0.00	0.00
14,500.0	90.09	0.00	6,726.7	7,217.6	1,283.9	7,324.1	0.00	0.00	0.00
14,600.0	90.09	0.00	6,726.6	7,317.6	1,283.9	7,423.2	0.00	0.00	0.00
14,700.0	90.09	0.00	6,726.4	7,417.6	1,283.9	7,522.3	0.00	0.00	0.00
14,800.0	90.09	0.00	6,726.3	7,517.6	1,283.9	7,621.5	0.00	0.00	0.00
14,900.0	90.09	0.00	6,726.1	7,617.6	1,283.9	7,720.6	0.00	0.00	0.00
15,000.0	90.09	0.00	6,725.9	7,717.6	1,283.9	7,819.7	0.00	0.00	0.00
15,100.0	90.09	0.00	6,725.8	7,817.6	1,283.9	7,918.8	0.00	0.00	0.00
15,200.0	90.09	0.00	6,725.6	7,917.6	1,283.9	8,017.9	0.00	0.00	0.00
15,300.0	90.09	0.00	6,725.5	8,017.6	1,283.9	8,117.0	0.00	0.00	0.00
15,400.0	90.09	0.00	6,725.3	8,117.6	1,283.9	8,216.1	0.00	0.00	0.00
15,500.0	90.09	0.00	6,725.2	8,217.6	1,283.9	8,315.3	0.00	0.00	0.00
15,600.0	90.09	0.00	6,725.0	8,317.6	1,283.9	8,414.4	0.00	0.00	0.00
15,700.0	90.09	0.00	6,724.8	8,417.6	1,283.9	8,513.5	0.00	0.00	0.00
15,800.0	90.09	0.00	6,724.7	8,517.6	1,283.9	8,612.6	0.00	0.00	0.00
15,900.0	90.09	0.00	6,724.5	8,617.6	1,283.9	8,711.7	0.00	0.00	0.00
16,000.0	90.09	0.00	6,724.4	8,717.6	1,283.9	8,810.8	0.00	0.00	0.00
16,100.0	90.09	0.00	6,724.2	8,817.6	1,283.9	8,910.0	0.00	0.00	0.00
16,200.0	90.09	0.00	6,724.1	8,917.6	1,283.9	9,009.1	0.00	0.00	0.00
16,300.0	90.09	0.00	6,723.9	9,017.6	1,283.9	9,108.2	0.00	0.00	0.00
16,400.0	90.09	0.00	6,723.7	9,117.6	1,283.9	9,207.3	0.00	0.00	0.00
16,500.0	90.09	0.00	6,723.6	9,217.6	1,283.9	9,306.4	0.00	0.00	0.00
16,600.0	90.09	0.00	6,723.4	9,317.6	1,283.9	9,405.5	0.00	0.00	0.00
16,700.0	90.09	0.00	6,723.3	9,417.6	1,283.9	9,504.7	0.00	0.00	0.00
16,800.0	90.09	0.00	6,723.1	9,517.6	1,283.9	9,603.8	0.00	0.00	0.00
16,871.9	90.09	0.00	6,723.0	9,589.5	1,283.9	9,675.0	0.00	0.00	0.00
TD at 16871.9 - BHL 200'FNL & 2235'FWL, Sec.6									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 705'FSL & 980'FWL - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,392,861.16	3,251,104.68	40.408301	-104.598275
BHL 200'FNL & 2235'FW - plan hits target center - Point	0.00	0.00	6,723.0	9,589.5	1,283.9	1,402,462.82	3,252,290.93	40.434623	-104.593663

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Project:</b>	SEC.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-11-15)		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,400.5	6,737.9	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,613.8	3,490.0	Parkman		0.00	
4,377.8	4,210.0	Sussex		0.00	
6,801.9	6,516.0	Sharon Springs		0.00	
6,907.5	6,585.0	Niobrara A		0.00	
7,127.4	6,690.0	Niobrara B		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP - Start Build 1.50
5,047.7	4,841.2	-99.1	196.7	Start Drop -2.00
6,025.3	5,800.0	-572.7	1,136.4	Start 173.9 hold at 6025.3 MD
6,199.3	5,973.9	-647.1	1,283.9	Start Build 7.50
7,400.5	6,737.9	-647.1	1,283.9	End of Build
16,871.9	6,723.0	118.0	1,283.9	TD at 16871.9





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T5N-R64W**

**Dunn 5N64W7 Pad Sec.7-T5N-R64W**

**Dunn 7Q-241**

**Wellbore #1**

**Plan #1 (9-11-15)**

## **Anticollision Report**

**24 September, 2015**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (9-11-15)		
<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>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 800.0 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b> 9/24/2015			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	16,871.9	Plan #1 (9-11-15) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Dunn 5N64W7 Pad Sec.7-T5N-R64W						
Dunn 7I-201 - Wellbore #1 - Plan #1 (9-8-15)	600.0	600.0	104.9	102.5	42.441	CC, ES
Dunn 7I-201 - Wellbore #1 - Plan #1 (9-8-15)	1,200.0	1,197.5	132.6	127.4	25.794	SF
Dunn 7I-221 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	74.7	72.2	30.207	CC, ES
Dunn 7I-221 - Wellbore #1 - Plan #1 (9-10-15)	1,100.0	1,098.6	93.9	89.2	20.124	SF
Dunn 7I-321 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	90.0	87.5	36.397	CC, ES
Dunn 7I-321 - Wellbore #1 - Plan #1 (9-10-15)	1,200.0	1,197.5	118.5	113.4	23.091	SF
Dunn 7L-201 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	59.8	57.3	24.168	CC, ES
Dunn 7L-201 - Wellbore #1 - Plan #1 (9-10-15)	1,000.0	999.3	71.5	67.3	16.998	SF
Dunn 7L-221 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	29.9	27.4	12.085	CC, ES
Dunn 7L-221 - Wellbore #1 - Plan #1 (9-10-15)	16,871.9	16,759.2	555.1	179.3	1.477	Level 3, SF
Dunn 7L-301 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	44.8	42.3	18.124	CC, ES
Dunn 7L-301 - Wellbore #1 - Plan #1 (9-10-15)	900.0	899.7	51.1	47.4	13.602	SF
Dunn 7L-341 - Wellbore #1 - Plan #1 (9-10-15)	600.0	600.0	119.9	117.4	48.480	CC, ES
Dunn 7L-341 - Wellbore #1 - Plan #1 (9-10-15)	1,300.0	1,296.1	158.8	153.2	28.257	SF
Dunn 7Q-221 - Wellbore #1 - Plan #1 (9-11-15)	200.0	200.0	30.2	29.6	44.847	CC
Dunn 7Q-221 - Wellbore #1 - Plan #1 (9-11-15)	300.0	299.7	30.7	29.6	27.667	ES
Dunn 7Q-221 - Wellbore #1 - Plan #1 (9-11-15)	16,871.9	17,009.7	517.5	140.6	1.373	Level 3, SF
Dunn 7Q-301 - Wellbore #1 - Plan #1 (9-11-15)	400.0	400.0	15.3	13.7	9.727	CC
Dunn 7Q-301 - Wellbore #1 - Plan #1 (9-11-15)	16,871.9	17,000.1	248.9	-112.7	0.688	Level 1, ES, SF
Dunn 7Q-341 - Wellbore #1 - Plan #1 (9-11-15)	600.0	600.0	14.9	12.5	6.041	CC
Dunn 7Q-341 - Wellbore #1 - Plan #1 (9-11-15)	16,871.9	16,888.0	251.0	-114.7	0.686	Level 1, ES, SF
Dunn Pad Sec.7-T5N-R64W						
Dunn 24-7 (Exist.) - Wellbore #1 - Wellbore #1	3,530.6	3,398.7	319.0	233.8	3.744	CC
Dunn 24-7 (Exist.) - Wellbore #1 - Wellbore #1	3,600.0	3,464.0	319.8	232.9	3.679	ES
Dunn 24-7 (Exist.) - Wellbore #1 - Wellbore #1	7,221.4	6,704.3	457.3	304.3	2.988	SF
Dunn 7PD (AL) - Wellbore #1 - Design #1	7,733.7	6,807.8	60.2	20.8	1.528	CC, ES, SF
Existing Wells - Sec.7-T5N-R64W						
Dunn #23-7 (Exist.) - Wellbore #1 - Wellbore #1	8,362.6	6,721.4	288.3	123.5	1.749	CC, ES, SF
Little Will #7 (P&A) - Wellbore #1 - Wellbore #1	15,225.9	6,710.6	332.0	41.1	1.141	Level 2, CC, ES, SF
Silva #1 (Exist.) - Wellbore #1 - Wellbore #1	12,555.1	6,690.8	633.5	393.7	2.642	CC, ES
Silva #1 (Exist.) - Wellbore #1 - Wellbore #1	12,600.0	6,690.7	635.1	394.4	2.639	SF
Silva #23-6 (Exist.) - Wellbore #1 - Wellbore #1	13,710.8	6,698.0	333.1	71.2	1.272	Level 3, CC, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
0.0	0.0	0.0	0.0	0.0	0.0	0.61	104.9	1.1	104.9					
100.0	100.0	100.0	100.0	0.1	0.1	0.61	104.9	1.1	104.9	104.7	0.22	466.893		
200.0	200.0	200.0	200.0	0.3	0.3	0.61	104.9	1.1	104.9	104.3	0.67	155.622		
300.0	300.0	300.0	300.0	0.6	0.6	0.61	104.9	1.1	104.9	103.8	1.12	93.372		
400.0	400.0	400.0	400.0	0.8	0.8	0.61	104.9	1.1	104.9	103.4	1.57	66.694		
500.0	500.0	500.0	500.0	1.0	1.0	0.61	104.9	1.1	104.9	102.9	2.02	51.873		
600.0	600.0	600.0	600.0	1.2	1.2	0.61	104.9	1.1	104.9	102.5	2.47	42.441 CC, ES		
700.0	700.0	700.0	700.0	1.4	1.5	-116.77	104.9	1.1	105.5	102.6	2.90	36.342		
800.0	799.9	799.9	799.9	1.6	1.7	-118.62	104.9	1.1	107.3	104.0	3.33	32.280		
900.0	899.7	899.7	899.7	1.9	1.9	-121.54	104.9	1.1	110.6	106.9	3.76	29.417		
1,000.0	999.3	999.3	999.3	2.1	2.1	-125.34	104.9	1.1	115.7	111.5	4.21	27.484		
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-129.71	104.9	1.1	122.9	118.2	4.67	26.315		
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-134.36	104.9	1.1	132.6	127.4	5.14	25.794 SF		
1,300.0	1,296.1	1,296.1	1,296.1	3.0	2.8	-139.00	104.9	1.1	145.0	139.4	5.61	25.830		
1,400.0	1,394.2	1,394.2	1,394.2	3.3	3.0	-143.41	104.9	1.1	160.3	154.2	6.09	26.339		
1,500.0	1,491.7	1,491.7	1,491.7	3.7	3.2	-147.45	104.9	1.1	178.6	172.1	6.56	27.244		
1,600.0	1,588.6	1,588.6	1,588.6	4.2	3.5	-151.06	104.9	1.1	200.0	192.9	7.02	28.474		
1,700.0	1,684.9	1,684.9	1,684.9	4.7	3.7	-154.23	104.9	1.1	224.3	216.8	7.48	29.967		
1,800.0	1,780.4	1,780.4	1,780.4	5.3	3.9	-156.99	104.9	1.1	251.5	243.5	7.94	31.670		
1,903.5	1,878.4	1,878.4	1,878.4	5.9	4.1	-159.61	104.4	0.5	282.7	274.3	8.39	33.697		
2,000.0	1,969.3	1,968.8	1,968.8	6.5	4.3	-162.21	102.3	-1.6	313.4	304.6	8.80	35.605		
2,100.0	2,063.5	2,061.8	2,061.6	7.2	4.4	-164.79	98.7	-5.3	346.0	336.7	9.22	37.507		
2,200.0	2,157.7	2,154.0	2,153.5	7.9	4.6	-167.27	93.5	-10.6	379.3	369.7	9.65	39.317		
2,300.0	2,252.0	2,245.2	2,244.2	8.6	4.8	-169.65	86.8	-17.4	413.6	403.5	10.08	41.035		
2,400.0	2,346.2	2,335.5	2,333.7	9.3	5.0	-171.94	78.7	-25.7	448.8	438.3	10.52	42.653		
2,500.0	2,440.4	2,424.6	2,421.8	9.9	5.2	-174.15	69.3	-35.3	485.2	474.2	10.99	44.163		
2,600.0	2,534.7	2,512.6	2,508.4	10.6	5.4	-176.26	58.6	-46.3	522.7	511.2	11.47	45.559		
2,700.0	2,628.9	2,600.0	2,594.2	11.3	5.7	-178.31	46.6	-58.6	561.4	549.4	11.99	46.821		
2,800.0	2,723.1	2,684.7	2,676.8	12.0	6.0	-179.76	33.6	-71.8	601.4	588.8	12.54	47.965		
2,900.0	2,817.4	2,768.8	2,758.4	12.8	6.3	-177.90	19.5	-86.3	642.6	629.5	13.12	48.983		
3,000.0	2,911.6	2,851.4	2,838.2	13.5	6.6	-176.12	4.4	-101.7	685.3	671.5	13.74	49.889		
3,100.0	3,005.8	2,932.7	2,916.1	14.2	6.9	-174.41	-11.6	-118.1	729.3	714.9	14.39	50.695		
3,200.0	3,100.1	3,012.4	2,992.1	14.9	7.3	-172.79	-28.4	-135.3	774.6	759.6	15.07	51.417		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference													Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (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	
0.0	0.0	0.0	0.0	0.0	0.0	0.43	0.43	74.7	0.6	74.7				
100.0	100.0	100.0	100.0	0.1	0.1	0.43	0.43	74.7	0.6	74.7	74.5	0.22	332.315	
200.0	200.0	200.0	200.0	0.3	0.3	0.43	0.43	74.7	0.6	74.7	74.0	0.67	110.765	
300.0	300.0	300.0	300.0	0.6	0.6	0.43	0.43	74.7	0.6	74.7	73.6	1.12	66.458	
400.0	400.0	400.0	400.0	0.8	0.8	0.43	0.43	74.7	0.6	74.7	73.1	1.57	47.470	
500.0	500.0	500.0	500.0	1.0	1.0	0.43	0.43	74.7	0.6	74.7	72.7	2.02	36.921	
600.0	600.0	600.0	600.0	1.2	1.2	0.43	0.43	74.7	0.6	74.7	72.2	2.47	30.207 CC, ES	
700.0	700.0	700.0	700.0	1.4	1.5	-117.21	-117.21	74.7	0.6	75.3	72.4	2.90	25.927	
800.0	799.9	799.9	799.9	1.6	1.7	-119.77	-119.77	74.7	0.6	77.1	73.8	3.33	23.200	
900.0	899.7	899.7	899.7	1.9	1.9	-123.76	-123.76	74.7	0.6	80.6	76.8	3.76	21.434	
1,000.0	999.3	999.3	999.3	2.1	2.1	-128.76	-128.76	74.7	0.6	86.0	81.8	4.21	20.447	
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-134.26	-134.26	74.7	0.6	93.9	89.2	4.66	20.124 SF	
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-139.78	-139.78	74.7	0.6	104.4	99.3	5.13	20.374	
1,300.0	1,296.1	1,296.1	1,296.1	3.0	2.8	-144.96	-144.96	74.7	0.6	117.9	112.3	5.59	21.106	
1,400.0	1,394.2	1,394.2	1,394.2	3.3	3.0	-149.59	-149.59	74.7	0.6	134.4	128.4	6.05	22.235	
1,500.0	1,491.7	1,491.7	1,491.7	3.7	3.2	-153.59	-153.59	74.7	0.6	154.0	147.5	6.50	23.681	
1,600.0	1,588.6	1,590.2	1,590.2	4.2	3.4	-157.38	-157.38	73.7	0.1	176.1	169.1	6.93	25.412	
1,700.0	1,684.9	1,688.1	1,688.1	4.7	3.6	-161.24	-161.24	70.5	-1.5	200.3	193.0	7.32	27.365	
1,800.0	1,780.4	1,785.0	1,784.8	5.3	3.8	-165.02	-165.02	65.1	-4.1	227.1	219.4	7.71	29.463	
1,903.5	1,878.4	1,884.2	1,883.5	5.9	4.0	-168.78	-168.78	57.3	-7.9	257.6	249.5	8.11	31.765	
2,000.0	1,969.3	1,975.7	1,974.4	6.5	4.2	-172.14	-172.14	48.1	-12.4	287.8	279.2	8.53	33.726	
2,100.0	2,063.5	2,069.9	2,067.8	7.2	4.4	-175.36	-175.36	36.5	-18.0	319.6	310.6	9.00	35.517	
2,200.0	2,157.7	2,163.6	2,160.2	7.9	4.6	-178.37	-178.37	23.0	-24.6	352.0	342.5	9.50	37.058	
2,300.0	2,252.0	2,256.4	2,251.5	8.6	4.9	-178.78	-178.78	7.6	-32.2	385.2	375.1	10.04	38.352	
2,400.0	2,346.2	2,348.3	2,341.4	9.3	5.2	-176.08	-176.08	-9.6	-40.6	419.2	408.6	10.64	39.414	
2,500.0	2,440.4	2,440.2	2,431.0	9.9	5.5	-173.60	-173.60	-28.1	-49.6	454.1	442.8	11.28	40.251	
2,600.0	2,534.7	2,532.2	2,520.6	10.6	5.8	-171.46	-171.46	-46.5	-58.6	489.6	477.7	11.96	40.931	
2,700.0	2,628.9	2,624.1	2,610.2	11.3	6.2	-169.60	-169.60	-65.0	-67.6	525.7	513.1	12.67	41.488	
2,800.0	2,723.1	2,716.1	2,699.8	12.0	6.5	-167.97	-167.97	-83.5	-76.6	562.3	548.9	13.41	41.943	
2,900.0	2,817.4	2,808.0	2,789.5	12.8	6.9	-166.54	-166.54	-101.9	-85.6	599.1	585.0	14.16	42.319	
3,000.0	2,911.6	2,900.0	2,879.1	13.5	7.3	-165.27	-165.27	-120.4	-94.6	636.3	621.4	14.93	42.631	
3,100.0	3,005.8	2,991.9	2,968.7	14.2	7.6	-164.15	-164.15	-138.8	-103.6	673.7	658.0	15.71	42.891	
3,200.0	3,100.1	3,083.9	3,058.3	14.9	8.0	-163.13	-163.13	-157.3	-112.6	711.3	694.8	16.50	43.111	
3,300.0	3,194.3	3,175.8	3,148.0	15.6	8.4	-162.22	-162.22	-175.8	-121.6	749.1	731.8	17.30	43.298	
3,400.0	3,288.6	3,267.8	3,237.6	16.3	8.8	-161.40	-161.40	-194.2	-130.6	787.1	768.9	18.11	43.458	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
0.0	0.0	0.0	0.0	0.0	0.0	0.53	90.0	0.8	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	0.53	90.0	0.8	90.0	89.8	0.22	400.405		
200.0	200.0	200.0	200.0	0.3	0.3	0.53	90.0	0.8	90.0	89.3	0.67	133.460		
300.0	300.0	300.0	300.0	0.6	0.6	0.53	90.0	0.8	90.0	88.9	1.12	80.075		
400.0	400.0	400.0	400.0	0.8	0.8	0.53	90.0	0.8	90.0	88.4	1.57	57.196		
500.0	500.0	500.0	500.0	1.0	1.0	0.53	90.0	0.8	90.0	88.0	2.02	44.486		
600.0	600.0	600.0	600.0	1.2	1.2	0.53	90.0	0.8	90.0	87.5	2.47	36.397 CC, ES		
700.0	700.0	700.0	700.0	1.4	1.5	-116.95	90.0	0.8	90.6	87.7	2.90	31.197		
800.0	799.9	799.9	799.9	1.6	1.7	-119.10	90.0	0.8	92.4	89.1	3.33	27.793		
900.0	899.7	899.7	899.7	1.9	1.9	-122.47	90.0	0.8	95.8	92.0	3.76	25.468		
1,000.0	999.3	999.3	999.3	2.1	2.1	-126.78	90.0	0.8	101.0	96.8	4.21	23.997		
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-131.65	90.0	0.8	108.5	103.8	4.67	23.238		
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-136.71	90.0	0.8	118.5	113.4	5.13	23.091 SF		
1,300.0	1,296.1	1,296.1	1,296.1	3.0	2.8	-141.63	90.0	0.8	131.4	125.8	5.60	23.466		
1,400.0	1,394.2	1,394.2	1,394.2	3.3	3.0	-146.19	90.0	0.8	147.3	141.2	6.07	24.279		
1,500.0	1,491.7	1,491.7	1,491.7	3.7	3.2	-150.25	90.0	0.8	166.2	159.7	6.53	25.452		
1,600.0	1,588.6	1,588.6	1,588.6	4.2	3.5	-153.81	90.0	0.8	188.1	181.1	6.99	26.914		
1,700.0	1,684.9	1,685.8	1,685.7	4.7	3.7	-157.15	89.2	0.2	212.8	205.3	7.42	28.676		
1,800.0	1,780.4	1,781.9	1,781.8	5.3	3.8	-160.57	86.6	-1.8	240.1	232.3	7.82	30.712		
1,903.5	1,878.4	1,879.9	1,879.7	5.9	4.0	-164.05	81.9	-5.5	271.4	263.2	8.22	33.026		
2,000.0	1,969.3	1,970.2	1,969.6	6.5	4.2	-167.24	75.9	-10.2	302.5	293.9	8.62	35.079		
2,100.0	2,063.5	2,063.1	2,061.9	7.2	4.4	-170.30	67.9	-16.5	335.6	326.5	9.06	37.053		
2,200.0	2,157.7	2,155.0	2,153.1	7.9	4.6	-173.17	58.3	-24.0	369.5	360.0	9.51	38.861		
2,300.0	2,252.0	2,246.1	2,243.0	8.6	4.8	-175.86	47.1	-32.8	404.5	394.5	9.99	40.496		
2,400.0	2,346.2	2,336.0	2,331.5	9.3	5.1	-178.40	34.4	-42.8	440.5	430.0	10.50	41.953		
2,500.0	2,440.4	2,424.9	2,418.5	9.9	5.3	-179.19	20.2	-53.9	477.7	466.6	11.05	43.219		
2,600.0	2,534.7	2,512.5	2,503.9	10.6	5.6	-176.91	4.6	-66.1	516.0	504.4	11.64	44.331		
2,700.0	2,628.9	2,600.0	2,588.6	11.3	5.9	-174.72	-12.4	-79.5	555.7	543.4	12.28	45.260		
2,800.0	2,723.1	2,686.1	2,671.6	12.0	6.3	-172.66	-30.5	-93.7	596.5	583.5	12.96	46.035		
2,900.0	2,817.4	2,775.0	2,757.2	12.8	6.7	-170.77	-49.4	-108.5	638.1	624.4	13.68	46.640		
3,000.0	2,911.6	2,864.0	2,842.9	13.5	7.1	-169.11	-68.2	-123.3	680.2	665.7	14.43	47.146		
3,100.0	3,005.8	2,953.0	2,928.6	14.2	7.5	-167.63	-87.1	-138.1	722.7	707.5	15.19	47.570		
3,200.0	3,100.1	3,041.9	3,014.3	14.9	7.9	-166.32	-106.0	-152.9	765.6	749.6	15.97	47.930		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 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	
0.0	0.0	0.0	0.0	0.0	0.0	0.53	59.8	0.6	59.8				
100.0	100.0	100.0	100.0	0.1	0.1	0.53	59.8	0.6	59.8	59.5	0.22	265.874	
200.0	200.0	200.0	200.0	0.3	0.3	0.53	59.8	0.6	59.8	59.1	0.67	88.619	
300.0	300.0	300.0	300.0	0.6	0.6	0.53	59.8	0.6	59.8	58.6	1.12	53.171	
400.0	400.0	400.0	400.0	0.8	0.8	0.53	59.8	0.6	59.8	58.2	1.57	37.979	
500.0	500.0	500.0	500.0	1.0	1.0	0.53	59.8	0.6	59.8	57.7	2.02	29.539	
600.0	600.0	600.0	600.0	1.2	1.2	0.53	59.8	0.6	59.8	57.3	2.47	24.168	CC, ES
700.0	700.0	700.0	700.0	1.4	1.5	-117.32	59.8	0.6	60.3	57.4	2.90	20.784	
800.0	799.9	799.9	799.9	1.6	1.7	-120.51	59.8	0.6	62.2	58.9	3.33	18.717	
900.0	899.7	899.7	899.7	1.9	1.9	-125.37	59.8	0.6	65.8	62.0	3.76	17.500	
1,000.0	999.3	999.3	999.3	2.1	2.1	-131.28	59.8	0.6	71.5	67.3	4.21	16.998	SF
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-137.53	59.8	0.6	79.8	75.1	4.66	17.118	
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-143.53	59.8	0.6	90.9	85.8	5.12	17.769	
1,300.0	1,296.1	1,296.1	1,296.1	3.0	2.8	-148.89	59.8	0.6	105.1	99.5	5.57	18.858	
1,400.0	1,394.2	1,394.2	1,394.2	3.3	3.0	-153.49	59.8	0.6	122.2	116.2	6.02	20.295	
1,500.0	1,491.7	1,494.9	1,494.9	3.7	3.2	-157.63	58.6	0.9	141.4	134.9	6.45	21.921	
1,600.0	1,588.6	1,596.1	1,596.0	4.2	3.4	-161.50	55.0	2.2	161.1	154.3	6.84	23.549	
1,700.0	1,684.9	1,697.4	1,697.1	4.7	3.6	-165.16	48.8	4.3	181.7	174.4	7.24	25.104	
1,800.0	1,780.4	1,798.8	1,798.1	5.3	3.8	-168.64	40.1	7.2	203.1	195.4	7.64	26.598	
1,903.5	1,878.4	1,903.8	1,902.3	5.9	4.0	-172.08	28.3	11.2	226.3	218.3	8.06	28.079	
2,000.0	1,969.3	2,001.8	1,999.3	6.5	4.2	-175.15	15.0	15.8	247.9	239.4	8.51	29.117	
2,100.0	2,063.5	2,104.0	2,100.0	7.2	4.5	-178.20	-1.5	21.4	268.9	259.9	9.02	29.811	
2,200.0	2,157.7	2,204.0	2,198.2	7.9	4.8	178.92	-19.9	27.6	288.8	279.2	9.57	30.180	
2,300.0	2,252.0	2,301.1	2,293.3	8.6	5.1	176.44	-38.1	33.8	309.0	298.9	10.16	30.424	
2,400.0	2,346.2	2,398.2	2,388.5	9.3	5.4	174.26	-56.2	39.9	329.8	319.0	10.79	30.575	
2,500.0	2,440.4	2,495.3	2,483.7	9.9	5.8	172.34	-74.4	46.1	350.9	339.5	11.45	30.653	
2,600.0	2,534.7	2,592.4	2,578.9	10.6	6.1	170.63	-92.6	52.3	372.4	360.2	12.14	30.674	
2,700.0	2,628.9	2,689.5	2,674.0	11.3	6.5	169.11	-110.8	58.5	394.1	381.3	12.86	30.650	
2,800.0	2,723.1	2,786.6	2,769.2	12.0	6.9	167.75	-129.0	64.6	416.1	402.5	13.60	30.595	
2,900.0	2,817.4	2,883.7	2,864.4	12.8	7.3	166.52	-147.2	70.8	438.3	424.0	14.36	30.518	
3,000.0	2,911.6	2,980.8	2,959.6	13.5	7.6	165.42	-165.4	77.0	460.7	445.6	15.14	30.425	
3,100.0	3,005.8	3,077.9	3,054.7	14.2	8.0	164.41	-183.6	83.2	483.2	467.3	15.94	30.322	
3,200.0	3,100.1	3,175.0	3,149.9	14.9	8.4	163.49	-201.8	89.3	505.9	489.1	16.74	30.213	
3,300.0	3,194.3	3,272.1	3,245.1	15.6	8.8	162.65	-220.0	95.5	528.6	511.1	17.56	30.102	
3,400.0	3,288.6	3,369.2	3,340.3	16.3	9.2	161.89	-238.2	101.7	551.5	533.1	18.39	29.990	
3,500.0	3,382.8	3,466.3	3,435.4	17.0	9.6	161.18	-256.4	107.9	574.5	555.2	19.23	29.879	
3,600.0	3,477.0	3,563.4	3,530.6	17.7	10.0	160.52	-274.6	114.1	597.5	577.4	20.07	29.771	
3,700.0	3,571.3	3,660.4	3,625.8	18.4	10.4	159.92	-292.8	120.2	620.6	599.7	20.92	29.665	
3,800.0	3,665.5	3,757.5	3,720.9	19.1	10.8	159.36	-310.9	126.4	643.7	622.0	21.78	29.562	
3,900.0	3,759.7	3,854.6	3,816.1	19.9	11.3	158.83	-329.1	132.6	666.9	644.3	22.64	29.463	
4,000.0	3,854.0	3,951.7	3,911.3	20.6	11.7	158.34	-347.3	138.8	690.2	666.7	23.50	29.368	
4,100.0	3,948.2	4,048.8	4,006.5	21.3	12.1	157.89	-365.5	144.9	713.5	689.1	24.37	29.276	
4,200.0	4,042.4	4,145.9	4,101.6	22.0	12.5	157.46	-383.7	151.1	736.9	711.6	25.24	29.189	
4,300.0	4,136.7	4,243.0	4,196.8	22.7	12.9	157.06	-401.9	157.3	760.2	734.1	26.12	29.104	
4,400.0	4,230.9	4,340.1	4,292.0	23.4	13.3	156.68	-420.1	163.5	783.7	756.7	27.00	29.024	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.53	29.9	0.3	29.9	29.9	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.53	29.9	0.3	29.9	29.7	0.22	132.946		
200.0	200.0	200.0	200.0	0.3	0.3	0.53	29.9	0.3	29.9	29.2	0.67	44.313		
300.0	300.0	300.0	300.0	0.6	0.6	0.53	29.9	0.3	29.9	28.8	1.12	26.587		
400.0	400.0	400.0	400.0	0.8	0.8	0.53	29.9	0.3	29.9	28.3	1.57	18.991		
500.0	500.0	500.0	500.0	1.0	1.0	0.53	29.9	0.3	29.9	27.9	2.02	14.771		
600.0	600.0	600.0	600.0	1.2	1.2	0.53	29.9	0.3	29.9	27.4	2.47	12.085 CC, ES		
700.0	700.0	700.0	700.0	1.4	1.5	-118.41	29.9	0.3	30.5	27.6	2.90	10.498		
800.0	799.9	799.9	799.9	1.6	1.7	-124.48	29.9	0.3	32.5	29.2	3.33	9.782		
900.0	899.7	899.7	899.7	1.9	1.9	-132.88	29.9	0.3	36.6	32.9	3.76	9.744		
1,000.0	999.3	999.3	999.3	2.1	2.1	-141.69	29.9	0.3	43.4	39.2	4.20	10.327		
1,100.0	1,098.6	1,099.9	1,099.9	2.3	2.3	-149.23	29.0	1.2	51.9	47.3	4.62	11.222		
1,200.0	1,197.5	1,200.8	1,200.7	2.6	2.5	-155.27	26.3	4.1	60.8	55.8	5.03	12.093		
1,300.0	1,296.1	1,301.9	1,301.6	3.0	2.7	-160.33	21.7	9.0	70.0	64.6	5.44	12.877		
1,400.0	1,394.2	1,403.3	1,402.5	3.3	2.9	-164.73	15.4	15.8	79.5	73.6	5.85	13.587		
1,500.0	1,491.7	1,504.9	1,503.4	3.7	3.2	-168.67	7.1	24.6	89.3	83.0	6.27	14.232		
1,600.0	1,588.6	1,606.7	1,604.2	4.2	3.5	-172.26	-2.9	35.4	99.3	92.6	6.70	14.817		
1,700.0	1,684.9	1,708.7	1,704.7	4.7	3.8	-175.58	-14.9	48.2	109.7	102.5	7.15	15.341		
1,800.0	1,780.4	1,811.0	1,804.9	5.3	4.1	-178.69	-28.7	62.9	120.4	112.8	7.62	15.796		
1,903.5	1,878.4	1,917.0	1,908.3	5.9	4.5	-178.27	-44.9	80.3	131.8	123.7	8.14	16.189		
2,000.0	1,969.3	2,013.5	2,001.8	6.5	4.9	175.74	-60.9	97.4	142.3	133.6	8.70	16.360		
2,100.0	2,063.5	2,112.7	2,098.0	7.2	5.3	173.48	-77.4	115.1	153.4	144.1	9.31	16.467		
2,200.0	2,157.7	2,211.9	2,194.3	7.9	5.8	171.54	-93.8	132.7	164.7	154.7	9.96	16.524		
2,300.0	2,252.0	2,311.1	2,290.5	8.6	6.3	169.84	-110.3	150.3	176.1	165.5	10.65	16.542		
2,400.0	2,346.2	2,410.3	2,386.7	9.3	6.7	168.35	-126.8	168.0	187.7	176.3	11.35	16.528		
2,500.0	2,440.4	2,509.6	2,483.0	9.9	7.2	167.04	-143.3	185.6	199.4	187.3	12.09	16.492		
2,600.0	2,534.7	2,608.8	2,579.2	10.6	7.7	165.87	-159.8	203.3	211.1	198.3	12.84	16.440		
2,700.0	2,628.9	2,708.0	2,675.5	11.3	8.2	164.82	-176.2	220.9	223.0	209.4	13.62	16.378		
2,800.0	2,723.1	2,807.2	2,771.7	12.0	8.7	163.88	-192.7	238.5	234.9	220.5	14.40	16.308		
2,900.0	2,817.4	2,906.4	2,867.9	12.8	9.2	163.04	-209.2	256.2	246.9	231.7	15.21	16.235		
3,000.0	2,911.6	3,005.6	2,964.2	13.5	9.7	162.27	-225.7	273.8	258.9	242.9	16.02	16.161		
3,100.0	3,005.8	3,104.9	3,060.4	14.2	10.2	161.56	-242.2	291.5	271.0	254.1	16.85	16.085		
3,200.0	3,100.1	3,204.1	3,156.6	14.9	10.7	160.92	-258.6	309.1	283.1	265.4	17.68	16.011		
3,300.0	3,194.3	3,303.3	3,252.9	15.6	11.2	160.33	-275.1	326.7	295.2	276.7	18.52	15.938		
3,400.0	3,288.6	3,402.5	3,349.1	16.3	11.7	159.79	-291.6	344.4	307.4	288.0	19.37	15.868		
3,500.0	3,382.8	3,501.7	3,445.3	17.0	12.2	159.29	-308.1	362.0	319.6	299.3	20.23	15.799		
3,600.0	3,477.0	3,600.9	3,541.6	17.7	12.8	158.82	-324.6	379.7	331.8	310.7	21.09	15.733		
3,700.0	3,571.3	3,700.2	3,637.8	18.4	13.3	158.39	-341.0	397.3	344.0	322.1	21.95	15.670		
3,800.0	3,665.5	3,799.4	3,734.0	19.1	13.8	157.99	-357.5	414.9	356.3	333.4	22.82	15.609		
3,900.0	3,759.7	3,898.6	3,830.3	19.9	14.3	157.61	-374.0	432.6	368.5	344.8	23.70	15.550		
4,000.0	3,854.0	3,997.8	3,926.5	20.6	14.8	157.26	-390.5	450.2	380.8	356.2	24.58	15.495		
4,100.0	3,948.2	4,097.0	4,022.7	21.3	15.3	156.93	-407.0	467.9	393.1	367.6	25.46	15.441		
4,200.0	4,042.4	4,196.2	4,119.0	22.0	15.9	156.63	-423.4	485.5	405.4	379.1	26.34	15.390		
4,300.0	4,136.7	4,295.5	4,215.2	22.7	16.4	156.33	-439.9	503.1	417.7	390.5	27.23	15.341		
4,400.0	4,230.9	4,394.7	4,311.5	23.4	16.9	156.06	-456.4	520.8	430.0	401.9	28.12	15.295		
4,500.0	4,325.1	4,493.9	4,407.7	24.1	17.4	155.80	-472.9	538.4	442.4	413.4	29.01	15.250		
4,600.0	4,419.4	4,593.1	4,503.9	24.9	17.9	155.56	-489.4	556.1	454.7	424.8	29.90	15.207		
4,700.0	4,513.6	4,692.3	4,600.2	25.6	18.5	155.32	-505.8	573.7	467.1	436.3	30.80	15.166		
4,800.0	4,607.8	4,791.5	4,696.4	26.3	19.0	155.10	-522.3	591.3	479.4	447.7	31.69	15.127		
4,900.0	4,702.1	4,890.8	4,792.6	27.0	19.5	154.90	-538.8	609.0	491.8	459.2	32.59	15.090		
5,000.0	4,796.3	4,990.0	4,888.9	27.7	20.0	154.70	-555.3	626.6	504.2	470.7	33.49	15.054		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
5,047.7	4,841.2	5,037.3	4,934.8	28.1	20.3	154.60	-563.1	635.0	510.1	476.1	33.92	15.037		
5,100.0	4,890.7	5,089.2	4,985.1	28.4	20.5	154.54	-571.8	644.3	516.1	481.7	34.40	15.003		
5,200.0	4,986.0	5,188.8	5,081.7	28.9	21.1	154.27	-588.3	662.0	525.3	490.0	35.30	14.881		
5,300.0	5,082.4	5,279.0	5,169.4	29.3	21.5	153.93	-602.8	677.4	532.1	496.0	36.10	14.738		
5,400.0	5,179.6	5,366.7	5,255.2	29.7	21.8	153.65	-615.0	690.6	537.9	501.2	36.77	14.632		
5,500.0	5,277.6	5,454.3	5,341.5	30.1	22.1	153.42	-625.5	701.8	543.0	505.6	37.33	14.544		
5,600.0	5,376.2	5,542.0	5,428.2	30.4	22.3	153.23	-634.2	711.1	547.1	509.3	37.81	14.469		
5,700.0	5,475.4	5,629.6	5,515.3	30.6	22.5	153.08	-641.0	718.4	550.4	512.2	38.21	14.406		
5,800.0	5,574.9	5,717.3	5,602.6	30.8	22.7	152.97	-646.1	723.8	552.9	514.4	38.52	14.353		
5,900.0	5,674.7	5,800.0	5,685.2	31.0	22.8	152.91	-649.2	727.1	554.5	515.7	38.73	14.315		
6,000.0	5,774.7	5,892.6	5,777.8	31.1	22.9	152.88	-650.7	728.7	555.1	516.2	38.88	14.279		
6,025.3	5,800.0	5,914.8	5,800.0	31.1	23.0	-90.37	-650.7	728.8	555.1	516.2	38.90	14.270		
6,100.0	5,874.7	5,989.5	5,874.7	31.2	23.0	-90.37	-650.7	728.8	555.1	516.0	39.09	14.200		
6,199.3	5,973.9	6,088.7	5,973.9	31.3	23.2	-90.37	-650.7	728.8	555.1	515.8	39.34	14.112		
6,250.0	6,024.6	6,139.7	6,024.9	31.3	23.2	-90.37	-649.0	728.8	555.1	515.7	39.43	14.078		
6,300.0	6,074.4	6,190.0	6,074.9	31.3	23.2	-90.37	-644.0	728.8	555.1	515.7	39.46	14.067		
6,350.0	6,123.7	6,240.2	6,124.4	31.3	23.2	-90.37	-635.8	728.8	555.1	515.7	39.43	14.078		
6,400.0	6,172.4	6,290.4	6,173.3	31.3	23.2	-90.36	-624.3	728.8	555.1	515.8	39.34	14.109		
6,450.0	6,220.2	6,340.7	6,221.3	31.2	23.1	-90.35	-609.6	728.8	555.1	515.9	39.21	14.159		
6,500.0	6,267.0	6,390.9	6,268.2	31.2	23.0	-90.35	-591.8	728.8	555.1	516.1	39.02	14.227		
6,550.0	6,312.5	6,441.1	6,313.9	31.1	22.9	-90.33	-570.9	728.8	555.1	516.3	38.79	14.310		
6,600.0	6,356.5	6,491.3	6,358.1	31.0	22.8	-90.32	-547.1	728.8	555.1	516.6	38.53	14.406		
6,650.0	6,399.0	6,541.5	6,400.6	30.9	22.7	-90.31	-520.4	728.8	555.1	516.9	38.25	14.512		
6,700.0	6,439.6	6,591.7	6,441.3	30.8	22.5	-90.30	-491.1	728.8	555.1	517.2	37.96	14.625		
6,750.0	6,478.2	6,641.9	6,480.0	30.7	22.4	-90.28	-459.1	728.8	555.1	517.5	37.66	14.742		
6,800.0	6,514.6	6,692.1	6,516.5	30.6	22.2	-90.26	-424.6	728.8	555.1	517.8	37.36	14.857		
6,850.0	6,548.8	6,742.2	6,550.6	30.5	22.1	-90.25	-387.9	728.8	555.1	518.0	37.09	14.967		
6,900.0	6,580.5	6,792.4	6,582.2	30.3	21.9	-90.23	-349.0	728.8	555.1	518.3	36.84	15.067		
6,950.0	6,609.5	6,842.5	6,611.2	30.2	21.7	-90.21	-308.1	728.8	555.1	518.5	36.64	15.151		
7,000.0	6,635.9	6,892.6	6,637.5	30.1	21.5	-90.19	-265.4	728.8	555.1	518.6	36.48	15.215		
7,050.0	6,659.4	6,942.7	6,660.8	29.9	21.4	-90.16	-221.1	728.8	555.1	518.7	36.39	15.253		
7,100.0	6,680.0	6,992.8	6,681.3	29.8	21.2	-90.14	-175.3	728.8	555.1	518.7	36.37	15.262		
7,150.0	6,697.6	7,042.9	6,698.7	29.7	21.0	-90.12	-128.4	728.8	555.1	518.7	36.43	15.239		
7,200.0	6,712.0	7,093.0	6,712.9	29.6	20.9	-90.10	-80.4	728.8	555.1	518.5	36.56	15.182		
7,250.0	6,723.3	7,143.0	6,724.0	29.5	20.7	-90.07	-31.6	728.8	555.1	518.3	36.79	15.090		
7,300.0	6,731.4	7,193.1	6,731.9	29.4	20.5	-90.05	17.8	728.8	555.1	518.0	37.10	14.964		
7,350.0	6,736.3	7,243.1	6,736.5	29.3	20.4	-90.02	67.6	728.8	555.1	517.6	37.49	14.806		
7,400.5	6,737.9	7,293.6	6,737.9	29.2	20.3	-90.00	118.0	728.8	555.1	517.1	37.97	14.619		
7,500.0	6,737.7	7,393.1	6,737.7	29.1	20.0	-90.00	217.6	728.8	555.1	515.9	39.19	14.163		
7,600.0	6,737.6	7,493.1	6,737.6	29.1	20.1	-90.00	317.6	728.8	555.1	514.4	40.74	13.626		
7,700.0	6,737.4	7,593.1	6,737.4	29.2	21.1	-90.00	417.6	728.8	555.1	512.5	42.58	13.037		
7,800.0	6,737.3	7,693.1	6,737.2	29.5	22.3	-90.00	517.6	728.8	555.1	510.4	44.67	12.426		
7,900.0	6,737.1	7,793.1	6,737.1	29.9	23.5	-90.00	617.6	728.8	555.1	508.1	46.99	11.814		
8,000.0	6,736.9	7,893.1	6,736.9	30.6	24.9	-90.00	717.6	728.8	555.1	505.6	49.49	11.216		
8,100.0	6,736.8	7,993.1	6,736.8	31.4	26.3	-90.00	817.6	728.8	555.1	502.9	52.16	10.643		
8,200.0	6,736.6	8,093.1	6,736.6	32.4	27.7	-90.00	917.6	728.8	555.1	500.1	54.97	10.099		
8,300.0	6,736.5	8,193.1	6,736.5	33.5	29.2	-90.00	1,017.6	728.8	555.1	497.2	57.89	9.589		
8,400.0	6,736.3	8,293.1	6,736.3	34.7	30.8	-90.00	1,117.6	728.8	555.1	494.2	60.92	9.112		
8,500.0	6,736.2	8,393.1	6,736.1	36.1	32.4	-90.00	1,217.6	728.8	555.1	491.1	64.03	8.669		
8,600.0	6,736.0	8,493.1	6,736.0	37.5	34.0	-90.00	1,317.6	728.8	555.1	487.9	67.22	8.257		
8,700.0	6,735.8	8,593.1	6,735.8	39.0	35.6	-90.00	1,417.6	728.8	555.1	484.6	70.48	7.876		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Dunn 5N64W7 Pad Sec.7-T5N-R64W - Dunn 7L-221 - Wellbore #1 - Plan #1 (9-10-15)													
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
8,800.0	6,735.7	8,693.1	6,735.7	40.5	37.3	-90.00	1,517.6	728.8	555.1	481.3	73.79	7.523	
8,900.0	6,735.5	8,793.1	6,735.5	42.0	39.0	-90.00	1,617.6	728.8	555.1	478.0	77.15	7.195	
9,000.0	6,735.4	8,893.1	6,735.4	43.6	40.7	-90.00	1,717.6	728.8	555.1	474.5	80.55	6.891	
9,100.0	6,735.2	8,993.1	6,735.2	45.2	42.4	-90.00	1,817.6	728.8	555.1	471.1	84.00	6.609	
9,200.0	6,735.1	9,093.1	6,735.0	46.9	44.1	-90.00	1,917.6	728.8	555.1	467.6	87.47	6.346	
9,300.0	6,734.9	9,193.1	6,734.9	48.5	45.9	-90.00	2,017.6	728.8	555.1	464.1	90.97	6.102	
9,400.0	6,734.7	9,293.1	6,734.7	50.2	47.6	-90.00	2,117.6	728.8	555.1	460.6	94.50	5.874	
9,500.0	6,734.6	9,393.1	6,734.6	51.9	49.4	-90.00	2,217.6	728.8	555.1	457.0	98.06	5.661	
9,600.0	6,734.4	9,493.1	6,734.4	53.6	51.2	-90.00	2,317.6	728.8	555.1	453.5	101.63	5.462	
9,700.0	6,734.3	9,593.1	6,734.3	55.3	53.0	-90.00	2,417.6	728.8	555.1	449.9	105.23	5.275	
9,800.0	6,734.1	9,693.1	6,734.1	57.1	54.8	-90.00	2,517.6	728.8	555.1	446.3	108.84	5.100	
9,900.0	6,734.0	9,793.1	6,733.9	58.8	56.6	-90.00	2,617.6	728.8	555.1	442.6	112.46	4.936	
10,000.0	6,733.8	9,893.1	6,733.8	60.6	58.4	-90.00	2,717.6	728.8	555.1	439.0	116.10	4.781	
10,100.0	6,733.6	9,993.1	6,733.6	62.3	60.2	-90.00	2,817.6	728.8	555.1	435.3	119.75	4.635	
10,200.0	6,733.5	10,093.1	6,733.5	64.1	62.0	-90.00	2,917.6	728.8	555.1	431.7	123.42	4.498	
10,300.0	6,733.3	10,193.1	6,733.3	65.9	63.9	-90.00	3,017.6	728.8	555.1	428.0	127.09	4.368	
10,400.0	6,733.2	10,293.1	6,733.2	67.7	65.7	-90.00	3,117.6	728.8	555.1	424.3	130.77	4.245	
10,500.0	6,733.0	10,393.1	6,733.0	69.5	67.5	-90.00	3,217.6	728.8	555.1	420.6	134.47	4.128	
10,600.0	6,732.9	10,493.1	6,732.8	71.3	69.4	-90.00	3,317.6	728.8	555.1	416.9	138.17	4.018	
10,700.0	6,732.7	10,593.1	6,732.7	73.1	71.2	-90.00	3,417.6	728.8	555.1	413.2	141.88	3.913	
10,800.0	6,732.5	10,693.1	6,732.5	74.9	73.1	-90.00	3,517.6	728.8	555.1	409.5	145.59	3.813	
10,900.0	6,732.4	10,793.1	6,732.4	76.7	74.9	-90.00	3,617.6	728.8	555.1	405.8	149.31	3.718	
11,000.0	6,732.2	10,893.1	6,732.2	78.6	76.8	-90.00	3,717.6	728.8	555.1	402.1	153.04	3.627	
11,100.0	6,732.1	10,993.1	6,732.1	80.4	78.6	-90.00	3,817.6	728.8	555.1	398.3	156.77	3.541	
11,200.0	6,731.9	11,093.1	6,731.9	82.2	80.5	-90.00	3,917.6	728.8	555.1	394.6	160.51	3.458	
11,300.0	6,731.8	11,193.1	6,731.7	84.1	82.4	-90.00	4,017.6	728.8	555.1	390.8	164.25	3.380	
11,400.0	6,731.6	11,293.1	6,731.6	85.9	84.2	-90.00	4,117.6	728.8	555.1	387.1	168.00	3.304	
11,500.0	6,731.4	11,393.1	6,731.4	87.7	86.1	-90.00	4,217.6	728.8	555.1	383.3	171.75	3.232	
11,600.0	6,731.3	11,493.1	6,731.3	89.6	88.0	-90.00	4,317.6	728.8	555.1	379.6	175.51	3.163	
11,700.0	6,731.1	11,593.1	6,731.1	91.4	89.9	-90.00	4,417.6	728.8	555.1	375.8	179.26	3.097	
11,800.0	6,731.0	11,693.1	6,731.0	93.3	91.7	-90.00	4,517.6	728.8	555.1	372.1	183.03	3.033	
11,900.0	6,730.8	11,793.1	6,730.8	95.1	93.6	-90.00	4,617.6	728.8	555.1	368.3	186.79	2.972	
12,000.0	6,730.7	11,893.1	6,730.6	97.0	95.5	-90.00	4,717.6	728.8	555.1	364.5	190.56	2.913	
12,100.0	6,730.5	11,993.1	6,730.5	98.9	97.4	-90.00	4,817.6	728.8	555.1	360.8	194.33	2.856	
12,200.0	6,730.3	12,093.1	6,730.3	100.7	99.3	-90.00	4,917.6	728.8	555.1	357.0	198.11	2.802	
12,300.0	6,730.2	12,193.1	6,730.2	102.6	101.1	-90.00	5,017.6	728.8	555.1	353.2	201.88	2.750	
12,400.0	6,730.0	12,293.1	6,730.0	104.5	103.0	-90.00	5,117.6	728.8	555.1	349.4	205.66	2.699	
12,500.0	6,729.9	12,393.1	6,729.9	106.3	104.9	-90.00	5,217.6	728.8	555.1	345.7	209.44	2.650	
12,600.0	6,729.7	12,493.1	6,729.7	108.2	106.8	-90.00	5,317.6	728.8	555.1	341.9	213.23	2.603	
12,700.0	6,729.6	12,593.1	6,729.5	110.1	108.7	-90.00	5,417.6	728.8	555.1	338.1	217.01	2.558	
12,800.0	6,729.4	12,693.1	6,729.4	111.9	110.6	-90.00	5,517.6	728.8	555.1	334.3	220.80	2.514	
12,900.0	6,729.2	12,793.1	6,729.2	113.8	112.5	-90.00	5,617.6	728.8	555.1	330.5	224.59	2.472	
13,000.0	6,729.1	12,893.1	6,729.1	115.7	114.4	-90.00	5,717.6	728.8	555.1	326.7	228.38	2.431	
13,100.0	6,728.9	12,993.1	6,728.9	117.6	116.2	-90.00	5,817.6	728.8	555.1	322.9	232.17	2.391	
13,200.0	6,728.8	13,093.1	6,728.8	119.4	118.1	-90.00	5,917.6	728.8	555.1	319.1	235.96	2.352	
13,300.0	6,728.6	13,193.1	6,728.6	121.3	120.0	-90.00	6,017.6	728.8	555.1	315.3	239.76	2.315	
13,400.0	6,728.5	13,293.1	6,728.4	123.2	121.9	-90.00	6,117.6	728.8	555.1	311.5	243.56	2.279	
13,500.0	6,728.3	13,393.1	6,728.3	125.1	123.8	-90.00	6,217.6	728.8	555.1	307.7	247.36	2.244	
13,600.0	6,728.1	13,493.1	6,728.1	127.0	125.7	-90.00	6,317.6	728.8	555.1	303.9	251.16	2.210	
13,700.0	6,728.0	13,593.1	6,728.0	128.8	127.6	-90.00	6,417.6	728.8	555.1	300.1	254.96	2.177	
13,800.0	6,727.8	13,693.1	6,727.8	130.7	129.5	-90.00	6,517.6	728.8	555.1	296.3	258.76	2.145	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 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	
13,900.0	6,727.7	13,793.1	6,727.7	132.6	131.4	-90.00	6,617.6	728.8	555.1	292.5	262.56	2.114	
14,000.0	6,727.5	13,893.1	6,727.5	134.5	133.3	-90.00	6,717.6	728.8	555.1	288.7	266.37	2.084	
14,100.0	6,727.4	13,993.1	6,727.3	136.4	135.2	-90.00	6,817.6	728.8	555.1	284.9	270.17	2.055	
14,200.0	6,727.2	14,093.1	6,727.2	138.3	137.1	-90.00	6,917.6	728.8	555.1	281.1	273.98	2.026	
14,300.0	6,727.0	14,193.1	6,727.0	140.2	139.0	-90.00	7,017.6	728.8	555.1	277.3	277.78	1.998	
14,400.0	6,726.9	14,293.1	6,726.9	142.1	140.9	-90.00	7,117.6	728.8	555.1	273.5	281.59	1.971	
14,500.0	6,726.7	14,393.1	6,726.7	144.0	142.8	-90.00	7,217.6	728.8	555.1	269.7	285.40	1.945	
14,600.0	6,726.6	14,493.1	6,726.6	145.8	144.7	-90.00	7,317.6	728.8	555.1	265.9	289.21	1.919	
14,700.0	6,726.4	14,593.1	6,726.4	147.7	146.6	-90.00	7,417.6	728.8	555.1	262.1	293.02	1.894	
14,800.0	6,726.3	14,693.1	6,726.2	149.6	148.5	-90.00	7,517.6	728.8	555.1	258.3	296.83	1.870	
14,900.0	6,726.1	14,793.1	6,726.1	151.5	150.4	-90.00	7,617.6	728.8	555.1	254.4	300.65	1.846	
15,000.0	6,725.9	14,893.1	6,725.9	153.4	152.3	-90.00	7,717.6	728.8	555.1	250.6	304.46	1.823	
15,100.0	6,725.8	14,993.1	6,725.8	155.3	154.2	-90.00	7,817.6	728.8	555.1	246.8	308.27	1.801	
15,200.0	6,725.6	15,093.1	6,725.6	157.2	156.1	-90.00	7,917.6	728.8	555.1	243.0	312.09	1.779	
15,300.0	6,725.5	15,193.1	6,725.5	159.1	158.0	-90.00	8,017.6	728.8	555.1	239.2	315.90	1.757	
15,400.0	6,725.3	15,293.1	6,725.3	161.0	160.0	-90.00	8,117.6	728.8	555.1	235.4	319.72	1.736	
15,500.0	6,725.2	15,393.1	6,725.1	162.9	161.9	-90.00	8,217.6	728.8	555.1	231.6	323.54	1.716	
15,600.0	6,725.0	15,493.1	6,725.0	164.8	163.8	-90.00	8,317.6	728.8	555.1	227.7	327.35	1.696	
15,700.0	6,724.8	15,593.1	6,724.8	166.7	165.7	-90.00	8,417.6	728.8	555.1	223.9	331.17	1.676	
15,800.0	6,724.7	15,693.1	6,724.7	168.6	167.6	-90.00	8,517.6	728.8	555.1	220.1	334.99	1.657	
15,900.0	6,724.5	15,793.1	6,724.5	170.5	169.5	-90.00	8,617.6	728.8	555.1	216.3	338.81	1.638	
16,000.0	6,724.4	15,893.1	6,724.4	172.4	171.4	-90.00	8,717.6	728.8	555.1	212.5	342.63	1.620	
16,100.0	6,724.2	15,993.1	6,724.2	174.3	173.3	-90.00	8,817.6	728.8	555.1	208.6	346.44	1.602	
16,200.0	6,724.1	16,093.1	6,724.0	176.2	175.2	-90.00	8,917.6	728.8	555.1	204.8	350.26	1.585	
16,300.0	6,723.9	16,193.1	6,723.9	178.1	177.1	-90.00	9,017.6	728.8	555.1	201.0	354.09	1.568	
16,400.0	6,723.7	16,293.1	6,723.7	180.0	179.0	-90.00	9,117.6	728.8	555.1	197.2	357.91	1.551	
16,500.0	6,723.6	16,393.1	6,723.6	181.9	180.9	-90.00	9,217.6	728.8	555.1	193.4	361.73	1.535	
16,600.0	6,723.4	16,493.1	6,723.4	183.8	182.8	-90.00	9,317.6	728.8	555.1	189.5	365.55	1.519	
16,700.0	6,723.3	16,593.1	6,723.3	185.7	184.8	-90.00	9,417.6	728.8	555.1	185.7	369.37	1.503	
16,800.0	6,723.1	16,693.1	6,723.1	187.6	186.7	-90.00	9,517.6	728.8	555.1	181.9	373.19	1.487 Level 3	
16,850.9	6,723.0	16,744.0	6,723.0	188.6	187.6	-90.00	9,568.5	728.8	555.1	179.9	375.14	1.480 Level 3	
16,871.9	6,723.0	16,759.2	6,723.0	189.0	187.9	-90.00	9,583.7	728.8	555.1	179.3	375.83	1.477 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 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	
0.0	0.0	0.0	0.0	0.0	0.0	0.36	44.8	0.3	44.8				
100.0	100.0	100.0	100.0	0.1	0.1	0.36	44.8	0.3	44.8	44.6	0.22	199.387	
200.0	200.0	200.0	200.0	0.3	0.3	0.36	44.8	0.3	44.8	44.1	0.67	66.458	
300.0	300.0	300.0	300.0	0.6	0.6	0.36	44.8	0.3	44.8	43.7	1.12	39.874	
400.0	400.0	400.0	400.0	0.8	0.8	0.36	44.8	0.3	44.8	43.2	1.57	28.482	
500.0	500.0	500.0	500.0	1.0	1.0	0.36	44.8	0.3	44.8	42.8	2.02	22.152	
600.0	600.0	600.0	600.0	1.2	1.2	0.36	44.8	0.3	44.8	42.3	2.47	18.124 CC, ES	
700.0	700.0	700.0	700.0	1.4	1.5	-117.86	44.8	0.3	45.4	42.5	2.90	15.640	
800.0	799.9	799.9	799.9	1.6	1.7	-122.04	44.8	0.3	47.4	44.0	3.33	14.245	
900.0	899.7	899.7	899.7	1.9	1.9	-128.21	44.8	0.3	51.1	47.4	3.76	13.602 SF	
1,000.0	999.3	999.3	999.3	2.1	2.1	-135.34	44.8	0.3	57.3	53.1	4.20	13.620	
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-142.41	44.8	0.3	66.2	61.5	4.65	14.216	
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-148.74	44.8	0.3	78.1	73.0	5.10	15.293	
1,300.0	1,296.1	1,298.5	1,298.4	3.0	2.8	-154.21	43.8	1.0	91.8	86.2	5.53	16.596	
1,400.0	1,394.2	1,399.7	1,399.6	3.3	3.0	-158.96	40.5	3.2	105.9	99.9	5.93	17.862	
1,500.0	1,491.7	1,501.3	1,501.0	3.7	3.2	-163.21	35.0	7.0	120.5	114.1	6.33	19.028	
1,600.0	1,588.6	1,603.1	1,602.3	4.2	3.4	-167.11	27.3	12.3	135.5	128.8	6.74	20.112	
1,700.0	1,684.9	1,705.1	1,703.6	4.7	3.6	-170.73	17.3	19.1	151.1	144.0	7.15	21.123	
1,800.0	1,780.4	1,807.3	1,804.8	5.3	3.9	-174.14	5.0	27.5	167.3	159.8	7.59	22.058	
1,903.5	1,878.4	1,913.4	1,909.2	5.9	4.2	-177.47	-10.0	37.8	184.8	176.8	8.06	22.932	
2,000.0	1,969.3	2,011.7	2,005.6	6.5	4.5	179.61	-26.1	48.7	200.6	192.0	8.57	23.410	
2,100.0	2,063.5	2,109.9	2,101.7	7.2	4.8	177.01	-42.8	60.2	216.7	207.6	9.13	23.730	
2,200.0	2,157.7	2,208.2	2,197.8	7.9	5.2	174.77	-59.6	71.6	233.2	223.4	9.73	23.956	
2,300.0	2,252.0	2,306.4	2,294.0	8.6	5.5	172.83	-76.3	83.0	249.9	239.6	10.37	24.109	
2,400.0	2,346.2	2,404.7	2,390.1	9.3	5.9	171.13	-93.0	94.5	267.0	255.9	11.03	24.201	
2,500.0	2,440.4	2,502.9	2,486.3	9.9	6.3	169.63	-109.8	105.9	284.2	272.4	11.72	24.246	
2,600.0	2,534.7	2,601.2	2,582.4	10.6	6.7	168.31	-126.5	117.4	301.5	289.1	12.43	24.255	
2,700.0	2,628.9	2,699.4	2,678.5	11.3	7.1	167.13	-143.3	128.8	319.1	305.9	13.16	24.237	
2,800.0	2,723.1	2,797.7	2,774.7	12.0	7.5	166.07	-160.0	140.2	336.7	322.8	13.91	24.199	
2,900.0	2,817.4	2,895.9	2,870.8	12.8	8.0	165.12	-176.7	151.7	354.4	339.8	14.68	24.148	
3,000.0	2,911.6	2,994.2	2,966.9	13.5	8.4	164.26	-193.5	163.1	372.3	356.8	15.46	24.087	
3,100.0	3,005.8	3,092.4	3,063.1	14.2	8.8	163.48	-210.2	174.6	390.2	373.9	16.24	24.020	
3,200.0	3,100.1	3,190.7	3,159.2	14.9	9.2	162.76	-227.0	186.0	408.1	391.1	17.04	23.949	
3,300.0	3,194.3	3,288.9	3,255.3	15.6	9.7	162.11	-243.7	197.4	426.2	408.3	17.85	23.876	
3,400.0	3,288.6	3,387.2	3,351.5	16.3	10.1	161.51	-260.4	208.9	444.2	425.6	18.66	23.802	
3,500.0	3,382.8	3,485.4	3,447.6	17.0	10.5	160.96	-277.2	220.3	462.3	442.9	19.48	23.729	
3,600.0	3,477.0	3,583.7	3,543.8	17.7	11.0	160.44	-293.9	231.8	480.5	460.2	20.31	23.656	
3,700.0	3,571.3	3,681.9	3,639.9	18.4	11.4	159.97	-310.7	243.2	498.7	477.5	21.14	23.586	
3,800.0	3,665.5	3,780.2	3,736.0	19.1	11.8	159.53	-327.4	254.6	516.9	494.9	21.98	23.517	
3,900.0	3,759.7	3,878.4	3,832.2	19.9	12.3	159.12	-344.1	266.1	535.1	512.3	22.82	23.449	
4,000.0	3,854.0	3,976.7	3,928.3	20.6	12.7	158.73	-360.9	277.5	553.4	529.7	23.67	23.385	
4,100.0	3,948.2	4,074.9	4,024.4	21.3	13.2	158.37	-377.6	289.0	571.7	547.2	24.51	23.322	
4,200.0	4,042.4	4,173.2	4,120.6	22.0	13.6	158.03	-394.4	300.4	590.0	564.7	25.36	23.261	
4,300.0	4,136.7	4,271.4	4,216.7	22.7	14.0	157.72	-411.1	311.8	608.4	582.1	26.22	23.203	
4,400.0	4,230.9	4,369.7	4,312.8	23.4	14.5	157.42	-427.9	323.3	626.7	599.6	27.07	23.147	
4,500.0	4,325.1	4,467.9	4,409.0	24.1	14.9	157.14	-444.6	334.7	645.1	617.1	27.93	23.093	
4,600.0	4,419.4	4,566.2	4,505.1	24.9	15.4	156.87	-461.3	346.2	663.4	634.7	28.79	23.041	
4,700.0	4,513.6	4,664.4	4,601.3	25.6	15.8	156.62	-478.1	357.6	681.8	652.2	29.66	22.991	
4,800.0	4,607.8	4,762.7	4,697.4	26.3	16.3	156.38	-494.8	369.0	700.2	669.7	30.52	22.944	
4,900.0	4,702.1	4,860.9	4,793.5	27.0	16.7	156.15	-511.6	380.5	718.7	687.3	31.39	22.897	
5,000.0	4,796.3	4,959.2	4,889.7	27.7	17.2	155.94	-528.3	391.9	737.1	704.8	32.25	22.853	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Dunn 5N64W7 Pad Sec.7-T5N-R64W - Dunn 7L-301 - Wellbore #1 - Plan #1 (9-10-15)												<b>Offset Well Error:</b>	0.0 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
5,047.7	4,841.2	5,006.1	4,935.5	28.1	17.4	155.84	-536.3	397.4	745.9	713.2	32.67	22.833	
5,100.0	4,890.7	5,057.5	4,985.9	28.4	17.6	155.80	-545.0	403.4	755.1	722.0	33.14	22.787	
5,200.0	4,986.0	5,156.3	5,082.5	28.9	18.1	155.62	-561.9	414.9	770.3	736.3	33.99	22.662	
5,300.0	5,082.4	5,255.4	5,179.5	29.3	18.5	155.32	-578.8	426.4	782.4	747.6	34.85	22.453	
5,400.0	5,179.6	5,354.7	5,276.7	29.7	19.0	154.90	-595.7	438.0	791.5	755.8	35.70	22.168	
5,500.0	5,277.6	5,444.9	5,365.0	30.1	19.3	154.45	-610.6	448.1	797.8	761.4	36.43	21.901	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Dunn 5N64W7 Pad Sec.7-T5N-R64W - Dunn 7L-341 - Wellbore #1 - Plan #1 (9-10-15)		Offset Site Error:		0.0 ft
Survey Program:				0-MWD									Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	0.0	0.0	0.0	0.0	0.53	119.9	1.1	119.9								
100.0	100.0	100.0	100.0	0.1	0.1	0.53	119.9	1.1	119.9	119.6	0.22	533.333					
200.0	200.0	200.0	200.0	0.3	0.3	0.53	119.9	1.1	119.9	119.2	0.67	177.767					
300.0	300.0	300.0	300.0	0.6	0.6	0.53	119.9	1.1	119.9	118.7	1.12	106.659					
400.0	400.0	400.0	400.0	0.8	0.8	0.53	119.9	1.1	119.9	118.3	1.57	76.184					
500.0	500.0	500.0	500.0	1.0	1.0	0.53	119.9	1.1	119.9	117.8	2.02	59.254					
600.0	600.0	600.0	600.0	1.2	1.2	0.53	119.9	1.1	119.9	117.4	2.47	48.480 CC, ES					
700.0	700.0	700.0	700.0	1.4	1.5	-116.77	119.9	1.1	120.4	117.5	2.90	41.486					
800.0	799.9	799.9	799.9	1.6	1.7	-118.38	119.9	1.1	122.3	118.9	3.33	36.768					
900.0	899.7	899.7	899.7	1.9	1.9	-120.97	119.9	1.1	125.5	121.8	3.76	33.375					
1,000.0	999.3	999.3	999.3	2.1	2.1	-124.34	119.9	1.1	130.5	126.3	4.21	30.992					
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	-128.29	119.9	1.1	137.5	132.8	4.67	29.426					
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	-132.56	119.9	1.1	146.8	141.7	5.14	28.547					
1,300.0	1,296.1	1,296.1	1,296.1	3.0	2.8	-136.91	119.9	1.1	158.8	153.2	5.62	28.257 SF					
1,400.0	1,394.2	1,394.2	1,394.2	3.3	3.0	-141.14	119.9	1.1	173.7	167.6	6.10	28.471					
1,500.0	1,491.7	1,491.7	1,491.7	3.7	3.2	-145.09	119.9	1.1	191.5	184.9	6.58	29.112					
1,600.0	1,588.6	1,588.6	1,588.6	4.2	3.5	-148.70	119.9	1.1	212.3	205.3	7.05	30.108					
1,700.0	1,684.9	1,684.9	1,684.9	4.7	3.7	-151.92	119.9	1.1	236.1	228.6	7.52	31.397					
1,800.0	1,780.4	1,780.4	1,780.4	5.3	3.9	-154.76	119.9	1.1	262.9	254.9	7.99	32.923					
1,903.5	1,878.4	1,878.4	1,878.4	5.9	4.1	-157.33	119.9	1.1	293.6	285.2	8.46	34.706					
2,000.0	1,969.3	1,969.3	1,969.3	6.5	4.3	-159.52	119.9	1.1	323.9	315.0	8.93	36.284					
2,100.0	2,063.5	2,063.5	2,063.5	7.2	4.5	-161.39	119.9	1.1	355.6	346.2	9.41	37.791					
2,200.0	2,157.7	2,157.7	2,157.7	7.9	4.7	-162.97	119.9	1.1	387.7	377.8	9.90	39.171					
2,300.0	2,252.0	2,252.0	2,252.0	8.6	4.9	-164.30	119.9	1.1	419.9	409.5	10.38	40.435					
2,400.0	2,346.2	2,346.2	2,346.2	9.3	5.2	-165.44	119.9	1.1	452.3	441.5	10.88	41.593					
2,500.0	2,440.4	2,440.4	2,440.4	9.9	5.4	-166.43	119.9	1.1	484.9	473.5	11.37	42.654					
2,600.0	2,534.7	2,537.8	2,537.8	10.6	5.6	-167.34	119.7	1.1	517.5	505.6	11.86	43.643					
2,700.0	2,628.9	2,640.9	2,640.9	11.3	5.8	-168.38	117.3	1.0	549.0	536.7	12.32	44.559					
2,800.0	2,723.1	2,744.7	2,744.5	12.0	6.0	-169.54	112.0	0.9	579.1	566.3	12.76	45.372					
2,900.0	2,817.4	2,848.9	2,848.4	12.8	6.1	-170.81	103.9	0.7	607.9	594.7	13.21	46.025					
3,000.0	2,911.6	2,953.5	2,952.4	13.5	6.3	-172.19	93.0	0.4	635.6	621.9	13.66	46.523					
3,100.0	3,005.8	3,058.3	3,056.3	14.2	6.5	-173.65	79.2	0.0	662.1	647.9	14.13	46.868					
3,200.0	3,100.1	3,163.1	3,159.7	14.9	6.8	-175.21	62.5	-0.5	687.6	673.0	14.61	47.054					
3,300.0	3,194.3	3,267.7	3,262.5	15.6	7.0	-176.85	43.0	-1.1	712.2	697.1	15.13	47.080					
3,400.0	3,288.6	3,372.1	3,364.5	16.3	7.3	-178.57	20.8	-1.7	736.1	720.4	15.69	46.928					
3,500.0	3,382.8	3,476.0	3,465.4	17.0	7.6	-179.63	-4.1	-2.4	759.4	743.1	16.30	46.602					
3,600.0	3,477.0	3,579.3	3,565.0	17.7	8.0	-177.77	-31.5	-3.2	782.2	765.2	16.97	46.102					

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-179.47	-30.2	-0.3	30.2	30.2	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	-179.47	-30.2	-0.3	30.2	30.0	0.22	134.549		
200.0	200.0	200.0	200.0	0.3	0.3	-179.47	-30.2	-0.3	30.2	29.6	0.67	44.847 CC		
300.0	300.0	299.7	299.7	0.6	0.5	178.22	-30.7	1.0	30.7	29.6	1.11	27.667 ES		
400.0	400.0	399.3	399.2	0.8	0.8	171.72	-31.9	4.6	32.3	30.7	1.55	20.859		
500.0	500.0	498.6	498.3	1.0	1.0	162.43	-34.0	10.8	35.7	33.7	2.00	17.823		
600.0	600.0	597.6	596.9	1.2	1.2	152.40	-36.9	19.3	41.8	39.3	2.48	16.812		
700.0	700.0	696.1	694.7	1.4	1.5	27.25	-40.6	30.2	49.7	46.8	2.90	17.114		
800.0	799.9	794.4	792.0	1.6	1.8	20.96	-45.1	43.4	58.2	54.9	3.34	17.438		
900.0	899.7	892.4	888.6	1.9	2.2	16.05	-50.4	59.0	67.1	63.3	3.79	17.727		
1,000.0	999.3	990.2	984.5	2.1	2.6	12.07	-56.5	76.8	76.2	72.0	4.24	17.971		
1,100.0	1,098.6	1,087.7	1,079.7	2.3	3.0	8.74	-63.3	96.9	85.5	80.8	4.71	18.167		
1,200.0	1,197.5	1,184.9	1,174.0	2.6	3.5	5.88	-70.9	119.3	94.9	89.7	5.18	18.318		
1,300.0	1,296.1	1,281.9	1,267.5	3.0	4.0	3.36	-79.3	143.8	104.3	98.7	5.66	18.425		
1,400.0	1,394.2	1,378.6	1,360.0	3.3	4.6	1.11	-88.4	170.5	113.8	107.7	6.15	18.502		
1,500.0	1,491.7	1,475.1	1,451.5	3.7	5.2	-0.94	-98.2	199.3	123.4	116.7	6.66	18.523		
1,600.0	1,588.6	1,571.3	1,542.0	4.2	5.9	-2.83	-108.7	230.2	133.0	125.8	7.19	18.504		
1,700.0	1,684.9	1,667.3	1,631.5	4.7	6.6	-4.58	-120.0	263.2	142.6	134.9	7.73	18.443		
1,800.0	1,780.4	1,763.0	1,719.8	5.3	7.3	-6.23	-131.9	298.2	152.3	144.0	8.31	18.336		
1,903.5	1,878.4	1,862.5	1,810.5	5.9	8.2	-7.86	-145.0	336.8	162.3	153.4	8.93	18.170		
2,000.0	1,969.3	1,958.5	1,897.7	6.5	9.0	-9.32	-158.0	374.8	171.4	161.8	9.58	17.880		
2,100.0	2,063.5	2,057.9	1,988.0	7.2	9.9	-10.69	-171.4	414.1	180.8	170.6	10.29	17.583		
2,200.0	2,157.7	2,157.4	2,078.4	7.9	10.8	-11.91	-184.8	453.5	190.4	179.4	11.01	17.292		
2,300.0	2,252.0	2,256.8	2,168.7	8.6	11.7	-13.02	-198.2	492.9	200.1	188.3	11.77	17.008		
2,400.0	2,346.2	2,356.3	2,259.1	9.3	12.6	-14.03	-211.6	532.2	209.8	197.3	12.54	16.734		
2,500.0	2,440.4	2,455.8	2,349.5	9.9	13.5	-14.94	-225.0	571.6	219.6	206.3	13.33	16.471		
2,600.0	2,534.7	2,555.2	2,439.8	10.6	14.4	-15.78	-238.4	610.9	229.5	215.3	14.15	16.220		
2,700.0	2,628.9	2,654.7	2,530.2	11.3	15.3	-16.55	-251.8	650.3	239.4	224.4	14.98	15.982		
2,800.0	2,723.1	2,754.1	2,620.5	12.0	16.1	-17.26	-265.2	689.7	249.3	233.5	15.82	15.756		
2,900.0	2,817.4	2,853.6	2,710.9	12.8	17.0	-17.92	-278.6	729.0	259.2	242.6	16.68	15.542		
3,000.0	2,911.6	2,953.1	2,801.2	13.5	18.0	-18.52	-292.0	768.4	269.2	251.7	17.55	15.341		
3,100.0	3,005.8	3,052.5	2,891.6	14.2	18.9	-19.08	-305.4	807.8	279.3	260.8	18.43	15.151		
3,200.0	3,100.1	3,152.0	2,981.9	14.9	19.8	-19.61	-318.8	847.1	289.3	270.0	19.32	14.972		
3,300.0	3,194.3	3,251.5	3,072.3	15.6	20.7	-20.10	-332.2	886.5	299.4	279.2	20.22	14.803		
3,400.0	3,288.6	3,350.9	3,162.6	16.3	21.6	-20.55	-345.6	925.8	309.5	288.3	21.13	14.644		
3,500.0	3,382.8	3,450.4	3,253.0	17.0	22.5	-20.98	-359.0	965.2	319.6	297.5	22.05	14.494		
3,600.0	3,477.0	3,549.8	3,343.3	17.7	23.4	-21.38	-372.4	1,004.6	329.7	306.7	22.97	14.352		
3,700.0	3,571.3	3,649.3	3,433.7	18.4	24.3	-21.76	-385.8	1,043.9	339.8	315.9	23.90	14.219		
3,800.0	3,665.5	3,748.8	3,524.0	19.1	25.2	-22.11	-399.2	1,083.3	350.0	325.2	24.83	14.093		
3,900.0	3,759.7	3,848.2	3,614.4	19.9	26.1	-22.45	-412.6	1,122.6	360.2	334.4	25.77	13.973		
4,000.0	3,854.0	3,947.7	3,704.7	20.6	27.0	-22.77	-426.0	1,162.0	370.3	343.6	26.72	13.860		
4,100.0	3,948.2	4,047.1	3,795.1	21.3	27.9	-23.07	-439.4	1,201.4	380.5	352.8	27.67	13.753		
4,200.0	4,042.4	4,146.6	3,885.4	22.0	28.8	-23.35	-452.8	1,240.7	390.7	362.1	28.62	13.652		
4,300.0	4,136.7	4,246.1	3,975.8	22.7	29.7	-23.62	-466.2	1,280.1	400.9	371.3	29.58	13.556		
4,400.0	4,230.9	4,345.5	4,066.1	23.4	30.6	-23.88	-479.6	1,319.4	411.1	380.6	30.53	13.464		
4,500.0	4,325.1	4,445.0	4,156.5	24.1	31.5	-24.12	-493.0	1,358.8	421.4	389.9	31.50	13.377		
4,600.0	4,419.4	4,544.4	4,246.8	24.9	32.4	-24.36	-506.4	1,398.2	431.6	399.1	32.46	13.295		
4,700.0	4,513.6	4,643.9	4,337.2	25.6	33.3	-24.58	-519.8	1,437.5	441.8	408.4	33.43	13.216		
4,800.0	4,607.8	4,743.4	4,427.5	26.3	34.2	-24.79	-533.2	1,476.9	452.1	417.7	34.40	13.141		
4,900.0	4,702.1	4,842.8	4,517.9	27.0	35.2	-24.99	-546.6	1,516.3	462.3	426.9	35.37	13.069		
5,000.0	4,796.3	4,943.5	4,609.4	27.7	36.1	-25.19	-560.2	1,556.1	472.5	436.2	36.35	12.999		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
5,047.7	4,841.2	4,999.9	4,660.9	28.1	36.5	-25.32	-567.6	1,577.8	476.9	440.0	36.86	12.938		
5,100.0	4,890.7	5,061.9	4,718.0	28.4	36.9	-25.52	-575.3	1,600.5	481.0	443.7	37.36	12.874		
5,200.0	4,986.0	5,180.7	4,828.9	28.9	37.7	-25.86	-589.1	1,640.8	488.4	450.2	38.22	12.778		
5,300.0	5,082.4	5,299.8	4,941.8	29.3	38.3	-26.15	-601.3	1,676.9	494.9	456.0	38.98	12.697		
5,400.0	5,179.6	5,419.3	5,056.6	29.7	38.9	-26.41	-612.1	1,708.5	500.7	461.0	39.64	12.631		
5,500.0	5,277.6	5,539.1	5,172.9	30.1	39.4	-26.62	-621.3	1,735.6	505.6	465.4	40.20	12.578		
5,600.0	5,376.2	5,659.2	5,290.5	30.4	39.8	-26.79	-629.0	1,758.2	509.7	469.0	40.65	12.537		
5,700.0	5,475.4	5,779.4	5,409.2	30.6	40.2	-26.93	-635.1	1,776.0	512.9	471.9	41.01	12.507		
5,800.0	5,574.9	5,899.8	5,528.8	30.8	40.4	-27.03	-639.6	1,789.2	515.3	474.1	41.27	12.488		
5,900.0	5,674.7	6,020.3	5,649.0	31.0	40.6	-27.09	-642.5	1,797.6	516.8	475.4	41.42	12.479		
6,000.0	5,774.7	6,140.8	5,769.5	31.1	40.7	-27.12	-643.7	1,801.2	517.5	476.0	41.47	12.479		
6,025.3	5,800.0	6,171.4	5,800.0	31.1	40.7	89.63	-643.7	1,801.4	517.5	476.0	41.47	12.478		
6,100.0	5,874.7	6,246.1	5,874.7	31.2	40.8	89.63	-643.7	1,801.4	517.5	475.9	41.65	12.426		
6,164.4	5,939.1	6,310.5	5,939.1	31.2	40.8	89.63	-643.7	1,801.4	517.5	475.7	41.79	12.382		
6,199.3	5,973.9	6,345.3	5,973.9	31.3	40.9	89.63	-643.7	1,801.4	517.5	475.6	41.88	12.358		
6,250.0	6,024.6	6,395.8	6,024.4	31.3	40.9	89.59	-641.7	1,801.4	517.5	475.5	41.98	12.326		
6,300.0	6,074.4	6,445.5	6,073.8	31.3	40.9	89.56	-636.5	1,801.4	517.5	475.5	42.03	12.312		
6,350.0	6,123.7	6,495.3	6,122.8	31.3	40.9	89.53	-628.1	1,801.4	517.5	475.5	42.03	12.314		
6,400.0	6,172.4	6,545.0	6,171.2	31.3	40.9	89.50	-616.5	1,801.4	517.5	475.6	41.97	12.331		
6,450.0	6,220.2	6,594.7	6,218.6	31.2	40.8	89.47	-601.8	1,801.4	517.5	475.7	41.86	12.363		
6,500.0	6,267.0	6,644.4	6,265.0	31.2	40.8	89.44	-584.0	1,801.4	517.5	475.8	41.71	12.409		
6,550.0	6,312.5	6,694.0	6,310.1	31.1	40.8	89.42	-563.3	1,801.4	517.5	476.0	41.52	12.465		
6,600.0	6,356.5	6,743.7	6,353.8	31.0	40.7	89.40	-539.7	1,801.4	517.5	476.2	41.30	12.532		
6,650.0	6,399.0	6,793.3	6,395.9	30.9	40.6	89.38	-513.3	1,801.4	517.5	476.5	41.06	12.606		
6,700.0	6,439.6	6,843.0	6,436.1	30.8	40.6	89.37	-484.3	1,801.4	517.5	476.7	40.80	12.685		
6,750.0	6,478.2	6,892.6	6,474.4	30.7	40.5	89.36	-452.7	1,801.4	517.5	477.0	40.54	12.766		
6,800.0	6,514.6	6,942.2	6,510.5	30.6	40.4	89.35	-418.7	1,801.4	517.5	477.3	40.29	12.846		
6,850.0	6,548.8	6,991.8	6,544.3	30.5	40.3	89.34	-382.4	1,801.4	517.5	477.5	40.05	12.921		
6,900.0	6,580.5	7,041.4	6,575.7	30.3	40.2	89.34	-344.0	1,801.4	517.5	477.7	39.85	12.988		
6,950.0	6,609.5	7,091.1	6,604.6	30.2	40.1	89.34	-303.6	1,801.4	517.5	477.9	39.68	13.044		
7,000.0	6,635.9	7,140.7	6,630.7	30.1	40.0	89.34	-261.5	1,801.4	517.5	478.0	39.55	13.084		
7,050.0	6,659.4	7,190.3	6,654.1	29.9	39.9	89.34	-217.8	1,801.4	517.5	478.1	39.49	13.106		
7,100.0	6,680.0	7,239.9	6,674.6	29.8	39.8	89.35	-172.6	1,801.4	517.5	478.1	39.49	13.105		
7,150.0	6,697.6	7,289.5	6,692.1	29.7	39.7	89.36	-126.2	1,801.4	517.5	478.0	39.56	13.081		
7,200.0	6,712.0	7,339.1	6,706.6	29.6	39.7	89.37	-78.7	1,801.4	517.5	477.8	39.71	13.032		
7,250.0	6,723.3	7,388.8	6,717.9	29.5	39.6	89.39	-30.4	1,801.4	517.5	477.6	39.94	12.957		
7,300.0	6,731.4	7,438.4	6,726.1	29.4	39.5	89.41	18.6	1,801.4	517.5	477.3	40.25	12.857		
7,350.0	6,736.3	7,488.1	6,731.1	29.3	39.5	89.43	68.0	1,801.4	517.5	476.9	40.64	12.733		
7,400.5	6,737.9	7,538.2	6,732.9	29.2	39.4	89.45	118.1	1,801.4	517.5	476.4	41.11	12.587		
7,442.7	6,737.8	7,580.4	6,732.9	29.2	39.4	89.45	160.2	1,801.4	517.5	475.9	41.61	12.439		
7,500.0	6,737.7	7,637.7	6,732.8	29.1	39.3	89.46	217.6	1,801.4	517.5	475.2	42.32	12.228		
7,600.0	6,737.6	7,737.7	6,732.7	29.1	39.3	89.46	317.6	1,801.4	517.5	473.7	43.82	11.810		
7,700.0	6,737.4	7,837.7	6,732.6	29.2	39.4	89.47	417.6	1,801.4	517.5	471.9	45.60	11.350		
7,800.0	6,737.3	7,937.7	6,732.5	29.5	39.5	89.47	517.6	1,801.4	517.5	469.9	47.62	10.869		
7,900.0	6,737.1	8,037.7	6,732.4	29.9	39.7	89.48	617.6	1,801.4	517.5	467.7	49.85	10.382		
8,000.0	6,736.9	8,137.7	6,732.3	30.6	40.0	89.49	717.6	1,801.4	517.5	465.3	52.27	9.901		
8,100.0	6,736.8	8,237.7	6,732.2	31.4	40.4	89.49	817.6	1,801.4	517.5	462.7	54.85	9.434		
8,200.0	6,736.6	8,337.7	6,732.1	32.4	40.9	89.50	917.6	1,801.4	517.5	459.9	57.58	8.988		
8,300.0	6,736.5	8,437.7	6,732.0	33.5	41.5	89.50	1,017.6	1,801.4	517.5	457.1	60.42	8.565		
8,400.0	6,736.3	8,537.7	6,731.9	34.7	42.2	89.51	1,117.6	1,801.4	517.5	454.2	63.37	8.166		
8,500.0	6,736.2	8,637.7	6,731.8	36.1	43.0	89.51	1,217.6	1,801.4	517.5	451.1	66.42	7.792		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 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
8,600.0	6,736.0	8,737.7	6,731.7	37.5	44.0	89.52	1,317.6	1,801.4	517.5	448.0	69.54	7.443	
8,700.0	6,735.8	8,837.7	6,731.6	39.0	45.0	89.53	1,417.6	1,801.4	517.5	444.8	72.73	7.116	
8,800.0	6,735.7	8,937.7	6,731.5	40.5	46.1	89.53	1,517.6	1,801.4	517.5	441.5	75.98	6.812	
8,900.0	6,735.5	9,037.7	6,731.3	42.0	47.4	89.54	1,617.6	1,801.4	517.5	438.2	79.28	6.528	
9,000.0	6,735.4	9,137.7	6,731.2	43.6	48.6	89.54	1,717.6	1,801.4	517.5	434.9	82.63	6.263	
9,100.0	6,735.2	9,237.7	6,731.1	45.2	50.0	89.55	1,817.6	1,801.4	517.5	431.5	86.02	6.017	
9,200.0	6,735.1	9,337.7	6,731.0	46.9	51.4	89.56	1,917.6	1,801.4	517.5	428.1	89.44	5.786	
9,300.0	6,734.9	9,437.7	6,730.9	48.5	52.9	89.56	2,017.6	1,801.4	517.5	424.6	92.90	5.571	
9,400.0	6,734.7	9,537.7	6,730.8	50.2	54.4	89.57	2,117.6	1,801.4	517.5	421.1	96.39	5.369	
9,500.0	6,734.6	9,637.7	6,730.7	51.9	55.9	89.57	2,217.6	1,801.4	517.5	417.6	99.90	5.180	
9,600.0	6,734.4	9,737.7	6,730.6	53.6	57.5	89.58	2,317.6	1,801.4	517.5	414.1	103.44	5.003	
9,700.0	6,734.3	9,837.7	6,730.5	55.3	59.0	89.58	2,417.6	1,801.4	517.5	410.5	107.00	4.837	
9,800.0	6,734.1	9,937.7	6,730.4	57.1	60.7	89.59	2,517.6	1,801.4	517.5	406.9	110.57	4.680	
9,900.0	6,734.0	10,037.7	6,730.3	58.8	62.3	89.60	2,617.6	1,801.4	517.5	403.4	114.17	4.533	
10,000.0	6,733.8	10,137.7	6,730.2	60.6	64.0	89.60	2,717.6	1,801.4	517.5	399.7	117.78	4.394	
10,100.0	6,733.6	10,237.7	6,730.1	62.3	65.6	89.61	2,817.6	1,801.4	517.5	396.1	121.40	4.263	
10,200.0	6,733.5	10,337.7	6,730.0	64.1	67.3	89.61	2,917.6	1,801.4	517.5	392.5	125.04	4.139	
10,300.0	6,733.3	10,437.7	6,729.9	65.9	69.0	89.62	3,017.6	1,801.4	517.5	388.8	128.69	4.022	
10,400.0	6,733.2	10,537.7	6,729.8	67.7	70.7	89.62	3,117.6	1,801.4	517.5	385.2	132.34	3.910	
10,500.0	6,733.0	10,637.7	6,729.7	69.5	72.5	89.63	3,217.6	1,801.4	517.5	381.5	136.01	3.805	
10,600.0	6,732.9	10,737.7	6,729.6	71.3	74.2	89.64	3,317.6	1,801.4	517.5	377.8	139.69	3.705	
10,700.0	6,732.7	10,837.7	6,729.5	73.1	75.9	89.64	3,417.6	1,801.4	517.5	374.1	143.38	3.609	
10,800.0	6,732.5	10,937.7	6,729.4	74.9	77.7	89.65	3,517.6	1,801.4	517.5	370.4	147.07	3.519	
10,900.0	6,732.4	11,037.7	6,729.3	76.7	79.5	89.65	3,617.6	1,801.4	517.5	366.7	150.78	3.432	
11,000.0	6,732.2	11,137.7	6,729.2	78.6	81.2	89.66	3,717.6	1,801.4	517.5	363.0	154.48	3.350	
11,100.0	6,732.1	11,237.7	6,729.0	80.4	83.0	89.67	3,817.6	1,801.4	517.5	359.3	158.20	3.271	
11,200.0	6,731.9	11,337.7	6,728.9	82.2	84.8	89.67	3,917.6	1,801.4	517.5	355.6	161.92	3.196	
11,300.0	6,731.8	11,437.7	6,728.8	84.1	86.6	89.68	4,017.6	1,801.4	517.5	351.9	165.65	3.124	
11,400.0	6,731.6	11,537.7	6,728.7	85.9	88.4	89.68	4,117.6	1,801.4	517.5	348.1	169.38	3.055	
11,500.0	6,731.4	11,637.7	6,728.6	87.7	90.2	89.69	4,217.6	1,801.4	517.5	344.4	173.11	2.989	
11,600.0	6,731.3	11,737.7	6,728.5	89.6	92.0	89.69	4,317.6	1,801.4	517.5	340.7	176.86	2.926	
11,700.0	6,731.1	11,837.7	6,728.4	91.4	93.8	89.70	4,417.6	1,801.4	517.5	336.9	180.60	2.866	
11,800.0	6,731.0	11,937.7	6,728.3	93.3	95.6	89.71	4,517.6	1,801.4	517.5	333.2	184.35	2.807	
11,900.0	6,730.8	12,037.7	6,728.2	95.1	97.4	89.71	4,617.6	1,801.4	517.5	329.4	188.10	2.751	
12,000.0	6,730.7	12,137.7	6,728.1	97.0	99.2	89.72	4,717.6	1,801.4	517.5	325.7	191.86	2.697	
12,100.0	6,730.5	12,237.7	6,728.0	98.9	101.1	89.72	4,817.6	1,801.4	517.5	321.9	195.62	2.646	
12,200.0	6,730.3	12,337.7	6,727.9	100.7	102.9	89.73	4,917.6	1,801.4	517.5	318.1	199.38	2.596	
12,300.0	6,730.2	12,437.7	6,727.8	102.6	104.7	89.74	5,017.6	1,801.4	517.5	314.4	203.14	2.548	
12,400.0	6,730.0	12,537.7	6,727.7	104.5	106.6	89.74	5,117.6	1,801.4	517.5	310.6	206.91	2.501	
12,500.0	6,729.9	12,637.7	6,727.6	106.3	108.4	89.75	5,217.6	1,801.4	517.5	306.8	210.68	2.456	
12,600.0	6,729.7	12,737.7	6,727.5	108.2	110.2	89.75	5,317.6	1,801.4	517.5	303.1	214.46	2.413	
12,700.0	6,729.6	12,837.7	6,727.4	110.1	112.1	89.76	5,417.6	1,801.4	517.5	299.3	218.23	2.371	
12,800.0	6,729.4	12,937.7	6,727.3	111.9	113.9	89.76	5,517.6	1,801.4	517.5	295.5	222.01	2.331	
12,900.0	6,729.2	13,037.7	6,727.2	113.8	115.8	89.77	5,617.6	1,801.4	517.5	291.7	225.79	2.292	
13,000.0	6,729.1	13,137.7	6,727.1	115.7	117.6	89.78	5,717.6	1,801.4	517.5	287.9	229.57	2.254	
13,100.0	6,728.9	13,237.7	6,727.0	117.6	119.5	89.78	5,817.6	1,801.4	517.5	284.2	233.35	2.218	
13,200.0	6,728.8	13,337.7	6,726.8	119.4	121.3	89.79	5,917.6	1,801.4	517.5	280.4	237.14	2.182	
13,300.0	6,728.6	13,437.7	6,726.7	121.3	123.2	89.79	6,017.6	1,801.4	517.5	276.6	240.93	2.148	
13,400.0	6,728.5	13,537.7	6,726.6	123.2	125.1	89.80	6,117.6	1,801.4	517.5	272.8	244.72	2.115	
13,500.0	6,728.3	13,637.7	6,726.5	125.1	126.9	89.80	6,217.6	1,801.4	517.5	269.0	248.51	2.082	
13,600.0	6,728.1	13,737.7	6,726.4	127.0	128.8	89.81	6,317.6	1,801.4	517.5	265.2	252.30	2.051	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 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	
13,700.0	6,728.0	13,837.7	6,726.3	128.8	130.7	89.82	6,417.6	1,801.4	517.5	261.4	256.09	2.021	
13,800.0	6,727.8	13,937.7	6,726.2	130.7	132.5	89.82	6,517.6	1,801.4	517.5	257.6	259.89	1.991	
13,900.0	6,727.7	14,037.7	6,726.1	132.6	134.4	89.83	6,617.6	1,801.4	517.5	253.8	263.68	1.963	
14,000.0	6,727.5	14,137.7	6,726.0	134.5	136.3	89.83	6,717.6	1,801.4	517.5	250.0	267.48	1.935	
14,100.0	6,727.4	14,237.7	6,725.9	136.4	138.1	89.84	6,817.6	1,801.4	517.5	246.2	271.28	1.908	
14,200.0	6,727.2	14,337.7	6,725.8	138.3	140.0	89.85	6,917.6	1,801.4	517.5	242.4	275.08	1.881	
14,300.0	6,727.0	14,437.7	6,725.7	140.2	141.9	89.85	7,017.6	1,801.4	517.5	238.6	278.88	1.856	
14,400.0	6,726.9	14,537.7	6,725.6	142.1	143.7	89.86	7,117.6	1,801.4	517.5	234.8	282.68	1.831	
14,500.0	6,726.7	14,637.7	6,725.5	144.0	145.6	89.86	7,217.6	1,801.4	517.5	231.0	286.49	1.806	
14,600.0	6,726.6	14,737.7	6,725.4	145.8	147.5	89.87	7,317.6	1,801.4	517.5	227.2	290.29	1.783	
14,700.0	6,726.4	14,837.7	6,725.3	147.7	149.4	89.87	7,417.6	1,801.4	517.5	223.4	294.09	1.760	
14,800.0	6,726.3	14,937.7	6,725.2	149.6	151.3	89.88	7,517.6	1,801.4	517.5	219.6	297.90	1.737	
14,900.0	6,726.1	15,037.7	6,725.1	151.5	153.1	89.89	7,617.6	1,801.4	517.5	215.8	301.71	1.715	
15,000.0	6,725.9	15,137.7	6,725.0	153.4	155.0	89.89	7,717.6	1,801.4	517.5	212.0	305.51	1.694	
15,100.0	6,725.8	15,237.7	6,724.9	155.3	156.9	89.90	7,817.6	1,801.4	517.5	208.2	309.32	1.673	
15,200.0	6,725.6	15,337.7	6,724.8	157.2	158.8	89.90	7,917.6	1,801.4	517.5	204.4	313.13	1.653	
15,300.0	6,725.5	15,437.7	6,724.6	159.1	160.7	89.91	8,017.6	1,801.4	517.5	200.6	316.94	1.633	
15,400.0	6,725.3	15,537.7	6,724.5	161.0	162.5	89.91	8,117.6	1,801.4	517.5	196.8	320.75	1.613	
15,500.0	6,725.2	15,637.7	6,724.4	162.9	164.4	89.92	8,217.6	1,801.4	517.5	192.9	324.56	1.594	
15,600.0	6,725.0	15,737.7	6,724.3	164.8	166.3	89.93	8,317.6	1,801.4	517.5	189.1	328.38	1.576	
15,700.0	6,724.8	15,837.7	6,724.2	166.7	168.2	89.93	8,417.6	1,801.4	517.5	185.3	332.19	1.558	
15,800.0	6,724.7	15,937.7	6,724.1	168.6	170.1	89.94	8,517.6	1,801.4	517.5	181.5	336.00	1.540	
15,900.0	6,724.5	16,037.7	6,724.0	170.5	172.0	89.94	8,617.6	1,801.4	517.5	177.7	339.82	1.523	
16,000.0	6,724.4	16,137.7	6,723.9	172.4	173.9	89.95	8,717.6	1,801.4	517.5	173.9	343.63	1.506	
16,100.0	6,724.2	16,237.7	6,723.8	174.3	175.8	89.96	8,817.6	1,801.4	517.5	170.1	347.45	1.489 Level 3	
16,200.0	6,724.1	16,337.7	6,723.7	176.2	177.6	89.96	8,917.6	1,801.4	517.5	166.2	351.26	1.473 Level 3	
16,300.0	6,723.9	16,437.7	6,723.6	178.1	179.5	89.97	9,017.6	1,801.4	517.5	162.4	355.08	1.457 Level 3	
16,400.0	6,723.7	16,537.7	6,723.5	180.0	181.4	89.97	9,117.6	1,801.4	517.5	158.6	358.89	1.442 Level 3	
16,500.0	6,723.6	16,637.7	6,723.4	181.9	183.3	89.98	9,217.6	1,801.4	517.5	154.8	362.71	1.427 Level 3	
16,600.0	6,723.4	16,737.7	6,723.3	183.8	185.2	89.98	9,317.6	1,801.4	517.5	151.0	366.53	1.412 Level 3	
16,700.0	6,723.3	16,837.7	6,723.2	185.7	187.1	89.99	9,417.6	1,801.4	517.5	147.2	370.35	1.397 Level 3	
16,800.0	6,723.1	16,937.7	6,723.1	187.6	189.0	90.00	9,517.6	1,801.4	517.5	143.3	374.17	1.383 Level 3	
16,848.4	6,723.0	16,986.1	6,723.0	188.5	189.9	90.00	9,566.0	1,801.4	517.5	141.5	376.01	1.376 Level 3	
16,871.9	6,723.0	17,009.7	6,723.0	189.0	190.4	90.00	9,589.5	1,801.4	517.5	140.6	376.91	1.373 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Dunn 5N64W7 Pad Sec.7-T5N-R64W - Dunn 7Q-301 - Wellbore #1 - Plan #1 (9-11-15)											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-178.96	-15.3	-0.3	15.3	15.3	0.00	N/A			
100.0	100.0	100.0	100.0	0.1	0.1	-178.96	-15.3	-0.3	15.3	15.1	0.22	68.093			
200.0	200.0	200.0	200.0	0.3	0.3	-178.96	-15.3	-0.3	15.3	14.6	0.67	22.696			
300.0	300.0	300.0	300.0	0.6	0.6	-178.96	-15.3	-0.3	15.3	14.2	1.12	13.618			
400.0	400.0	400.0	400.0	0.8	0.8	-178.96	-15.3	-0.3	15.3	13.7	1.57	9.727 CC			
500.0	500.0	499.8	499.8	1.0	1.0	176.64	-15.8	0.9	15.8	13.8	2.00	7.895			
600.0	600.0	599.5	599.4	1.2	1.2	165.30	-17.3	4.5	17.9	15.5	2.43	7.355			
700.0	700.0	699.0	698.7	1.4	1.4	37.19	-19.8	10.5	21.4	18.5	2.85	7.501			
800.0	799.9	798.4	797.7	1.6	1.7	28.89	-23.2	18.9	25.4	22.1	3.27	7.764			
900.0	899.7	897.7	896.3	1.9	1.9	22.60	-27.7	29.6	29.6	25.9	3.70	8.016			
1,000.0	999.3	996.8	994.3	2.1	2.2	17.66	-33.1	42.7	34.1	29.9	4.14	8.239			
1,100.0	1,098.6	1,095.7	1,091.9	2.3	2.6	13.61	-39.5	58.1	38.7	34.1	4.59	8.430			
1,200.0	1,197.5	1,194.6	1,188.9	2.6	2.9	10.20	-46.8	75.8	43.3	38.3	5.04	8.589			
1,300.0	1,296.1	1,293.3	1,285.2	3.0	3.4	7.25	-55.1	95.8	48.0	42.5	5.51	8.720			
1,400.0	1,394.2	1,391.9	1,380.8	3.3	3.8	4.64	-64.3	118.0	52.8	46.8	5.98	8.823			
1,500.0	1,491.7	1,490.3	1,475.6	3.7	4.3	2.28	-74.4	142.5	57.6	51.1	6.47	8.901			
1,600.0	1,588.6	1,588.6	1,569.6	4.2	4.9	0.13	-85.5	169.2	62.4	55.4	6.97	8.954			
1,700.0	1,684.9	1,686.8	1,662.6	4.7	5.5	-1.86	-97.4	198.1	67.3	59.8	7.49	8.980			
1,800.0	1,780.4	1,784.9	1,754.8	5.3	6.2	-3.73	-110.3	229.2	72.2	64.1	8.04	8.978			
1,903.5	1,878.4	1,887.8	1,850.7	5.9	6.9	-5.58	-124.4	263.5	76.6	67.9	8.64	8.863			
2,000.0	1,969.3	1,984.2	1,940.6	6.5	7.7	-7.26	-137.8	295.7	79.5	70.3	9.26	8.591			
2,100.0	2,063.5	2,084.1	2,033.7	7.2	8.4	-8.86	-151.6	329.1	82.7	72.7	9.93	8.326			
2,200.0	2,157.7	2,184.0	2,126.9	7.9	9.2	-10.35	-165.4	362.5	85.9	75.2	10.63	8.077			
2,300.0	2,252.0	2,283.9	2,220.0	8.6	9.9	-11.73	-179.2	395.8	89.1	77.8	11.36	7.844			
2,400.0	2,346.2	2,383.9	2,313.2	9.3	10.7	-13.01	-193.1	429.2	92.4	80.3	12.12	7.625			
2,500.0	2,440.4	2,483.8	2,406.4	9.9	11.4	-14.20	-206.9	462.6	95.8	82.8	12.91	7.419			
2,600.0	2,534.7	2,583.7	2,499.5	10.6	12.2	-15.32	-220.7	496.0	99.1	85.4	13.72	7.227			
2,700.0	2,628.9	2,683.6	2,592.7	11.3	13.0	-16.36	-234.5	529.4	102.5	88.0	14.55	7.047			
2,800.0	2,723.1	2,783.6	2,685.8	12.0	13.7	-17.33	-248.3	562.8	106.0	90.6	15.41	6.878			
2,900.0	2,817.4	2,883.5	2,779.0	12.8	14.5	-18.24	-262.2	596.2	109.5	93.2	16.29	6.721			
3,000.0	2,911.6	2,983.4	2,872.2	13.5	15.3	-19.09	-276.0	629.6	113.0	95.8	17.18	6.575			
3,100.0	3,005.8	3,083.3	2,965.3	14.2	16.0	-19.89	-289.8	663.0	116.5	98.4	18.09	6.438			
3,200.0	3,100.1	3,183.3	3,058.5	14.9	16.8	-20.65	-303.6	696.4	120.0	101.0	19.02	6.311			
3,300.0	3,194.3	3,283.2	3,151.7	15.6	17.6	-21.36	-317.4	729.8	123.6	103.6	19.96	6.191			
3,400.0	3,288.6	3,383.1	3,244.8	16.3	18.4	-22.03	-331.3	763.2	127.2	106.3	20.92	6.080			
3,500.0	3,382.8	3,483.0	3,338.0	17.0	19.1	-22.67	-345.1	796.6	130.8	108.9	21.89	5.976			
3,600.0	3,477.0	3,583.0	3,431.1	17.7	19.9	-23.27	-358.9	830.0	134.4	111.5	22.86	5.879			
3,700.0	3,571.3	3,682.9	3,524.3	18.4	20.7	-23.84	-372.7	863.4	138.0	114.2	23.85	5.788			
3,800.0	3,665.5	3,782.8	3,617.5	19.1	21.5	-24.38	-386.5	896.8	141.7	116.8	24.85	5.702			
3,900.0	3,759.7	3,882.7	3,710.6	19.9	22.2	-24.89	-400.4	930.1	145.3	119.5	25.85	5.622			
4,000.0	3,854.0	3,982.7	3,803.8	20.6	23.0	-25.38	-414.2	963.5	149.0	122.1	26.86	5.546			
4,100.0	3,948.2	4,082.6	3,896.9	21.3	23.8	-25.84	-428.0	996.9	152.7	124.8	27.88	5.475			
4,200.0	4,042.4	4,182.5	3,990.1	22.0	24.6	-26.28	-441.8	1,030.3	156.4	127.4	28.91	5.409			
4,300.0	4,136.7	4,282.4	4,083.3	22.7	25.3	-26.71	-455.6	1,063.7	160.1	130.1	29.94	5.345			
4,400.0	4,230.9	4,382.4	4,176.4	23.4	26.1	-27.11	-469.5	1,097.1	163.8	132.8	30.98	5.286			
4,500.0	4,325.1	4,482.3	4,269.6	24.1	26.9	-27.49	-483.3	1,130.5	167.5	135.4	32.02	5.230			
4,600.0	4,419.4	4,582.2	4,362.7	24.9	27.7	-27.86	-497.1	1,163.9	171.2	138.1	33.07	5.177			
4,700.0	4,513.6	4,682.1	4,455.9	25.6	28.4	-28.22	-510.9	1,197.3	174.9	140.8	34.12	5.126			
4,800.0	4,607.8	4,782.1	4,549.1	26.3	29.2	-28.55	-524.7	1,230.7	178.6	143.5	35.18	5.078			
4,900.0	4,702.1	4,882.0	4,642.2	27.0	30.0	-28.88	-538.6	1,264.1	182.4	146.1	36.24	5.033			
5,000.0	4,796.3	4,981.9	4,735.4	27.7	30.8	-29.19	-552.4	1,297.5	186.1	148.8	37.30	4.990			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
5,047.7	4,841.2	5,029.6	4,779.8	28.1	31.1	-29.33	-559.0	1,313.4	187.9	150.1	37.81	4.970		
5,100.0	4,890.7	5,081.8	4,828.5	28.4	31.6	-29.44	-566.2	1,330.9	190.3	152.0	38.31	4.967		
5,200.0	4,986.0	5,185.7	4,925.6	28.9	32.3	-29.36	-580.3	1,364.9	196.5	157.5	39.02	5.035		
5,300.0	5,082.4	5,292.2	5,026.4	29.3	32.9	-29.20	-593.4	1,396.7	202.6	163.0	39.58	5.119		
5,400.0	5,179.6	5,399.0	5,128.7	29.7	33.4	-29.02	-605.2	1,425.0	208.4	168.4	40.04	5.206		
5,500.0	5,277.6	5,506.0	5,232.3	30.1	33.9	-28.82	-615.4	1,449.8	213.9	173.5	40.40	5.295		
5,600.0	5,376.2	5,613.2	5,337.0	30.4	34.3	-28.58	-624.2	1,471.1	219.1	178.4	40.67	5.387		
5,700.0	5,475.4	5,720.7	5,442.7	30.6	34.6	-28.32	-631.6	1,488.8	223.9	183.1	40.84	5.482		
5,800.0	5,574.9	5,828.3	5,549.3	30.8	34.9	-28.04	-637.4	1,502.8	228.4	187.4	40.92	5.580		
5,900.0	5,674.7	5,936.2	5,656.6	31.0	35.1	-27.73	-641.6	1,513.2	232.5	191.6	40.92	5.682		
6,000.0	5,774.7	6,044.2	5,764.4	31.1	35.2	-27.39	-644.4	1,519.8	236.2	195.4	40.82	5.787		
6,025.3	5,800.0	6,071.6	5,791.8	31.1	35.3	89.45	-644.8	1,520.8	237.1	196.3	40.78	5.815		
6,100.0	5,874.7	6,152.5	5,872.6	31.2	35.4	89.63	-645.6	1,522.6	238.7	197.9	40.87	5.841		
6,199.3	5,973.9	6,253.8	5,973.9	31.3	35.4	89.64	-645.6	1,522.7	238.9	197.7	41.11	5.811		
6,247.1	6,021.8	6,301.7	6,021.8	31.3	35.5	90.00	-645.6	1,522.7	238.8	197.8	41.01	5.825		
6,250.0	6,024.6	6,304.5	6,024.6	31.3	35.5	90.04	-645.6	1,522.7	238.8	197.9	40.99	5.827		
6,300.0	6,074.4	6,354.4	6,074.5	31.3	35.5	91.12	-645.2	1,522.7	238.9	198.4	40.46	5.905		
6,350.0	6,123.7	6,404.7	6,124.6	31.3	35.5	92.29	-641.8	1,522.7	239.0	199.2	39.84	6.000		
6,400.0	6,172.4	6,455.2	6,174.8	31.3	35.5	93.45	-635.2	1,522.7	239.3	200.1	39.20	6.105		
6,450.0	6,220.2	6,506.1	6,224.6	31.2	35.5	94.60	-625.1	1,522.7	239.6	201.1	38.54	6.218		
6,500.0	6,267.0	6,557.3	6,274.1	31.2	35.5	95.73	-611.7	1,522.7	240.1	202.2	37.88	6.337		
6,550.0	6,312.5	6,608.9	6,322.8	31.1	35.5	96.83	-594.8	1,522.7	240.6	203.3	37.23	6.461		
6,600.0	6,356.5	6,660.8	6,370.6	31.0	35.4	97.90	-574.6	1,522.7	241.2	204.6	36.60	6.588		
6,650.0	6,399.0	6,713.0	6,417.1	30.9	35.3	98.94	-551.0	1,522.7	241.8	205.8	36.00	6.716		
6,700.0	6,439.6	6,765.6	6,462.3	30.8	35.3	99.93	-524.1	1,522.7	242.5	207.1	35.44	6.842		
6,750.0	6,478.2	6,818.5	6,505.7	30.7	35.2	100.88	-494.0	1,522.7	243.3	208.3	34.92	6.965		
6,800.0	6,514.6	6,871.7	6,547.2	30.6	35.1	101.78	-460.7	1,522.7	244.0	209.6	34.46	7.082		
6,850.0	6,548.8	6,925.2	6,586.5	30.5	35.0	102.62	-424.4	1,522.7	244.8	210.7	34.05	7.190		
6,900.0	6,580.5	6,978.9	6,623.4	30.3	34.8	103.41	-385.2	1,522.7	245.6	211.9	33.70	7.287		
6,950.0	6,609.5	7,033.0	6,657.5	30.2	34.7	104.13	-343.4	1,522.7	246.3	212.9	33.42	7.371		
7,000.0	6,635.9	7,087.3	6,688.8	30.1	34.6	104.78	-299.0	1,522.7	247.1	213.8	33.22	7.437		
7,050.0	6,659.4	7,141.8	6,716.9	29.9	34.5	105.37	-252.3	1,522.7	247.7	214.6	33.10	7.485		
7,100.0	6,680.0	7,196.6	6,741.7	29.8	34.4	105.89	-203.5	1,522.7	248.4	215.3	33.07	7.510		
7,150.0	6,697.6	7,251.5	6,763.1	29.7	34.2	106.34	-152.9	1,522.7	248.9	215.8	33.13	7.512		
7,200.0	6,712.0	7,306.6	6,780.8	29.6	34.1	106.71	-100.7	1,522.7	249.4	216.1	33.30	7.489		
7,250.0	6,723.3	7,361.8	6,794.7	29.5	34.0	107.00	-47.3	1,522.7	249.8	216.2	33.57	7.441		
7,300.0	6,731.4	7,417.1	6,804.7	29.4	33.9	107.22	7.1	1,522.7	250.1	216.1	33.93	7.370		
7,350.0	6,736.3	7,472.5	6,810.8	29.3	33.8	107.36	62.1	1,522.7	250.3	215.9	34.40	7.276		
7,400.5	6,737.9	7,528.5	6,812.8	29.2	33.8	107.42	118.0	1,522.7	250.3	215.4	34.95	7.162		
7,500.0	6,737.7	7,628.2	6,812.6	29.1	33.7	107.41	217.7	1,522.7	250.3	214.3	36.05	6.944		
7,600.0	6,737.6	7,728.2	6,812.4	29.1	33.7	107.40	317.7	1,522.7	250.3	212.8	37.46	6.681		
7,700.0	6,737.4	7,828.2	6,812.2	29.2	33.8	107.39	417.7	1,522.7	250.3	211.1	39.18	6.388		
7,800.0	6,737.3	7,928.2	6,812.0	29.5	34.0	107.38	517.7	1,522.7	250.3	209.1	41.15	6.081		
7,900.0	6,737.1	8,028.2	6,811.8	29.9	34.3	107.37	617.7	1,522.7	250.3	206.9	43.36	5.772		
8,000.0	6,736.9	8,128.2	6,811.6	30.6	34.7	107.36	717.7	1,522.7	250.2	204.5	45.75	5.470		
8,100.0	6,736.8	8,228.2	6,811.4	31.4	35.3	107.34	817.7	1,522.7	250.2	201.9	48.31	5.180		
8,200.0	6,736.6	8,328.2	6,811.2	32.4	36.0	107.33	917.7	1,522.7	250.2	199.2	51.01	4.906		
8,300.0	6,736.5	8,428.2	6,811.0	33.5	36.8	107.32	1,017.7	1,522.7	250.2	196.4	53.82	4.649		
8,400.0	6,736.3	8,528.2	6,810.7	34.7	37.8	107.31	1,117.7	1,522.7	250.2	193.4	56.74	4.409		
8,500.0	6,736.2	8,628.2	6,810.5	36.1	38.9	107.30	1,217.7	1,522.7	250.2	190.4	59.75	4.187		
8,600.0	6,736.0	8,728.2	6,810.3	37.5	40.1	107.29	1,317.7	1,522.7	250.1	187.3	62.82	3.982		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
8,700.0	6,735.8	8,828.2	6,810.1	39.0	41.4	107.28	1,417.7	1,522.7	250.1	184.2	65.97	3.792		
8,800.0	6,735.7	8,928.2	6,809.9	40.5	42.8	107.26	1,517.7	1,522.7	250.1	181.0	69.17	3.616		
8,900.0	6,735.5	9,028.2	6,809.7	42.0	44.2	107.25	1,617.7	1,522.7	250.1	177.7	72.41	3.454		
9,000.0	6,735.4	9,128.2	6,809.5	43.6	45.7	107.24	1,717.7	1,522.7	250.1	174.4	75.70	3.304		
9,100.0	6,735.2	9,228.2	6,809.3	45.2	47.2	107.23	1,817.7	1,522.7	250.1	171.0	79.02	3.165		
9,200.0	6,735.1	9,328.2	6,809.1	46.9	48.8	107.22	1,917.7	1,522.7	250.1	167.7	82.38	3.035		
9,300.0	6,734.9	9,428.2	6,808.9	48.5	50.4	107.21	2,017.7	1,522.7	250.0	164.3	85.76	2.915		
9,400.0	6,734.7	9,528.2	6,808.7	50.2	52.0	107.20	2,117.7	1,522.7	250.0	160.9	89.17	2.804		
9,500.0	6,734.6	9,628.2	6,808.4	51.9	53.6	107.18	2,217.7	1,522.7	250.0	157.4	92.61	2.700		
9,600.0	6,734.4	9,728.2	6,808.2	53.6	55.3	107.17	2,317.7	1,522.7	250.0	153.9	96.06	2.602		
9,700.0	6,734.3	9,828.2	6,808.0	55.3	56.9	107.16	2,417.7	1,522.7	250.0	150.4	99.53	2.512		
9,800.0	6,734.1	9,928.2	6,807.8	57.1	58.6	107.15	2,517.7	1,522.7	250.0	146.9	103.02	2.426		
9,900.0	6,734.0	10,028.2	6,807.6	58.8	60.3	107.14	2,617.7	1,522.7	249.9	143.4	106.52	2.346		
10,000.0	6,733.8	10,128.2	6,807.4	60.6	62.1	107.13	2,717.7	1,522.7	249.9	139.9	110.04	2.271		
10,100.0	6,733.6	10,228.2	6,807.2	62.3	63.8	107.12	2,817.7	1,522.7	249.9	136.4	113.57	2.201		
10,200.0	6,733.5	10,328.2	6,807.0	64.1	65.5	107.10	2,917.7	1,522.7	249.9	132.8	117.10	2.134		
10,300.0	6,733.3	10,428.2	6,806.8	65.9	67.3	107.09	3,017.7	1,522.7	249.9	129.2	120.65	2.071		
10,400.0	6,733.2	10,528.2	6,806.6	67.7	69.0	107.08	3,117.7	1,522.7	249.9	125.7	124.21	2.012		
10,500.0	6,733.0	10,628.2	6,806.3	69.5	70.8	107.07	3,217.7	1,522.7	249.9	122.1	127.78	1.955		
10,600.0	6,732.9	10,728.2	6,806.1	71.3	72.6	107.06	3,317.7	1,522.7	249.8	118.5	131.35	1.902		
10,700.0	6,732.7	10,828.2	6,805.9	73.1	74.4	107.05	3,417.7	1,522.7	249.8	114.9	134.94	1.851		
10,800.0	6,732.5	10,928.2	6,805.7	74.9	76.2	107.03	3,517.7	1,522.7	249.8	111.3	138.53	1.803		
10,900.0	6,732.4	11,028.2	6,805.5	76.7	77.9	107.02	3,617.7	1,522.7	249.8	107.7	142.12	1.758		
11,000.0	6,732.2	11,128.2	6,805.3	78.6	79.8	107.01	3,717.7	1,522.7	249.8	104.1	145.72	1.714		
11,100.0	6,732.1	11,228.2	6,805.1	80.4	81.6	107.00	3,817.7	1,522.7	249.8	100.4	149.33	1.673		
11,200.0	6,731.9	11,328.2	6,804.9	82.2	83.4	106.99	3,917.7	1,522.7	249.7	96.8	152.94	1.633		
11,300.0	6,731.8	11,428.2	6,804.7	84.1	85.2	106.98	4,017.7	1,522.7	249.7	93.2	156.56	1.595		
11,400.0	6,731.6	11,528.2	6,804.5	85.9	87.0	106.97	4,117.7	1,522.7	249.7	89.5	160.18	1.559		
11,500.0	6,731.4	11,628.2	6,804.3	87.7	88.8	106.95	4,217.7	1,522.7	249.7	85.9	163.80	1.524		
11,600.0	6,731.3	11,728.2	6,804.0	89.6	90.7	106.94	4,317.7	1,522.7	249.7	82.3	167.43	1.491 Level 3		
11,700.0	6,731.1	11,828.2	6,803.8	91.4	92.5	106.93	4,417.7	1,522.7	249.7	78.6	171.07	1.459 Level 3		
11,800.0	6,731.0	11,928.2	6,803.6	93.3	94.3	106.92	4,517.7	1,522.7	249.7	75.0	174.70	1.429 Level 3		
11,900.0	6,730.8	12,028.2	6,803.4	95.1	96.2	106.91	4,617.7	1,522.7	249.6	71.3	178.34	1.400 Level 3		
12,000.0	6,730.7	12,128.2	6,803.2	97.0	98.0	106.90	4,717.7	1,522.7	249.6	67.6	181.99	1.372 Level 3		
12,100.0	6,730.5	12,228.2	6,803.0	98.9	99.9	106.89	4,817.7	1,522.7	249.6	64.0	185.63	1.345 Level 3		
12,200.0	6,730.3	12,328.2	6,802.8	100.7	101.7	106.87	4,917.7	1,522.7	249.6	60.3	189.28	1.319 Level 3		
12,300.0	6,730.2	12,428.2	6,802.6	102.6	103.6	106.86	5,017.7	1,522.7	249.6	56.6	192.93	1.294 Level 3		
12,400.0	6,730.0	12,528.2	6,802.4	104.5	105.4	106.85	5,117.7	1,522.7	249.6	53.0	196.59	1.269 Level 3		
12,500.0	6,729.9	12,628.2	6,802.2	106.3	107.3	106.84	5,217.7	1,522.7	249.6	49.3	200.24	1.246 Level 2		
12,600.0	6,729.7	12,728.2	6,802.0	108.2	109.1	106.83	5,317.7	1,522.7	249.5	45.6	203.90	1.224 Level 2		
12,700.0	6,729.6	12,828.2	6,801.7	110.1	111.0	106.82	5,417.7	1,522.7	249.5	42.0	207.57	1.202 Level 2		
12,800.0	6,729.4	12,928.2	6,801.5	111.9	112.8	106.81	5,517.7	1,522.7	249.5	38.3	211.23	1.181 Level 2		
12,900.0	6,729.2	13,028.2	6,801.3	113.8	114.7	106.79	5,617.7	1,522.7	249.5	34.6	214.89	1.161 Level 2		
13,000.0	6,729.1	13,128.2	6,801.1	115.7	116.6	106.78	5,717.7	1,522.7	249.5	30.9	218.56	1.141 Level 2		
13,100.0	6,728.9	13,228.2	6,800.9	117.6	118.4	106.77	5,817.7	1,522.7	249.5	27.2	222.23	1.123 Level 2		
13,200.0	6,728.8	13,328.2	6,800.7	119.4	120.3	106.76	5,917.7	1,522.7	249.4	23.5	225.90	1.104 Level 2		
13,300.0	6,728.6	13,428.2	6,800.5	121.3	122.2	106.75	6,017.7	1,522.7	249.4	19.9	229.57	1.086 Level 2		
13,400.0	6,728.5	13,528.2	6,800.3	123.2	124.0	106.74	6,117.7	1,522.7	249.4	16.2	233.25	1.069 Level 2		
13,500.0	6,728.3	13,628.2	6,800.1	125.1	125.9	106.72	6,217.7	1,522.7	249.4	12.5	236.93	1.053 Level 2		
13,600.0	6,728.1	13,728.2	6,799.9	127.0	127.8	106.71	6,317.7	1,522.7	249.4	8.8	240.60	1.036 Level 2		
13,700.0	6,728.0	13,828.2	6,799.6	128.8	129.7	106.70	6,417.7	1,522.7	249.4	5.1	244.28	1.021 Level 2		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
13,800.0	6,727.8	13,928.2	6,799.4	130.7	131.5	106.69	6,517.7	1,522.7	249.4	1.4	247.96	1.006	Level 2	
13,900.0	6,727.7	14,028.2	6,799.2	132.6	133.4	106.68	6,617.7	1,522.7	249.3	-2.3	251.65	0.991	Level 1	
14,000.0	6,727.5	14,128.2	6,799.0	134.5	135.3	106.67	6,717.7	1,522.7	249.3	-6.0	255.33	0.976	Level 1	
14,100.0	6,727.4	14,228.2	6,798.8	136.4	137.2	106.66	6,817.7	1,522.7	249.3	-9.7	259.01	0.963	Level 1	
14,200.0	6,727.2	14,328.2	6,798.6	138.3	139.1	106.64	6,917.7	1,522.7	249.3	-13.4	262.70	0.949	Level 1	
14,300.0	6,727.0	14,428.2	6,798.4	140.2	140.9	106.63	7,017.7	1,522.7	249.3	-17.1	266.39	0.936	Level 1	
14,400.0	6,726.9	14,528.2	6,798.2	142.1	142.8	106.62	7,117.7	1,522.7	249.3	-20.8	270.08	0.923	Level 1	
14,500.0	6,726.7	14,628.2	6,798.0	144.0	144.7	106.61	7,217.7	1,522.7	249.2	-24.5	273.77	0.910	Level 1	
14,600.0	6,726.6	14,728.2	6,797.8	145.8	146.6	106.60	7,317.7	1,522.7	249.2	-28.2	277.46	0.898	Level 1	
14,700.0	6,726.4	14,828.2	6,797.6	147.7	148.5	106.59	7,417.7	1,522.7	249.2	-31.9	281.15	0.886	Level 1	
14,800.0	6,726.3	14,928.2	6,797.3	149.6	150.4	106.57	7,517.7	1,522.7	249.2	-35.6	284.84	0.875	Level 1	
14,900.0	6,726.1	15,028.2	6,797.1	151.5	152.3	106.56	7,617.7	1,522.7	249.2	-39.3	288.54	0.864	Level 1	
15,000.0	6,725.9	15,128.2	6,796.9	153.4	154.1	106.55	7,717.7	1,522.7	249.2	-43.1	292.23	0.853	Level 1	
15,100.0	6,725.8	15,228.2	6,796.7	155.3	156.0	106.54	7,817.7	1,522.7	249.2	-46.8	295.93	0.842	Level 1	
15,200.0	6,725.6	15,328.2	6,796.5	157.2	157.9	106.53	7,917.7	1,522.7	249.1	-50.5	299.62	0.832	Level 1	
15,300.0	6,725.5	15,428.2	6,796.3	159.1	159.8	106.52	8,017.7	1,522.7	249.1	-54.2	303.32	0.821	Level 1	
15,400.0	6,725.3	15,528.2	6,796.1	161.0	161.7	106.51	8,117.7	1,522.7	249.1	-57.9	307.02	0.811	Level 1	
15,500.0	6,725.2	15,628.2	6,795.9	162.9	163.6	106.49	8,217.7	1,522.7	249.1	-61.6	310.72	0.802	Level 1	
15,600.0	6,725.0	15,728.2	6,795.7	164.8	165.5	106.48	8,317.7	1,522.7	249.1	-65.3	314.42	0.792	Level 1	
15,700.0	6,724.8	15,828.2	6,795.5	166.7	167.4	106.47	8,417.7	1,522.7	249.1	-69.1	318.12	0.783	Level 1	
15,800.0	6,724.7	15,928.2	6,795.2	168.6	169.3	106.46	8,517.7	1,522.7	249.1	-72.8	321.83	0.774	Level 1	
15,900.0	6,724.5	16,028.2	6,795.0	170.5	171.2	106.45	8,617.7	1,522.7	249.0	-76.5	325.53	0.765	Level 1	
16,000.0	6,724.4	16,128.2	6,794.8	172.4	173.1	106.44	8,717.7	1,522.7	249.0	-80.2	329.23	0.756	Level 1	
16,100.0	6,724.2	16,228.2	6,794.6	174.3	175.0	106.42	8,817.7	1,522.7	249.0	-83.9	332.94	0.748	Level 1	
16,200.0	6,724.1	16,328.2	6,794.4	176.2	176.9	106.41	8,917.7	1,522.7	249.0	-87.6	336.64	0.740	Level 1	
16,300.0	6,723.9	16,428.2	6,794.2	178.1	178.8	106.40	9,017.7	1,522.7	249.0	-91.4	340.35	0.732	Level 1	
16,400.0	6,723.7	16,528.2	6,794.0	180.0	180.6	106.39	9,117.7	1,522.7	249.0	-95.1	344.06	0.724	Level 1	
16,500.0	6,723.6	16,628.2	6,793.8	181.9	182.5	106.38	9,217.7	1,522.7	249.0	-98.8	347.77	0.716	Level 1	
16,600.0	6,723.4	16,728.2	6,793.6	183.8	184.4	106.37	9,317.7	1,522.7	248.9	-102.5	351.47	0.708	Level 1	
16,700.0	6,723.3	16,828.2	6,793.4	185.7	186.3	106.36	9,417.7	1,522.7	248.9	-106.3	355.18	0.701	Level 1	
16,800.0	6,723.1	16,928.2	6,793.2	187.6	188.2	106.34	9,517.7	1,522.7	248.9	-110.0	358.89	0.694	Level 1	
16,871.9	6,723.0	17,000.1	6,793.0	189.0	189.6	106.34	9,589.7	1,522.7	248.9	-112.7	361.56	0.688	Level 1, ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	14.9	0.0	14.9	14.9	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	14.9	0.0	14.9	14.7	0.22	66.461		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	14.9	0.0	14.9	14.3	0.67	22.152		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	14.9	0.0	14.9	13.8	1.12	13.291		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	14.9	0.0	14.9	13.4	1.57	9.494		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	14.9	0.0	14.9	12.9	2.02	7.384		
600.0	600.0	600.0	600.0	1.2	1.2	0.00	14.9	0.0	14.9	12.5	2.47	6.041 CC		
700.0	700.0	700.0	700.0	1.4	1.5	-121.04	14.9	0.0	15.6	12.7	2.90	5.362		
800.0	799.9	799.9	799.9	1.6	1.7	-131.84	14.9	0.0	17.9	14.6	3.33	5.386		
900.0	899.7	900.2	900.2	1.9	1.9	-142.44	14.2	1.1	21.7	17.9	3.74	5.801		
1,000.0	999.3	1,000.6	1,000.5	2.1	2.1	-150.24	12.1	4.4	25.8	21.7	4.14	6.242		
1,100.0	1,098.6	1,101.2	1,100.8	2.3	2.3	-156.27	8.6	10.0	30.2	25.7	4.55	6.642		
1,200.0	1,197.5	1,201.8	1,201.1	2.6	2.5	-161.14	3.6	17.8	34.8	29.8	4.97	6.996		
1,300.0	1,296.1	1,302.7	1,301.2	3.0	2.8	-165.23	-2.8	27.9	39.5	34.1	5.40	7.306		
1,400.0	1,394.2	1,403.6	1,401.1	3.3	3.0	-168.78	-10.6	40.2	44.2	38.4	5.84	7.579		
1,500.0	1,491.7	1,504.7	1,500.7	3.7	3.4	-171.93	-19.9	54.7	49.1	42.8	6.28	7.815		
1,600.0	1,588.6	1,605.9	1,599.9	4.2	3.7	-174.79	-30.5	71.5	54.0	47.3	6.74	8.019		
1,700.0	1,684.9	1,707.2	1,698.7	4.7	4.1	-177.42	-42.6	90.5	59.0	51.8	7.21	8.187		
1,800.0	1,780.4	1,808.7	1,797.0	5.3	4.6	-179.87	-56.1	111.7	64.1	56.4	7.70	8.324		
1,903.5	1,878.4	1,913.9	1,898.2	5.9	5.1	-177.75	-71.6	136.1	69.5	61.2	8.24	8.427		
2,000.0	1,969.3	2,010.2	1,990.4	6.5	5.6	-175.77	-86.5	159.4	74.5	65.7	8.81	8.460		
2,100.0	2,063.5	2,110.0	2,086.0	7.2	6.2	-173.99	-101.9	183.6	79.9	70.5	9.43	8.473		
2,200.0	2,157.7	2,209.8	2,181.6	7.9	6.7	-172.44	-117.3	207.8	85.3	75.2	10.07	8.468		
2,300.0	2,252.0	2,309.7	2,277.2	8.6	7.3	-171.07	-132.7	232.0	90.8	80.0	10.74	8.449		
2,400.0	2,346.2	2,409.5	2,372.9	9.3	7.9	-169.86	-148.1	256.3	96.3	84.8	11.43	8.420		
2,500.0	2,440.4	2,509.3	2,468.5	9.9	8.4	-168.78	-163.5	280.5	101.8	89.7	12.14	8.383		
2,600.0	2,534.7	2,609.2	2,564.1	10.6	9.0	-167.81	-178.9	304.7	107.4	94.5	12.87	8.341		
2,700.0	2,628.9	2,709.0	2,659.7	11.3	9.6	-166.94	-194.3	328.9	113.0	99.4	13.62	8.297		
2,800.0	2,723.1	2,808.8	2,755.3	12.0	10.2	-166.15	-209.7	353.1	118.6	104.2	14.38	8.250		
2,900.0	2,817.4	2,908.6	2,850.9	12.8	10.8	-165.43	-225.1	377.3	124.3	109.1	15.15	8.203		
3,000.0	2,911.6	3,008.5	2,946.6	13.5	11.4	-164.77	-240.5	401.5	129.9	114.0	15.93	8.156		
3,100.0	3,005.8	3,108.3	3,042.2	14.2	12.0	-164.17	-255.9	425.7	135.6	118.9	16.72	8.110		
3,200.0	3,100.1	3,208.1	3,137.8	14.9	12.6	-163.62	-271.3	449.9	141.3	123.8	17.52	8.065		
3,300.0	3,194.3	3,308.0	3,233.4	15.6	13.2	-163.11	-286.7	474.1	147.0	128.7	18.33	8.021		
3,400.0	3,288.6	3,407.8	3,329.0	16.3	13.8	-162.64	-302.1	498.3	152.8	133.6	19.15	7.978		
3,500.0	3,382.8	3,507.6	3,424.6	17.0	14.4	-162.20	-317.5	522.6	158.5	138.5	19.97	7.937		
3,600.0	3,477.0	3,607.4	3,520.3	17.7	15.1	-161.79	-332.9	546.8	164.2	143.4	20.79	7.898		
3,700.0	3,571.3	3,707.3	3,615.9	18.4	15.7	-161.41	-348.4	571.0	170.0	148.4	21.63	7.860		
3,800.0	3,665.5	3,807.1	3,711.5	19.1	16.3	-161.06	-363.8	595.2	175.7	153.3	22.46	7.824		
3,900.0	3,759.7	3,906.9	3,807.1	19.9	16.9	-160.73	-379.2	619.4	181.5	158.2	23.30	7.789		
4,000.0	3,854.0	4,006.8	3,902.7	20.6	17.5	-160.41	-394.6	643.6	187.3	163.1	24.14	7.756		
4,100.0	3,948.2	4,106.6	3,998.3	21.3	18.1	-160.12	-410.0	667.8	193.0	168.0	24.99	7.724		
4,200.0	4,042.4	4,206.4	4,093.9	22.0	18.7	-159.85	-425.4	692.0	198.8	173.0	25.84	7.693		
4,300.0	4,136.7	4,306.2	4,189.6	22.7	19.3	-159.59	-440.8	716.2	204.6	177.9	26.69	7.664		
4,400.0	4,230.9	4,406.1	4,285.2	23.4	19.9	-159.34	-456.2	740.4	210.4	182.8	27.55	7.636		
4,500.0	4,325.1	4,505.9	4,380.8	24.1	20.6	-159.11	-471.6	764.6	216.2	187.8	28.41	7.610		
4,600.0	4,419.4	4,605.7	4,476.4	24.9	21.2	-158.89	-487.0	788.9	222.0	192.7	29.27	7.584		
4,700.0	4,513.6	4,705.6	4,572.0	25.6	21.8	-158.68	-502.4	813.1	227.7	197.6	30.13	7.560		
4,800.0	4,607.8	4,805.4	4,667.6	26.3	22.4	-158.48	-517.8	837.3	233.5	202.6	30.99	7.536		
4,900.0	4,702.1	4,905.2	4,763.3	27.0	23.0	-158.29	-533.2	861.5	239.3	207.5	31.85	7.514		
5,000.0	4,796.3	5,005.0	4,858.9	27.7	23.6	-158.11	-548.6	885.7	245.1	212.4	32.72	7.492		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
5,047.7	4,841.2	5,052.7	4,904.5	28.1	23.9	158.02	-555.9	897.2	247.9	214.8	33.14	7.482		
5,100.0	4,890.7	5,104.9	4,954.5	28.4	24.2	157.91	-564.0	909.9	250.5	216.9	33.61	7.454		
5,200.0	4,986.0	5,204.8	5,050.2	28.9	24.9	157.46	-579.4	934.1	253.0	218.5	34.54	7.326		
5,300.0	5,082.4	5,300.0	5,141.6	29.3	25.4	156.82	-593.7	956.6	253.1	217.6	35.46	7.138		
5,400.0	5,179.6	5,392.4	5,231.1	29.7	25.8	156.21	-606.0	976.0	252.7	216.5	36.24	6.973		
5,500.0	5,277.6	5,485.2	5,321.7	30.1	26.1	155.64	-616.9	993.0	252.0	215.0	36.95	6.819		
5,600.0	5,376.2	5,578.1	5,413.0	30.4	26.4	155.09	-626.2	1,007.6	250.9	213.3	37.59	6.675		
5,700.0	5,475.4	5,671.1	5,504.8	30.6	26.7	154.58	-633.9	1,019.7	249.5	211.4	38.15	6.540		
5,800.0	5,574.9	5,764.2	5,597.2	30.8	26.9	154.09	-639.9	1,029.3	247.7	209.1	38.63	6.413		
5,900.0	5,674.7	5,857.3	5,690.0	31.0	27.1	153.64	-644.4	1,036.3	245.6	206.6	39.03	6.293		
6,000.0	5,774.7	5,950.5	5,783.0	31.1	27.2	153.20	-647.3	1,040.8	243.1	203.8	39.35	6.179		
6,025.3	5,800.0	5,974.2	5,806.7	31.1	27.2	-90.15	-647.7	1,041.5	242.5	203.0	39.42	6.150		
6,100.0	5,874.7	6,043.9	5,876.3	31.2	27.3	-90.34	-648.5	1,042.7	241.2	201.5	39.70	6.076		
6,144.4	5,919.1	6,086.6	5,919.1	31.2	27.4	-90.35	-648.6	1,042.8	241.1	201.3	39.81	6.056		
6,199.3	5,973.9	6,141.5	5,973.9	31.3	27.4	-90.35	-648.6	1,042.8	241.1	201.1	39.94	6.035		
6,250.0	6,024.6	6,192.2	6,024.6	31.3	27.5	-90.75	-648.6	1,042.8	241.1	200.9	40.24	5.991		
6,300.0	6,074.4	6,242.2	6,074.6	31.3	27.5	-91.81	-648.1	1,042.8	241.2	200.4	40.82	5.908		
6,350.0	6,123.7	6,292.6	6,124.9	31.3	27.5	-92.97	-644.8	1,042.8	241.4	200.0	41.39	5.833		
6,400.0	6,172.4	6,343.4	6,175.2	31.3	27.5	-94.11	-638.0	1,042.8	241.7	199.8	41.87	5.772		
6,450.0	6,220.2	6,394.5	6,225.3	31.2	27.5	-95.24	-627.9	1,042.8	242.1	199.8	42.27	5.728		
6,500.0	6,267.0	6,445.9	6,274.9	31.2	27.5	-96.34	-614.4	1,042.8	242.6	200.0	42.56	5.699		
6,550.0	6,312.5	6,497.7	6,323.8	31.1	27.4	-97.41	-597.4	1,042.8	243.1	200.4	42.76	5.686		
6,600.0	6,356.5	6,549.8	6,371.7	31.0	27.3	-98.46	-577.0	1,042.8	243.7	200.9	42.84	5.690		
6,650.0	6,399.0	6,602.2	6,418.5	30.9	27.2	-99.46	-553.2	1,042.8	244.4	201.6	42.81	5.709		
6,700.0	6,439.6	6,654.9	6,463.7	30.8	27.1	-100.42	-526.1	1,042.8	245.1	202.5	42.69	5.743		
6,750.0	6,478.2	6,708.0	6,507.2	30.7	27.0	-101.33	-495.8	1,042.8	245.9	203.4	42.46	5.791		
6,800.0	6,514.6	6,761.4	6,548.8	30.6	26.9	-102.18	-462.3	1,042.8	246.7	204.5	42.16	5.851		
6,850.0	6,548.8	6,815.1	6,588.1	30.5	26.7	-102.98	-425.8	1,042.8	247.4	205.6	41.79	5.921		
6,900.0	6,580.5	6,869.0	6,624.9	30.3	26.6	-103.73	-386.4	1,042.8	248.2	206.8	41.37	5.999		
6,950.0	6,609.5	6,923.2	6,659.1	30.2	26.4	-104.40	-344.3	1,042.8	248.9	208.0	40.93	6.082		
7,000.0	6,635.9	6,977.7	6,690.3	30.1	26.2	-105.01	-299.7	1,042.8	249.6	209.1	40.49	6.165		
7,050.0	6,659.4	7,032.3	6,718.3	29.9	26.1	-105.56	-252.8	1,042.8	250.3	210.2	40.08	6.243		
7,100.0	6,680.0	7,087.2	6,743.0	29.8	25.9	-106.03	-203.8	1,042.8	250.8	211.1	39.73	6.313		
7,150.0	6,697.6	7,142.2	6,764.1	29.7	25.7	-106.42	-153.0	1,042.8	251.3	211.9	39.47	6.368		
7,200.0	6,712.0	7,197.4	6,781.6	29.6	25.6	-106.75	-100.7	1,042.8	251.8	212.4	39.31	6.404		
7,250.0	6,723.3	7,252.6	6,795.3	29.5	25.4	-106.99	-47.2	1,042.8	252.1	212.8	39.29	6.415		
7,300.0	6,731.4	7,308.0	6,805.2	29.4	25.3	-107.16	7.3	1,042.8	252.3	212.9	39.42	6.401		
7,350.0	6,736.3	7,363.4	6,811.0	29.3	25.2	-107.26	62.4	1,042.8	252.4	212.7	39.70	6.358		
7,400.5	6,737.9	7,419.3	6,812.8	29.2	25.1	-107.27	118.2	1,042.8	252.5	212.3	40.14	6.289		
7,500.0	6,737.7	7,518.8	6,812.6	29.1	24.9	-107.26	217.7	1,042.8	252.4	211.0	41.42	6.094		
7,600.0	6,737.6	7,618.8	6,812.4	29.1	25.0	-107.25	317.7	1,042.8	252.4	209.4	42.98	5.873		
7,700.0	6,737.4	7,718.8	6,812.2	29.2	25.1	-107.24	417.7	1,042.8	252.4	207.6	44.79	5.636		
7,800.0	6,737.3	7,818.8	6,812.0	29.5	25.6	-107.23	517.7	1,042.8	252.4	205.6	46.82	5.391		
7,900.0	6,737.1	7,918.8	6,811.8	29.9	26.3	-107.21	617.7	1,042.8	252.4	203.3	49.04	5.146		
8,000.0	6,736.9	8,018.8	6,811.6	30.6	27.3	-107.20	717.7	1,042.8	252.4	200.9	51.44	4.906		
8,100.0	6,736.8	8,118.8	6,811.4	31.4	28.5	-107.19	817.7	1,042.8	252.4	198.4	53.98	4.675		
8,200.0	6,736.6	8,218.8	6,811.2	32.4	29.8	-107.18	917.7	1,042.8	252.3	195.7	56.65	4.454		
8,300.0	6,736.5	8,318.8	6,810.9	33.5	31.2	-107.17	1,017.7	1,042.8	252.3	192.9	59.43	4.246		
8,400.0	6,736.3	8,418.8	6,810.7	34.7	32.6	-107.16	1,117.7	1,042.8	252.3	190.0	62.31	4.049		
8,500.0	6,736.2	8,518.8	6,810.5	36.1	34.1	-107.15	1,217.7	1,042.8	252.3	187.0	65.26	3.866		
8,600.0	6,736.0	8,618.8	6,810.3	37.5	35.6	-107.13	1,317.7	1,042.8	252.3	184.0	68.30	3.694		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Dunn 5N64W7 Pad Sec.7-T5N-R64W - Dunn 7Q-341 - Wellbore #1 - Plan #1 (9-11-15)													
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
8,700.0	6,735.8	8,718.8	6,810.1	39.0	37.2	-107.12	1,417.7	1,042.8	252.3	180.9	71.39	3.534	
8,800.0	6,735.7	8,818.8	6,809.9	40.5	38.8	-107.11	1,517.7	1,042.8	252.2	177.7	74.54	3.384	
8,900.0	6,735.5	8,918.8	6,809.7	42.0	40.4	-107.10	1,617.7	1,042.8	252.2	174.5	77.74	3.245	
9,000.0	6,735.4	9,018.8	6,809.5	43.6	42.1	-107.09	1,717.7	1,042.8	252.2	171.2	80.98	3.115	
9,100.0	6,735.2	9,118.8	6,809.3	45.2	43.8	-107.08	1,817.7	1,042.8	252.2	167.9	84.26	2.993	
9,200.0	6,735.1	9,218.8	6,809.1	46.9	45.5	-107.07	1,917.7	1,042.8	252.2	164.6	87.57	2.880	
9,300.0	6,734.9	9,318.8	6,808.9	48.5	47.2	-107.06	2,017.7	1,042.8	252.2	161.3	90.92	2.774	
9,400.0	6,734.7	9,418.8	6,808.6	50.2	48.9	-107.04	2,117.7	1,042.8	252.2	157.9	94.29	2.674	
9,500.0	6,734.6	9,518.8	6,808.4	51.9	50.6	-107.03	2,217.7	1,042.8	252.1	154.5	97.68	2.581	
9,600.0	6,734.4	9,618.8	6,808.2	53.6	52.4	-107.02	2,317.7	1,042.8	252.1	151.0	101.10	2.494	
9,700.0	6,734.3	9,718.8	6,808.0	55.3	54.1	-107.01	2,417.7	1,042.8	252.1	147.6	104.53	2.412	
9,800.0	6,734.1	9,818.8	6,807.8	57.1	55.9	-107.00	2,517.7	1,042.8	252.1	144.1	107.99	2.334	
9,900.0	6,734.0	9,918.8	6,807.6	58.8	57.7	-106.99	2,617.7	1,042.8	252.1	140.6	111.46	2.262	
10,000.0	6,733.8	10,018.8	6,807.4	60.6	59.5	-106.98	2,717.7	1,042.8	252.1	137.1	114.94	2.193	
10,100.0	6,733.6	10,118.8	6,807.2	62.3	61.3	-106.96	2,817.7	1,042.8	252.0	133.6	118.44	2.128	
10,200.0	6,733.5	10,218.8	6,807.0	64.1	63.1	-106.95	2,917.7	1,042.8	252.0	130.1	121.95	2.067	
10,300.0	6,733.3	10,318.8	6,806.8	65.9	64.9	-106.94	3,017.7	1,042.8	252.0	126.5	125.48	2.008	
10,400.0	6,733.2	10,418.8	6,806.5	67.7	66.7	-106.93	3,117.7	1,042.8	252.0	123.0	129.01	1.953	
10,500.0	6,733.0	10,518.8	6,806.3	69.5	68.5	-106.92	3,217.7	1,042.8	252.0	119.4	132.55	1.901	
10,600.0	6,732.9	10,618.8	6,806.1	71.3	70.3	-106.91	3,317.7	1,042.8	252.0	115.9	136.11	1.851	
10,700.0	6,732.7	10,718.8	6,805.9	73.1	72.2	-106.90	3,417.7	1,042.8	252.0	112.3	139.67	1.804	
10,800.0	6,732.5	10,818.8	6,805.7	74.9	74.0	-106.88	3,517.7	1,042.8	251.9	108.7	143.23	1.759	
10,900.0	6,732.4	10,918.8	6,805.5	76.7	75.8	-106.87	3,617.7	1,042.8	251.9	105.1	146.81	1.716	
11,000.0	6,732.2	11,018.8	6,805.3	78.6	77.7	-106.86	3,717.7	1,042.8	251.9	101.5	150.39	1.675	
11,100.0	6,732.1	11,118.8	6,805.1	80.4	79.5	-106.85	3,817.7	1,042.8	251.9	97.9	153.98	1.636	
11,200.0	6,731.9	11,218.8	6,804.9	82.2	81.4	-106.84	3,917.7	1,042.8	251.9	94.3	157.57	1.598	
11,300.0	6,731.8	11,318.8	6,804.7	84.1	83.2	-106.83	4,017.7	1,042.8	251.9	90.7	161.17	1.563	
11,400.0	6,731.6	11,418.8	6,804.5	85.9	85.1	-106.82	4,117.7	1,042.8	251.8	87.1	164.78	1.528	
11,500.0	6,731.4	11,518.8	6,804.2	87.7	86.9	-106.80	4,217.7	1,042.8	251.8	83.4	168.39	1.496 Level 3	
11,600.0	6,731.3	11,618.8	6,804.0	89.6	88.8	-106.79	4,317.7	1,042.8	251.8	79.8	172.00	1.464 Level 3	
11,700.0	6,731.1	11,718.8	6,803.8	91.4	90.6	-106.78	4,417.7	1,042.8	251.8	76.2	175.62	1.434 Level 3	
11,800.0	6,731.0	11,818.8	6,803.6	93.3	92.5	-106.77	4,517.7	1,042.8	251.8	72.5	179.24	1.405 Level 3	
11,900.0	6,730.8	11,918.8	6,803.4	95.1	94.4	-106.76	4,617.7	1,042.8	251.8	68.9	182.87	1.377 Level 3	
12,000.0	6,730.7	12,018.8	6,803.2	97.0	96.2	-106.75	4,717.7	1,042.8	251.8	65.3	186.50	1.350 Level 3	
12,100.0	6,730.5	12,118.8	6,803.0	98.9	98.1	-106.74	4,817.7	1,042.8	251.7	61.6	190.13	1.324 Level 3	
12,200.0	6,730.3	12,218.8	6,802.8	100.7	100.0	-106.72	4,917.7	1,042.8	251.7	58.0	193.77	1.299 Level 3	
12,300.0	6,730.2	12,318.8	6,802.6	102.6	101.8	-106.71	5,017.7	1,042.8	251.7	54.3	197.41	1.275 Level 3	
12,400.0	6,730.0	12,418.8	6,802.4	104.5	103.7	-106.70	5,117.7	1,042.8	251.7	50.6	201.05	1.252 Level 3	
12,500.0	6,729.9	12,518.8	6,802.2	106.3	105.6	-106.69	5,217.7	1,042.8	251.7	47.0	204.70	1.230 Level 2	
12,600.0	6,729.7	12,618.8	6,801.9	108.2	107.5	-106.68	5,317.7	1,042.8	251.7	43.3	208.35	1.208 Level 2	
12,700.0	6,729.6	12,718.8	6,801.7	110.1	109.4	-106.67	5,417.7	1,042.8	251.7	39.7	212.00	1.187 Level 2	
12,800.0	6,729.4	12,818.8	6,801.5	111.9	111.2	-106.66	5,517.7	1,042.8	251.6	36.0	215.65	1.167 Level 2	
12,900.0	6,729.2	12,918.8	6,801.3	113.8	113.1	-106.64	5,617.7	1,042.8	251.6	32.3	219.31	1.147 Level 2	
13,000.0	6,729.1	13,018.8	6,801.1	115.7	115.0	-106.63	5,717.7	1,042.8	251.6	28.6	222.96	1.128 Level 2	
13,100.0	6,728.9	13,118.8	6,800.9	117.6	116.9	-106.62	5,817.7	1,042.8	251.6	25.0	226.62	1.110 Level 2	
13,200.0	6,728.8	13,218.8	6,800.7	119.4	118.8	-106.61	5,917.7	1,042.8	251.6	21.3	230.29	1.092 Level 2	
13,300.0	6,728.6	13,318.8	6,800.5	121.3	120.7	-106.60	6,017.7	1,042.8	251.6	17.6	233.95	1.075 Level 2	
13,400.0	6,728.5	13,418.8	6,800.3	123.2	122.5	-106.59	6,117.7	1,042.8	251.5	13.9	237.62	1.059 Level 2	
13,500.0	6,728.3	13,518.8	6,800.1	125.1	124.4	-106.58	6,217.7	1,042.8	251.5	10.2	241.29	1.042 Level 2	
13,600.0	6,728.1	13,618.8	6,799.8	127.0	126.3	-106.56	6,317.7	1,042.8	251.5	6.6	244.96	1.027 Level 2	
13,700.0	6,728.0	13,718.8	6,799.6	128.8	128.2	-106.55	6,417.7	1,042.8	251.5	2.9	248.63	1.012 Level 2	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
13,800.0	6,727.8	13,818.8	6,799.4	130.7	130.1	-106.54	6,517.7	1,042.8	251.5	-0.8	252.30	0.997	Level 1	
13,900.0	6,727.7	13,918.8	6,799.2	132.6	132.0	-106.53	6,617.7	1,042.8	251.5	-4.5	255.98	0.982	Level 1	
14,000.0	6,727.5	14,018.8	6,799.0	134.5	133.9	-106.52	6,717.7	1,042.8	251.5	-8.2	259.65	0.968	Level 1	
14,100.0	6,727.4	14,118.8	6,798.8	136.4	135.8	-106.51	6,817.7	1,042.8	251.4	-11.9	263.33	0.955	Level 1	
14,200.0	6,727.2	14,218.8	6,798.6	138.3	137.7	-106.50	6,917.7	1,042.8	251.4	-15.6	267.01	0.942	Level 1	
14,300.0	6,727.0	14,318.8	6,798.4	140.2	139.6	-106.48	7,017.7	1,042.8	251.4	-19.3	270.69	0.929	Level 1	
14,400.0	6,726.9	14,418.8	6,798.2	142.1	141.5	-106.47	7,117.7	1,042.8	251.4	-23.0	274.37	0.916	Level 1	
14,500.0	6,726.7	14,518.8	6,798.0	144.0	143.4	-106.46	7,217.7	1,042.8	251.4	-26.7	278.06	0.904	Level 1	
14,600.0	6,726.6	14,618.8	6,797.8	145.8	145.3	-106.45	7,317.7	1,042.8	251.4	-30.4	281.74	0.892	Level 1	
14,700.0	6,726.4	14,718.8	6,797.5	147.7	147.2	-106.44	7,417.7	1,042.8	251.4	-34.1	285.43	0.881	Level 1	
14,800.0	6,726.3	14,818.8	6,797.3	149.6	149.1	-106.43	7,517.7	1,042.8	251.3	-37.8	289.12	0.869	Level 1	
14,900.0	6,726.1	14,918.8	6,797.1	151.5	151.0	-106.42	7,617.7	1,042.8	251.3	-41.5	292.81	0.858	Level 1	
15,000.0	6,725.9	15,018.8	6,796.9	153.4	152.9	-106.40	7,717.7	1,042.8	251.3	-45.2	296.50	0.848	Level 1	
15,100.0	6,725.8	15,118.8	6,796.7	155.3	154.8	-106.39	7,817.7	1,042.8	251.3	-48.9	300.19	0.837	Level 1	
15,200.0	6,725.6	15,218.8	6,796.5	157.2	156.7	-106.38	7,917.7	1,042.8	251.3	-52.6	303.88	0.827	Level 1	
15,300.0	6,725.5	15,318.8	6,796.3	159.1	158.6	-106.37	8,017.7	1,042.8	251.3	-56.3	307.57	0.817	Level 1	
15,400.0	6,725.3	15,418.8	6,796.1	161.0	160.5	-106.36	8,117.7	1,042.8	251.2	-60.0	311.27	0.807	Level 1	
15,500.0	6,725.2	15,518.8	6,795.9	162.9	162.4	-106.35	8,217.7	1,042.8	251.2	-63.7	314.96	0.798	Level 1	
15,600.0	6,725.0	15,618.8	6,795.7	164.8	164.3	-106.34	8,317.7	1,042.8	251.2	-67.4	318.66	0.788	Level 1	
15,700.0	6,724.8	15,718.8	6,795.4	166.7	166.2	-106.32	8,417.7	1,042.8	251.2	-71.2	322.35	0.779	Level 1	
15,800.0	6,724.7	15,818.8	6,795.2	168.6	168.1	-106.31	8,517.7	1,042.8	251.2	-74.9	326.05	0.770	Level 1	
15,900.0	6,724.5	15,918.8	6,795.0	170.5	170.0	-106.30	8,617.7	1,042.8	251.2	-78.6	329.75	0.762	Level 1	
16,000.0	6,724.4	16,018.8	6,794.8	172.4	171.9	-106.29	8,717.7	1,042.8	251.2	-82.3	333.45	0.753	Level 1	
16,100.0	6,724.2	16,118.8	6,794.6	174.3	173.8	-106.28	8,817.7	1,042.8	251.1	-86.0	337.15	0.745	Level 1	
16,200.0	6,724.1	16,218.8	6,794.4	176.2	175.7	-106.27	8,917.7	1,042.8	251.1	-89.7	340.85	0.737	Level 1	
16,300.0	6,723.9	16,318.8	6,794.2	178.1	177.6	-106.26	9,017.7	1,042.8	251.1	-93.4	344.56	0.729	Level 1	
16,400.0	6,723.7	16,418.8	6,794.0	180.0	179.5	-106.24	9,117.7	1,042.8	251.1	-97.2	348.26	0.721	Level 1	
16,500.0	6,723.6	16,518.8	6,793.8	181.9	181.4	-106.23	9,217.7	1,042.8	251.1	-100.9	351.97	0.713	Level 1	
16,600.0	6,723.4	16,618.8	6,793.6	183.8	183.3	-106.22	9,317.7	1,042.8	251.1	-104.6	355.67	0.706	Level 1	
16,700.0	6,723.3	16,718.8	6,793.4	185.7	185.2	-106.21	9,417.7	1,042.8	251.1	-108.3	359.38	0.699	Level 1	
16,800.0	6,723.1	16,818.8	6,793.1	187.6	187.1	-106.20	9,517.7	1,042.8	251.0	-112.0	363.08	0.691	Level 1	
16,852.6	6,723.0	16,871.4	6,793.0	188.6	188.1	-106.19	9,570.3	1,042.8	251.0	-114.0	365.03	0.688	Level 1	
16,871.9	6,723.0	16,888.0	6,793.0	189.0	188.4	-106.19	9,586.9	1,042.8	251.0	-114.7	365.70	0.686	Level 1, ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7062-UNKNOWN													Offset Well Error:	0.0 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	
1,100.0	1,098.6	1,085.6	1,085.6	2.3	21.7	-23.72	-59.4	826.6	798.6	774.8	23.83	33.513		
1,200.0	1,197.5	1,184.5	1,184.5	2.6	23.7	-24.23	-59.4	826.6	785.5	759.5	25.96	30.263		
1,300.0	1,296.1	1,283.1	1,283.1	3.0	25.7	-24.84	-59.4	826.6	770.0	742.0	28.06	27.442		
1,400.0	1,394.2	1,381.2	1,381.2	3.3	27.6	-25.58	-59.4	826.6	752.3	722.2	30.15	24.954		
1,500.0	1,491.7	1,478.7	1,478.7	3.7	29.6	-26.45	-59.4	826.6	732.4	700.2	32.22	22.733		
1,600.0	1,588.6	1,575.6	1,575.6	4.2	31.5	-27.49	-59.4	826.6	710.3	676.1	34.28	20.724		
1,700.0	1,684.9	1,671.8	1,671.8	4.7	33.4	-28.71	-59.4	826.6	686.2	649.9	36.33	18.890		
1,800.0	1,780.4	1,767.3	1,767.3	5.3	35.3	-30.13	-59.4	826.6	660.1	621.7	38.38	17.198		
1,903.5	1,878.4	1,865.4	1,865.4	5.9	37.3	-31.87	-59.4	826.6	631.1	590.6	40.53	15.571		
2,000.0	1,969.3	1,956.3	1,956.3	6.5	39.1	-33.46	-59.4	826.6	603.5	560.7	42.79	14.102		
2,100.0	2,063.5	2,050.5	2,050.5	7.2	41.0	-35.26	-59.4	826.6	575.3	530.1	45.19	12.732		
2,200.0	2,157.7	2,144.7	2,144.7	7.9	42.9	-37.24	-59.4	826.6	547.8	500.2	47.64	11.499		
2,300.0	2,252.0	2,239.0	2,239.0	8.6	44.8	-39.42	-59.4	826.6	521.0	470.8	50.15	10.388		
2,400.0	2,346.2	2,333.2	2,333.2	9.3	46.7	-41.82	-59.4	826.6	494.9	442.2	52.73	9.386		
2,500.0	2,440.4	2,427.4	2,427.4	9.9	48.5	-44.46	-59.4	826.6	469.8	414.4	55.38	8.484		
2,600.0	2,534.7	2,521.7	2,521.7	10.6	50.4	-47.38	-59.4	826.6	445.8	387.7	58.11	7.673		
2,700.0	2,628.9	2,615.9	2,615.9	11.3	52.3	-50.61	-59.4	826.6	423.1	362.2	60.91	6.947		
2,800.0	2,723.1	2,710.1	2,710.1	12.0	54.2	-54.16	-59.4	826.6	401.9	338.1	63.79	6.301		
2,900.0	2,817.4	2,804.4	2,804.4	12.8	56.1	-58.06	-59.4	826.6	382.5	315.8	66.75	5.731		
3,000.0	2,911.6	2,898.6	2,898.6	13.5	58.0	-62.32	-59.4	826.6	365.1	295.3	69.76	5.234		
3,100.0	3,005.8	2,992.8	2,992.8	14.2	59.9	-66.94	-59.4	826.6	350.0	277.3	72.79	4.809		
3,200.0	3,100.1	3,087.1	3,087.1	14.9	61.7	-71.90	-59.4	826.6	337.6	261.8	75.82	4.453		
3,300.0	3,194.3	3,181.3	3,181.3	15.6	63.6	-77.15	-59.4	826.6	328.2	249.4	78.80	4.165		
3,400.0	3,288.6	3,275.5	3,275.5	16.3	65.5	-82.64	-59.4	826.6	322.0	240.3	81.67	3.942		
3,500.0	3,382.8	3,369.8	3,369.8	17.0	67.4	-88.26	-59.4	826.6	319.2	234.8	84.40	3.782		
3,530.6	3,411.7	3,398.7	3,398.7	17.2	68.0	-90.00	-59.4	826.6	319.0	233.8	85.19	3.744 CC		
3,600.0	3,477.0	3,464.0	3,464.0	17.7	69.3	-93.92	-59.4	826.6	319.8	232.9	86.93	3.679 ES		
3,700.0	3,571.3	3,558.2	3,558.2	18.4	71.2	-99.50	-59.4	826.6	324.0	234.7	89.27	3.630		
3,800.0	3,665.5	3,652.5	3,652.5	19.1	73.0	-104.91	-59.4	826.6	331.5	240.1	91.40	3.627		
3,900.0	3,759.7	3,746.7	3,746.7	19.9	74.9	-110.06	-59.4	826.6	342.1	248.8	93.35	3.665		
4,000.0	3,854.0	3,840.9	3,840.9	20.6	76.8	-114.89	-59.4	826.6	355.6	260.4	95.15	3.737		
4,100.0	3,948.2	3,935.2	3,935.2	21.3	78.7	-119.37	-59.4	826.6	371.6	274.7	96.84	3.837		
4,200.0	4,042.4	4,029.4	4,029.4	22.0	80.6	-123.49	-59.4	826.6	389.8	291.3	98.45	3.959		
4,300.0	4,136.7	4,123.6	4,123.6	22.7	82.5	-127.26	-59.4	826.6	409.9	309.9	100.02	4.099		
4,400.0	4,230.9	4,217.9	4,217.9	23.4	84.4	-130.68	-59.4	826.6	431.8	330.2	101.57	4.251		
4,500.0	4,325.1	4,312.1	4,312.1	24.1	86.2	-133.78	-59.4	826.6	455.0	351.9	103.12	4.412		
4,600.0	4,419.4	4,406.3	4,406.3	24.9	88.1	-136.59	-59.4	826.6	479.4	374.7	104.69	4.580		
4,700.0	4,513.6	4,500.6	4,500.6	25.6	90.0	-139.14	-59.4	826.6	504.9	398.6	106.27	4.751		
4,800.0	4,607.8	4,594.8	4,594.8	26.3	91.9	-141.45	-59.4	826.6	531.3	423.4	107.89	4.924		
4,900.0	4,702.1	4,689.0	4,689.0	27.0	93.8	-143.55	-59.4	826.6	558.4	448.8	109.53	5.098		
5,000.0	4,796.3	4,783.3	4,783.3	27.7	95.7	-145.46	-59.4	826.6	586.2	475.0	111.20	5.271		
5,047.7	4,841.2	4,828.2	4,828.2	28.1	96.6	-146.31	-59.4	826.6	599.6	487.6	112.01	5.353		
5,100.0	4,890.7	4,877.7	4,877.7	28.4	97.6	-147.34	-59.4	826.6	614.1	500.9	113.25	5.423		
5,200.0	4,986.0	4,973.0	4,973.0	28.9	99.5	-149.05	-59.4	826.6	640.0	524.4	115.65	5.534		
5,300.0	5,082.4	5,069.4	5,069.4	29.3	101.4	-150.47	-59.4	826.6	663.3	545.2	118.11	5.616		
5,400.0	5,179.6	5,166.6	5,166.6	29.7	103.3	-151.62	-59.4	826.6	683.9	563.3	120.60	5.671		
5,500.0	5,277.6	5,264.6	5,264.6	30.1	105.3	-152.56	-59.4	826.6	701.6	578.5	123.07	5.701		
5,600.0	5,376.2	5,363.2	5,363.2	30.4	107.3	-153.30	-59.4	826.6	716.3	590.8	125.50	5.708		
5,700.0	5,475.4	5,462.4	5,462.4	30.6	109.2	-153.87	-59.4	826.6	728.1	600.2	127.88	5.693		
5,800.0	5,574.9	5,561.9	5,561.9	30.8	111.2	-154.27	-59.4	826.6	736.7	606.5	130.18	5.659		
5,900.0	5,674.7	5,661.7	5,661.7	31.0	113.2	-154.52	-59.4	826.6	742.2	609.8	132.39	5.606		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7062-UNKNOWN													Offset Well Error:	0.0 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		
6,000.0	5,774.7	5,761.7	5,761.7	31.1	115.2	-154.63	-59.4	826.6	744.6	610.1	134.50	5.536		
6,025.3	5,800.0	5,787.0	5,787.0	31.1	115.7	-37.89	-59.4	826.6	744.7	609.7	135.01	5.516		
6,100.0	5,874.7	5,861.7	5,861.7	31.2	117.2	-37.89	-59.4	826.6	744.7	608.1	136.60	5.452		
6,199.3	5,973.9	5,960.9	5,960.9	31.3	119.2	-37.89	-59.4	826.6	744.7	606.0	138.71	5.369		
6,250.0	6,024.6	6,011.6	6,011.6	31.3	120.2	-38.03	-59.4	826.6	743.4	604.0	139.40	5.333		
6,300.0	6,074.4	6,061.4	6,061.4	31.3	121.2	-38.45	-59.4	826.6	739.5	599.9	139.61	5.297		
6,350.0	6,123.7	6,110.7	6,110.7	31.3	122.2	-39.15	-59.4	826.6	733.1	593.7	139.39	5.259		
6,400.0	6,172.4	6,159.4	6,159.4	31.3	123.2	-40.15	-59.4	826.6	724.2	585.4	138.78	5.218		
6,450.0	6,220.2	6,207.2	6,207.2	31.2	124.1	-41.45	-59.4	826.6	713.0	575.1	137.86	5.172		
6,500.0	6,267.0	6,254.0	6,254.0	31.2	125.1	-43.09	-59.4	826.6	699.5	562.8	136.74	5.116		
6,550.0	6,312.5	6,299.5	6,299.5	31.1	126.0	-45.09	-59.4	826.6	684.0	548.4	135.58	5.045		
6,600.0	6,356.5	6,343.5	6,343.5	31.0	126.9	-47.45	-59.4	826.6	666.6	532.1	134.56	4.954		
6,650.0	6,399.0	6,386.0	6,386.0	30.9	127.7	-50.20	-59.4	826.6	647.6	513.7	133.90	4.837		
6,700.0	6,439.6	6,426.6	6,426.6	30.8	128.5	-53.34	-59.4	826.6	627.3	493.5	133.84	4.687		
6,750.0	6,478.2	6,465.2	6,465.2	30.7	129.3	-56.85	-59.4	826.6	606.0	471.5	134.53	4.505		
6,800.0	6,514.6	6,501.6	6,501.6	30.6	130.0	-60.69	-59.4	826.6	584.2	448.1	136.06	4.293		
6,850.0	6,548.8	6,535.8	6,535.8	30.5	130.7	-64.79	-59.4	826.6	562.2	423.8	138.34	4.064		
6,900.0	6,580.5	6,567.4	6,567.4	30.3	131.3	-69.03	-59.4	826.6	540.6	399.5	141.12	3.831		
6,950.0	6,609.5	6,596.5	6,596.5	30.2	131.9	-73.28	-59.4	826.6	520.1	376.0	144.05	3.610		
7,000.0	6,635.9	6,622.9	6,622.9	30.1	132.5	-77.38	-59.4	826.6	501.2	354.4	146.81	3.414		
7,050.0	6,659.4	6,646.4	6,646.4	29.9	132.9	-81.17	-59.4	826.6	484.8	335.7	149.11	3.252		
7,100.0	6,680.0	6,667.0	6,667.0	29.8	133.3	-84.49	-59.4	826.6	471.7	320.8	150.86	3.127		
7,150.0	6,697.6	6,684.6	6,684.6	29.7	133.7	-87.25	-59.4	826.6	462.5	310.4	152.06	3.041		
7,200.0	6,712.0	6,699.0	6,699.0	29.6	134.0	-89.33	-59.4	826.6	457.8	305.0	152.83	2.996		
7,221.4	6,717.3	6,704.3	6,704.3	29.5	134.1	-90.00	-59.4	826.6	457.3	304.3	153.07	2.988 SF		
7,250.0	6,723.3	6,710.3	6,710.3	29.5	134.2	-90.68	-59.4	826.6	458.2	304.9	153.32	2.988		
7,300.0	6,731.4	6,718.4	6,718.4	29.4	134.4	-91.25	-59.4	826.6	463.8	310.1	153.67	3.018		
7,350.0	6,736.3	6,723.3	6,723.3	29.3	134.5	-91.03	-59.4	826.6	474.6	320.7	153.95	3.083		
7,400.5	6,737.9	6,724.9	6,724.9	29.2	134.5	-89.97	-59.4	826.6	490.5	336.4	154.14	3.182		
7,500.0	6,737.7	6,724.7	6,724.7	29.1	134.5	-89.95	-59.4	826.6	534.7	379.9	154.73	3.455		
7,600.0	6,737.6	6,724.6	6,724.6	29.1	134.5	-89.93	-59.4	826.6	592.7	437.2	155.49	3.812		
7,700.0	6,737.4	6,724.4	6,724.4	29.2	134.5	-89.91	-59.4	826.6	660.8	504.4	156.39	4.225		
7,800.0	6,737.3	6,724.2	6,724.2	29.5	134.5	-89.89	-59.4	826.6	736.2	578.8	157.41	4.677		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 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		
1,200.0	1,197.5	1,203.5	1,203.5	2.6	2.6	-27.86	-9.8	834.3	792.4	787.3	5.10	155.271		
1,300.0	1,296.1	1,302.1	1,302.1	3.0	2.8	-28.55	-9.8	834.3	777.5	771.9	5.57	139.557		
1,400.0	1,394.2	1,400.2	1,400.2	3.3	3.0	-29.38	-9.8	834.3	760.3	754.3	6.05	125.595		
1,500.0	1,491.7	1,497.7	1,497.7	3.7	3.3	-30.36	-9.8	834.3	741.1	734.5	6.56	113.031		
1,600.0	1,588.6	1,594.6	1,594.6	4.2	3.5	-31.51	-9.8	834.3	719.8	712.7	7.08	101.605		
1,700.0	1,684.9	1,690.8	1,690.8	4.7	3.7	-32.86	-9.8	834.3	696.6	688.9	7.64	91.124		
1,800.0	1,780.4	1,786.3	1,786.3	5.3	3.9	-34.43	-9.8	834.3	671.5	663.3	8.24	81.448		
1,903.5	1,878.4	1,871.1	1,871.1	5.9	4.1	-36.13	-9.2	835.0	644.7	635.9	8.88	72.597		
2,000.0	1,969.3	1,948.2	1,948.1	6.5	4.3	-37.73	-7.3	837.2	621.4	611.9	9.53	65.221		
2,100.0	2,063.5	2,028.4	2,028.1	7.2	4.4	-39.59	-3.7	841.1	600.3	590.1	10.24	58.617		
2,200.0	2,157.7	2,108.8	2,108.2	7.9	4.6	-41.67	1.3	846.7	582.5	571.5	11.00	52.945		
2,300.0	2,252.0	2,189.3	2,188.1	8.6	4.8	-43.95	7.9	853.9	568.3	556.5	11.81	48.114		
2,400.0	2,346.2	2,269.7	2,267.6	9.3	5.0	-46.39	15.9	862.8	557.9	545.3	12.67	44.041		
2,500.0	2,440.4	2,350.0	2,346.6	9.9	5.2	-48.97	25.5	873.4	551.7	538.1	13.57	40.659		
2,600.0	2,534.7	2,441.8	2,436.6	10.6	5.5	-52.01	37.5	886.7	549.0	534.4	14.57	37.692		
2,694.1	2,623.3	2,530.9	2,524.0	11.3	5.8	-54.98	49.3	899.7	548.2	532.6	15.54	35.274		
2,700.0	2,628.9	2,536.6	2,529.6	11.3	5.8	-55.17	50.0	900.5	548.2	532.6	15.60	35.134		
2,800.0	2,723.1	2,631.3	2,622.5	12.0	6.1	-58.33	62.5	914.3	549.2	532.6	16.66	32.959		
2,900.0	2,817.4	2,726.1	2,715.4	12.8	6.4	-61.47	75.0	928.1	552.1	534.4	17.74	31.118		
3,000.0	2,911.6	2,820.9	2,808.3	13.5	6.7	-64.57	87.5	941.9	556.8	538.0	18.83	29.570		
3,100.0	3,005.8	2,915.6	2,901.2	14.2	7.0	-67.61	100.0	955.7	563.3	543.4	19.92	28.275		
3,200.0	3,100.1	3,010.4	2,994.2	14.9	7.4	-70.59	112.4	969.5	571.5	550.5	21.01	27.197		
3,300.0	3,194.3	3,105.2	3,087.1	15.6	7.7	-73.48	124.9	983.3	581.3	559.2	22.10	26.306		
3,400.0	3,288.6	3,199.9	3,180.0	16.3	8.1	-76.27	137.4	997.1	592.7	569.5	23.18	25.574		
3,500.0	3,382.8	3,294.7	3,272.9	17.0	8.4	-78.96	149.9	1,010.9	605.6	581.3	24.24	24.978		
3,600.0	3,477.0	3,389.5	3,365.9	17.7	8.8	-81.55	162.4	1,024.8	619.8	594.5	25.30	24.498		
3,700.0	3,571.3	3,484.2	3,458.8	18.4	9.2	-84.02	174.9	1,038.6	635.3	609.0	26.34	24.117		
3,800.0	3,665.5	3,579.0	3,551.7	19.1	9.5	-86.38	187.3	1,052.4	652.0	624.7	27.37	23.820		
3,900.0	3,759.7	3,673.8	3,644.6	19.9	9.9	-88.63	199.8	1,066.2	669.9	641.5	28.39	23.594		
4,000.0	3,854.0	3,768.5	3,737.5	20.6	10.3	-90.77	212.3	1,080.0	688.7	659.3	29.40	23.428		
4,100.0	3,948.2	3,863.3	3,830.5	21.3	10.7	-92.79	224.8	1,093.8	708.5	678.1	30.39	23.314		
4,200.0	4,042.4	3,958.1	3,923.4	22.0	11.1	-94.72	237.3	1,107.6	729.1	697.8	31.37	23.242		
4,300.0	4,136.7	4,052.8	4,016.3	22.7	11.4	-96.54	249.8	1,121.4	750.6	718.2	32.34	23.207		
4,400.0	4,230.9	4,147.6	4,109.2	23.4	11.8	-98.26	262.2	1,135.2	772.7	739.4	33.30	23.203		
4,500.0	4,325.1	4,242.4	4,202.1	24.1	12.2	-99.89	274.7	1,149.0	795.5	761.3	34.25	23.225		
6,950.0	6,609.5	6,680.0	6,615.5	30.2	19.2	8.15	451.2	1,344.1	760.6	730.9	29.65	25.650		
7,000.0	6,635.9	6,706.3	6,641.9	30.1	19.2	9.57	451.2	1,344.1	718.3	690.3	27.99	25.657		
7,050.0	6,659.4	6,729.9	6,665.4	29.9	19.3	11.49	451.2	1,344.1	674.3	647.8	26.54	25.412		
7,100.0	6,680.0	6,750.5	6,686.0	29.8	19.3	14.15	451.2	1,344.1	628.9	603.5	25.45	24.711		
7,150.0	6,697.6	6,768.0	6,703.6	29.7	19.3	17.98	451.2	1,344.1	582.4	557.3	25.03	23.266		
7,200.0	6,712.0	6,782.5	6,718.0	29.6	19.4	23.73	451.2	1,344.1	534.8	509.1	25.72	20.792		
7,250.0	6,723.3	6,793.8	6,729.3	29.5	19.4	32.73	451.2	1,344.1	486.4	458.3	28.10	17.309		
7,300.0	6,731.4	6,801.9	6,737.4	29.4	19.4	47.01	451.2	1,344.1	437.5	405.2	32.37	13.515		
7,350.0	6,736.3	6,806.7	6,742.3	29.3	19.4	67.69	451.2	1,344.1	388.3	351.7	36.58	10.615		
7,400.5	6,737.9	6,808.3	6,743.9	29.2	19.4	90.50	451.2	1,344.1	338.6	301.8	36.76	9.212		
7,500.0	6,737.7	6,808.2	6,743.7	29.1	19.4	90.35	451.2	1,344.1	241.3	203.9	37.37	6.457		
7,600.0	6,737.6	6,808.0	6,743.6	29.1	19.4	90.20	451.2	1,344.1	146.6	108.5	38.15	3.843		
7,700.0	6,737.4	6,807.9	6,743.4	29.2	19.4	90.05	451.2	1,344.1	69.0	29.9	39.07	1.766		
7,733.7	6,737.4	6,807.8	6,743.3	29.3	19.4	90.00	451.2	1,344.1	60.2	20.8	39.42	1.528 CC, ES, SF		
7,800.0	6,737.3	6,807.7	6,743.2	29.5	19.4	89.90	451.2	1,344.1	89.6	49.5	40.11	2.234		
7,900.0	6,737.1	6,807.5	6,743.1	29.9	19.4	89.75	451.2	1,344.1	176.9	135.7	41.27	4.287		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Dunn Pad Sec.7-T5N-R64W - Dunn 7PD (AL) - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,000.0	6,736.9	6,807.4	6,742.9	30.6	19.4	89.60	451.2	1,344.1	273.1	230.6	42.52	6.423	
8,100.0	6,736.8	6,807.2	6,742.8	31.4	19.4	89.45	451.2	1,344.1	371.3	327.4	43.85	8.467	
8,200.0	6,736.6	6,807.1	6,742.6	32.4	19.4	89.30	451.2	1,344.1	470.2	425.0	45.25	10.392	
8,300.0	6,736.5	6,806.9	6,742.5	33.5	19.4	89.15	451.2	1,344.1	569.5	522.8	46.71	12.194	
8,400.0	6,736.3	6,806.8	6,742.3	34.7	19.4	89.00	451.2	1,344.1	669.1	620.8	48.22	13.876	
8,500.0	6,736.2	6,806.6	6,742.1	36.1	19.4	88.86	451.2	1,344.1	768.7	718.9	49.77	15.444	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Dunn #23-7 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7275-UNKNOWN													Offset Well Error:	0.0 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		
7,700.0	6,737.4	6,722.4	6,722.4	29.2	134.4	-90.21	1,080.2	995.6	722.6	566.3	156.38	4.621		
7,800.0	6,737.3	6,722.2	6,722.2	29.5	134.4	-90.18	1,080.2	995.6	632.2	474.8	157.40	4.017		
7,900.0	6,737.1	6,722.1	6,722.1	29.9	134.4	-90.14	1,080.2	995.6	545.1	386.6	158.53	3.439		
8,000.0	6,736.9	6,721.9	6,721.9	30.6	134.4	-90.11	1,080.2	995.6	463.3	303.5	159.76	2.900		
8,100.0	6,736.8	6,721.8	6,721.8	31.4	134.4	-90.08	1,080.2	995.6	390.0	228.9	161.06	2.421		
8,200.0	6,736.6	6,721.6	6,721.6	32.4	134.4	-90.05	1,080.2	995.6	331.0	168.6	162.44	2.038		
8,300.0	6,736.5	6,721.5	6,721.5	33.5	134.4	-90.02	1,080.2	995.6	295.1	131.2	163.88	1.800		
8,362.6	6,736.4	6,721.4	6,721.4	34.3	134.4	-90.00	1,080.2	995.6	288.3	123.5	164.81	1.749 CC, ES, SF		
8,400.0	6,736.3	6,721.3	6,721.3	34.7	134.4	-89.99	1,080.2	995.6	290.7	125.4	165.37	1.758		
8,500.0	6,736.2	6,721.1	6,721.1	36.1	134.4	-89.96	1,080.2	995.6	319.4	152.5	166.91	1.914		
8,600.0	6,736.0	6,721.0	6,721.0	37.5	134.4	-89.93	1,080.2	995.6	373.5	205.0	168.48	2.217		
8,700.0	6,735.8	6,720.8	6,720.8	39.0	134.4	-89.89	1,080.2	995.6	443.8	273.7	170.09	2.609		
8,800.0	6,735.7	6,720.7	6,720.7	40.5	134.4	-89.86	1,080.2	995.6	523.9	352.1	171.72	3.051		
8,900.0	6,735.5	6,720.5	6,720.5	42.0	134.4	-89.83	1,080.2	995.6	609.8	436.5	173.38	3.517		
9,000.0	6,735.4	6,720.4	6,720.4	43.6	134.4	-89.80	1,080.2	995.6	699.6	524.5	175.07	3.996		
9,100.0	6,735.2	6,720.2	6,720.2	45.2	134.4	-89.77	1,080.2	995.6	791.7	615.0	176.77	4.479		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Little Will #7 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7000-UNKNOWN													Offset Well Error:	0.0 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		
14,500.0	6,726.7	6,711.7	6,711.7	144.0	134.2	-90.20	7,943.5	951.8	798.3	521.1	277.15	2.880		
14,600.0	6,726.6	6,711.6	6,711.6	145.8	134.2	-90.17	7,943.5	951.8	708.6	429.5	279.05	2.539		
14,700.0	6,726.4	6,711.4	6,711.4	147.7	134.2	-90.14	7,943.5	951.8	622.0	341.0	280.95	2.214		
14,800.0	6,726.3	6,711.2	6,711.2	149.6	134.2	-90.12	7,943.5	951.8	540.1	257.2	282.85	1.909		
14,900.0	6,726.1	6,711.1	6,711.1	151.5	134.2	-90.09	7,943.5	951.8	465.3	180.5	284.75	1.634		
15,000.0	6,725.9	6,710.9	6,710.9	153.4	134.2	-90.06	7,943.5	951.8	401.6	115.0	286.65	1.401	Level 3	
15,100.0	6,725.8	6,710.8	6,710.8	155.3	134.2	-90.03	7,943.5	951.8	355.1	66.6	288.55	1.231	Level 2	
15,200.0	6,725.6	6,710.6	6,710.6	157.2	134.2	-90.01	7,943.5	951.8	333.1	42.6	290.45	1.147	Level 2	
15,225.9	6,725.6	6,710.6	6,710.6	157.7	134.2	-90.00	7,943.5	951.8	332.0	41.1	290.95	1.141	Level 2, CC, ES, SF	
15,300.0	6,725.5	6,710.5	6,710.5	159.1	134.2	-89.98	7,943.5	951.8	340.2	47.8	292.36	1.164	Level 2	
15,400.0	6,725.3	6,710.3	6,710.3	161.0	134.2	-89.95	7,943.5	951.8	374.9	80.6	294.26	1.274	Level 3	
15,500.0	6,725.2	6,710.1	6,710.1	162.9	134.2	-89.93	7,943.5	951.8	430.5	134.4	296.16	1.454	Level 3	
15,600.0	6,725.0	6,710.0	6,710.0	164.8	134.2	-89.90	7,943.5	951.8	500.2	202.1	298.06	1.678		
15,700.0	6,724.8	6,709.8	6,709.8	166.7	134.2	-89.87	7,943.5	951.8	578.8	278.8	299.96	1.929		
15,800.0	6,724.7	6,709.7	6,709.7	168.6	134.2	-89.84	7,943.5	951.8	663.2	361.3	301.87	2.197		
15,900.0	6,724.5	6,709.5	6,709.5	170.5	134.2	-89.82	7,943.5	951.8	751.4	447.6	303.77	2.474		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells - Sec.7-T5N-R64W - Silva #1 (Exist.) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 6976-UNKNOWN													<b>Offset Well Error:</b>	0.0 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		
12,100.0	6,730.5	6,691.5	6,691.5	98.9	133.8	-90.06	5,272.7	650.4	780.0	548.8	231.24	3.373		
12,200.0	6,730.3	6,691.3	6,691.3	100.7	133.8	-90.05	5,272.7	650.4	726.2	493.1	233.12	3.115		
12,300.0	6,730.2	6,691.2	6,691.2	102.6	133.8	-90.04	5,272.7	650.4	682.9	447.9	235.00	2.906		
12,400.0	6,730.0	6,691.0	6,691.0	104.5	133.8	-90.02	5,272.7	650.4	652.2	415.3	236.89	2.753		
12,500.0	6,729.9	6,690.9	6,690.9	106.3	133.8	-90.01	5,272.7	650.4	635.9	397.1	238.77	2.663		
12,555.1	6,729.8	6,690.8	6,690.8	107.4	133.8	-90.00	5,272.7	650.4	633.5	393.7	239.81	2.642	CC, ES	
12,600.0	6,729.7	6,690.7	6,690.7	108.2	133.8	-89.99	5,272.7	650.4	635.1	394.4	240.66	2.639	SF	
12,700.0	6,729.6	6,690.5	6,690.5	110.1	133.8	-89.98	5,272.7	650.4	649.8	407.3	242.54	2.679		
12,800.0	6,729.4	6,690.4	6,690.4	111.9	133.8	-89.97	5,272.7	650.4	679.2	434.7	244.43	2.779		
12,900.0	6,729.2	6,690.2	6,690.2	113.8	133.8	-89.95	5,272.7	650.4	721.3	474.9	246.32	2.928		
13,000.0	6,729.1	6,690.1	6,690.1	115.7	133.8	-89.94	5,272.7	650.4	774.1	525.9	248.21	3.119		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Silva #23-6 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7100-UNKNOWN													Offset Well Error:	0.0 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		
13,000.0	6,729.1	6,699.1	6,699.1	115.7	134.0	-90.19	6,428.3	950.8	784.9	536.5	248.41	3.160		
13,100.0	6,728.9	6,698.9	6,698.9	117.6	134.0	-90.17	6,428.3	950.8	695.7	445.4	250.30	2.779		
13,200.0	6,728.8	6,698.8	6,698.8	119.4	134.0	-90.14	6,428.3	950.8	609.8	357.6	252.19	2.418		
13,300.0	6,728.6	6,698.6	6,698.6	121.3	134.0	-90.11	6,428.3	950.8	528.8	274.8	254.08	2.081		
13,400.0	6,728.5	6,698.4	6,698.4	123.2	134.0	-90.08	6,428.3	950.8	455.5	199.6	255.97	1.780		
13,500.0	6,728.3	6,698.3	6,698.3	125.1	134.0	-90.06	6,428.3	950.8	394.2	136.3	257.86	1.529		
13,600.0	6,728.1	6,698.1	6,698.1	127.0	134.0	-90.03	6,428.3	950.8	351.0	91.3	259.76	1.351	Level 3	
13,700.0	6,728.0	6,698.0	6,698.0	128.8	134.0	-90.00	6,428.3	950.8	333.3	71.6	261.65	1.274	Level 3	
13,710.8	6,728.0	6,698.0	6,698.0	129.0	134.0	-90.00	6,428.3	950.8	333.1	71.2	261.85	1.272	Level 3, CC, ES, SF	
13,800.0	6,727.8	6,697.8	6,697.8	130.7	134.0	-89.98	6,428.3	950.8	344.8	81.3	263.55	1.308	Level 3	
13,900.0	6,727.7	6,697.7	6,697.7	132.6	134.0	-89.95	6,428.3	950.8	383.1	117.7	265.44	1.443	Level 3	
14,000.0	6,727.5	6,697.5	6,697.5	134.5	134.0	-89.92	6,428.3	950.8	441.2	173.8	267.34	1.650		
14,100.0	6,727.4	6,697.3	6,697.3	136.4	133.9	-89.89	6,428.3	950.8	512.3	243.1	269.23	1.903		
14,200.0	6,727.2	6,697.2	6,697.2	138.3	133.9	-89.87	6,428.3	950.8	591.9	320.7	271.13	2.183		
14,300.0	6,727.0	6,697.0	6,697.0	140.2	133.9	-89.84	6,428.3	950.8	676.9	403.8	273.03	2.479		
14,400.0	6,726.9	6,696.9	6,696.9	142.1	133.9	-89.81	6,428.3	950.8	765.5	490.6	274.92	2.784		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4638.0ft (Original Well Elev)

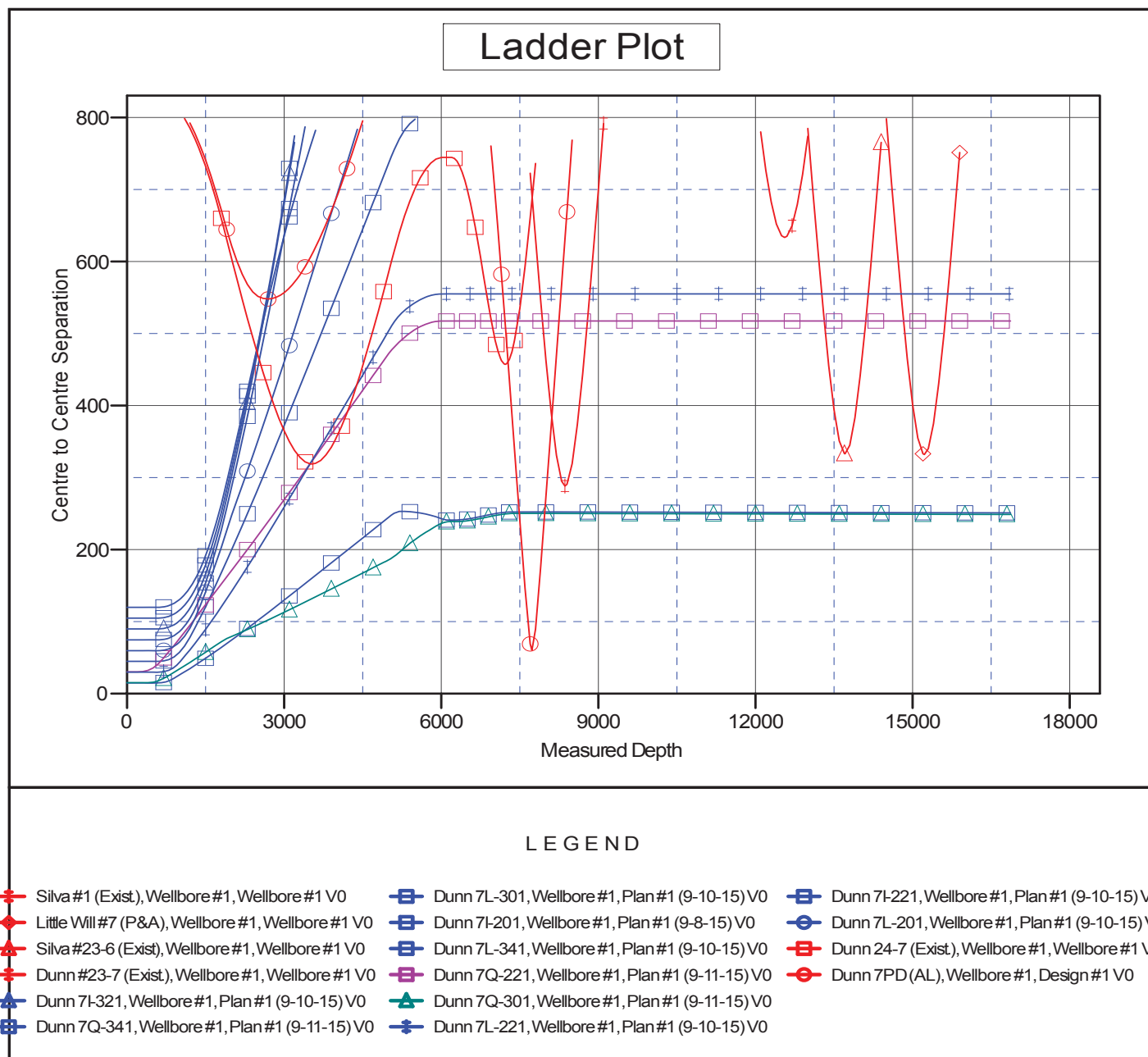
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Dunn 7Q-241

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dunn 7Q-241
<b>Project:</b>	SEC.7-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Dunn 5N64W7 Pad Sec.7-T5N-R64W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Dunn 7Q-241	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (9-11-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4638.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Dunn 7Q-241

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

