

# PETROLEUM DEVELOPMENT CORP Weld County CO

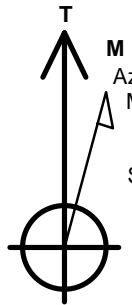
Well Name: **LDS 1U-234**

Surface Location: LDS 5N65W1U Pad Sec.1-T5N-R65W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4639.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1402146.94	3249639.19	40.433830	-104.603200	
RKB - 13' WELL @ 4652.0ft (RKB - 13')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50' E/W Hardline (1U-234)	1.0	63.0	-3719.4	Rectangle (Sides: L-6619.3 W100.0)
SHL 467'FNL & 410'FEL, Sec.1	1.0	0.0	0.0	Point
BHL 413'FNL & 2145'FEL, Sec.2	6725.0	63.0	-7029.1	Point



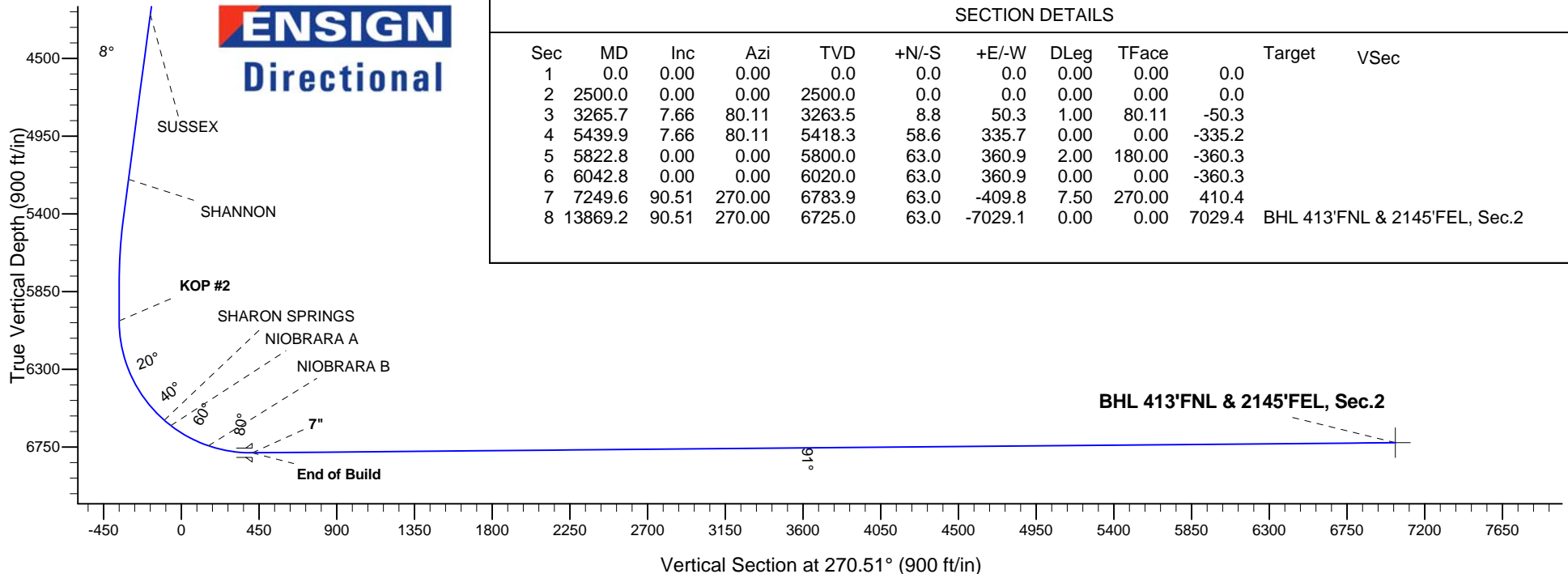
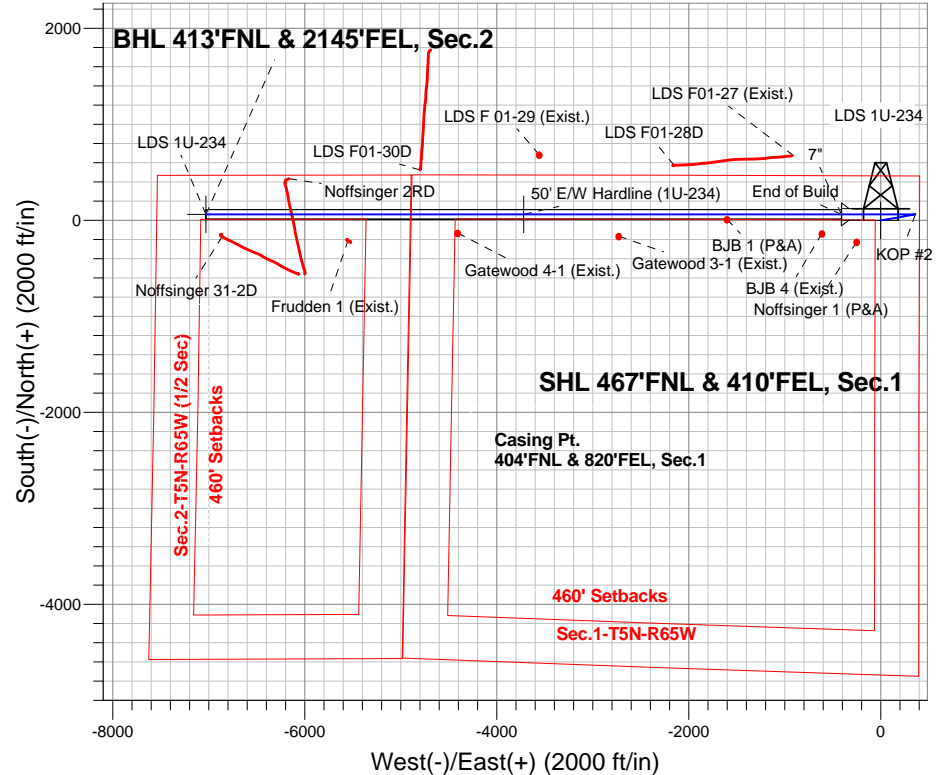
Azimuths to True North  
Magnetic North: 8.26°

Magnetic Field  
Strength: 52759.0snT  
Dip Angle: 66.97°  
Date: 4/30/2015  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
2500.0	2500.0	KOP #1
6020.0	6042.8	KOP #2
6783.9	7249.6	End of Build

LDS 5N65W1U Pad Sec.1-T5N-R65W  
LDS 1U-234  
Plan #2 (4-30-15)





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.1-T5N-R65W**

**LDS 5N65W1U Pad Sec.1-T5N-R65W**

**LDS 1U-234**

**Wellbore #1**

**Plan: Plan #2 (4-30-15)**

## **Standard Planning Report**

**30 April, 2015**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

<b>Project</b>	SEC.1-T5N-R65W, Weld County, CO		
<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

Site						LDS 5N65W1U Pad Sec.1-T5N-R65W											
Site Position:						Northing:			1,402,064.02 ft			Latitude:			40.433600		
From:			Lat/Long			Easting:			3,249,723.55 ft			Longitude:			-104.602900		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.58 °		

Well	LDS 1U-234					
Well Position	+N/-S	83.8 ft	Northing:	1,402,146.94 ft	Latitude:	40.433830
	+E/-W	-83.5 ft	Easting:	3,249,639.19 ft	Longitude:	-104.603200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,639.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/30/2015	8.26	66.97	52,759

<b>Design</b>	Plan #2 (4-30-15)			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	270.51

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,265.7	7.66	80.11	3,263.5	8.8	50.3	1.00	1.00	0.00	80.11	
5,439.9	7.66	80.11	5,418.3	58.6	335.7	0.00	0.00	0.00	0.00	
5,822.8	0.00	0.00	5,800.0	63.0	360.9	2.00	-2.00	0.00	180.00	
6,042.8	0.00	0.00	6,020.0	63.0	360.9	0.00	0.00	0.00	0.00	
7,249.6	90.51	270.00	6,783.9	63.0	-409.8	7.50	7.50	0.00	270.00	
13,869.2	90.51	270.00	6,725.0	63.0	-7,029.1	0.00	0.00	0.00	0.00	BHL 413'FNL & 214

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
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
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
2,600.0	1.00	80.11	2,600.0	0.1	0.9	-0.9	1.00	1.00	0.00
2,700.0	2.00	80.11	2,700.0	0.6	3.4	-3.4	1.00	1.00	0.00
2,800.0	3.00	80.11	2,799.9	1.3	7.7	-7.7	1.00	1.00	0.00
2,900.0	4.00	80.11	2,899.7	2.4	13.7	-13.7	1.00	1.00	0.00
3,000.0	5.00	80.11	2,999.4	3.7	21.5	-21.4	1.00	1.00	0.00
3,100.0	6.00	80.11	3,098.9	5.4	30.9	-30.9	1.00	1.00	0.00
3,200.0	7.00	80.11	3,198.3	7.3	42.1	-42.0	1.00	1.00	0.00
3,265.7	7.66	80.11	3,263.5	8.8	50.3	-50.3	1.00	1.00	0.00
3,300.0	7.66	80.11	3,297.4	9.6	54.8	-54.7	0.00	0.00	0.00
3,400.0	7.66	80.11	3,396.5	11.9	68.0	-67.8	0.00	0.00	0.00
3,490.3	7.66	80.11	3,486.0	13.9	79.8	-79.7	0.00	0.00	0.00
<b>PARKMAN</b>									
3,500.0	7.66	80.11	3,495.6	14.1	81.1	-81.0	0.00	0.00	0.00
3,600.0	7.66	80.11	3,594.7	16.4	94.2	-94.1	0.00	0.00	0.00
3,700.0	7.66	80.11	3,693.9	18.7	107.3	-107.2	0.00	0.00	0.00
3,800.0	7.66	80.11	3,793.0	21.0	120.5	-120.3	0.00	0.00	0.00
3,900.0	7.66	80.11	3,892.1	23.3	133.6	-133.4	0.00	0.00	0.00
4,000.0	7.66	80.11	3,991.2	25.6	146.7	-146.5	0.00	0.00	0.00
4,100.0	7.66	80.11	4,090.3	27.9	159.8	-159.6	0.00	0.00	0.00
4,200.0	7.66	80.11	4,189.4	30.2	173.0	-172.7	0.00	0.00	0.00
4,255.1	7.66	80.11	4,244.0	31.4	180.2	-179.9	0.00	0.00	0.00
<b>SUSSEX</b>									
4,300.0	7.66	80.11	4,288.5	32.5	186.1	-185.8	0.00	0.00	0.00
4,400.0	7.66	80.11	4,387.6	34.8	199.2	-198.9	0.00	0.00	0.00
4,500.0	7.66	80.11	4,486.7	37.0	212.4	-212.0	0.00	0.00	0.00
4,600.0	7.66	80.11	4,585.8	39.3	225.5	-225.1	0.00	0.00	0.00

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<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,700.0	7.66	80.11	4,684.9	41.6	238.6	-238.2	0.00	0.00	0.00
4,800.0	7.66	80.11	4,784.0	43.9	251.7	-251.3	0.00	0.00	0.00
4,900.0	7.66	80.11	4,883.1	46.2	264.9	-264.4	0.00	0.00	0.00
5,000.0	7.66	80.11	4,982.3	48.5	278.0	-277.5	0.00	0.00	0.00
5,100.0	7.66	80.11	5,081.4	50.8	291.1	-290.6	0.00	0.00	0.00
5,200.0	7.66	80.11	5,180.5	53.1	304.2	-303.8	0.00	0.00	0.00
5,219.7	7.66	80.11	5,200.0	53.5	306.8	-306.3	0.00	0.00	0.00
<b>SHANNON</b>									
5,300.0	7.66	80.11	5,279.6	55.4	317.4	-316.9	0.00	0.00	0.00
5,400.0	7.66	80.11	5,378.7	57.7	330.5	-330.0	0.00	0.00	0.00
5,439.9	7.66	80.11	5,418.3	58.6	335.7	-335.2	0.00	0.00	0.00
5,500.0	6.46	80.11	5,477.9	59.8	343.0	-342.5	2.00	-2.00	0.00
5,600.0	4.46	80.11	5,577.4	61.5	352.4	-351.8	2.00	-2.00	0.00
5,700.0	2.46	80.11	5,677.2	62.5	358.3	-357.7	2.00	-2.00	0.00
5,800.0	0.46	80.11	5,777.2	62.9	360.8	-360.2	2.00	-2.00	0.00
5,822.8	0.00	0.00	5,800.0	63.0	360.9	-360.3	2.00	-2.00	0.00
5,900.0	0.00	0.00	5,877.2	63.0	360.9	-360.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,977.2	63.0	360.9	-360.3	0.00	0.00	0.00
6,042.8	0.00	0.00	6,020.0	63.0	360.9	-360.3	0.00	0.00	0.00
<b>KOP #2</b>									
6,100.0	4.29	270.00	6,077.1	63.0	358.8	-358.2	7.50	7.50	0.00
6,200.0	11.79	270.00	6,176.1	63.0	344.8	-344.2	7.50	7.50	0.00
6,300.0	19.29	270.00	6,272.4	63.0	318.0	-317.4	7.50	7.50	0.00
6,400.0	26.79	270.00	6,364.3	63.0	278.9	-278.3	7.50	7.50	0.00
6,500.0	34.29	270.00	6,450.4	63.0	228.1	-227.6	7.50	7.50	0.00
6,600.0	41.79	270.00	6,529.1	63.0	166.6	-166.0	7.50	7.50	0.00
6,693.8	48.82	270.00	6,595.0	63.0	99.9	-99.4	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
6,700.0	49.29	270.00	6,599.1	63.0	95.2	-94.7	7.50	7.50	0.00
6,742.7	52.49	270.00	6,626.0	63.0	62.1	-61.6	7.50	7.50	0.00
<b>NIOBRARA A</b>									
6,800.0	56.79	270.00	6,659.2	63.0	15.4	-14.8	7.50	7.50	0.00
6,900.0	64.29	270.00	6,708.3	63.0	-71.6	72.2	7.50	7.50	0.00
6,991.5	71.15	270.00	6,743.0	63.0	-156.3	156.8	7.50	7.50	0.00
<b>NIOBRARA B</b>									
7,000.0	71.79	270.00	6,745.7	63.0	-164.3	164.9	7.50	7.50	0.00
7,100.0	79.29	270.00	6,770.6	63.0	-261.1	261.6	7.50	7.50	0.00
7,200.0	86.79	270.00	6,782.8	63.0	-360.3	360.8	7.50	7.50	0.00
7,249.6	90.51	270.00	6,783.9	63.0	-409.8	410.4	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,300.0	90.51	270.00	6,783.5	63.0	-460.2	460.8	0.00	0.00	0.00
7,400.0	90.51	270.00	6,782.6	63.0	-560.2	560.8	0.00	0.00	0.00
7,500.0	90.51	270.00	6,781.7	63.0	-660.2	660.8	0.00	0.00	0.00
7,600.0	90.51	270.00	6,780.8	63.0	-760.2	760.8	0.00	0.00	0.00
7,700.0	90.51	270.00	6,779.9	63.0	-860.2	860.7	0.00	0.00	0.00
7,800.0	90.51	270.00	6,779.0	63.0	-960.2	960.7	0.00	0.00	0.00
7,900.0	90.51	270.00	6,778.1	63.0	-1,060.2	1,060.7	0.00	0.00	0.00
8,000.0	90.51	270.00	6,777.2	63.0	-1,160.2	1,160.7	0.00	0.00	0.00
8,100.0	90.51	270.00	6,776.4	63.0	-1,260.2	1,260.7	0.00	0.00	0.00
8,200.0	90.51	270.00	6,775.5	63.0	-1,360.2	1,360.7	0.00	0.00	0.00
8,300.0	90.51	270.00	6,774.6	63.0	-1,460.2	1,460.7	0.00	0.00	0.00
8,400.0	90.51	270.00	6,773.7	63.0	-1,560.2	1,560.7	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,500.0	90.51	270.00	6,772.8	63.0	-1,660.2	1,660.7	0.00	0.00	0.00
8,600.0	90.51	270.00	6,771.9	63.0	-1,760.2	1,760.7	0.00	0.00	0.00
8,700.0	90.51	270.00	6,771.0	63.0	-1,860.2	1,860.7	0.00	0.00	0.00
8,800.0	90.51	270.00	6,770.1	63.0	-1,960.2	1,960.7	0.00	0.00	0.00
8,900.0	90.51	270.00	6,769.2	63.0	-2,060.2	2,060.6	0.00	0.00	0.00
9,000.0	90.51	270.00	6,768.3	63.0	-2,160.2	2,160.6	0.00	0.00	0.00
9,100.0	90.51	270.00	6,767.5	63.0	-2,260.2	2,260.6	0.00	0.00	0.00
9,200.0	90.51	270.00	6,766.6	63.0	-2,360.2	2,360.6	0.00	0.00	0.00
9,300.0	90.51	270.00	6,765.7	63.0	-2,460.2	2,460.6	0.00	0.00	0.00
9,400.0	90.51	270.00	6,764.8	63.0	-2,560.1	2,560.6	0.00	0.00	0.00
9,500.0	90.51	270.00	6,763.9	63.0	-2,660.1	2,660.6	0.00	0.00	0.00
9,600.0	90.51	270.00	6,763.0	63.0	-2,760.1	2,760.6	0.00	0.00	0.00
9,700.0	90.51	270.00	6,762.1	63.0	-2,860.1	2,860.6	0.00	0.00	0.00
9,800.0	90.51	270.00	6,761.2	63.0	-2,960.1	2,960.6	0.00	0.00	0.00
9,900.0	90.51	270.00	6,760.3	63.0	-3,060.1	3,060.6	0.00	0.00	0.00
10,000.0	90.51	270.00	6,759.4	63.0	-3,160.1	3,160.6	0.00	0.00	0.00
10,100.0	90.51	270.00	6,758.5	63.0	-3,260.1	3,260.6	0.00	0.00	0.00
10,200.0	90.51	270.00	6,757.7	63.0	-3,360.1	3,360.5	0.00	0.00	0.00
10,300.0	90.51	270.00	6,756.8	63.0	-3,460.1	3,460.5	0.00	0.00	0.00
10,400.0	90.51	270.00	6,755.9	63.0	-3,560.1	3,560.5	0.00	0.00	0.00
10,500.0	90.51	270.00	6,755.0	63.0	-3,660.1	3,660.5	0.00	0.00	0.00
10,600.0	90.51	270.00	6,754.1	63.0	-3,760.1	3,760.5	0.00	0.00	0.00
10,700.0	90.51	270.00	6,753.2	63.0	-3,860.1	3,860.5	0.00	0.00	0.00
10,800.0	90.51	270.00	6,752.3	63.0	-3,960.1	3,960.5	0.00	0.00	0.00
10,900.0	90.51	270.00	6,751.4	63.0	-4,060.1	4,060.5	0.00	0.00	0.00
11,000.0	90.51	270.00	6,750.5	63.0	-4,160.1	4,160.5	0.00	0.00	0.00
11,100.0	90.51	270.00	6,749.6	63.0	-4,260.1	4,260.5	0.00	0.00	0.00
11,200.0	90.51	270.00	6,748.8	63.0	-4,360.1	4,360.5	0.00	0.00	0.00
11,300.0	90.51	270.00	6,747.9	63.0	-4,460.1	4,460.5	0.00	0.00	0.00
11,400.0	90.51	270.00	6,747.0	63.0	-4,560.1	4,560.4	0.00	0.00	0.00
11,500.0	90.51	270.00	6,746.1	63.0	-4,660.1	4,660.4	0.00	0.00	0.00
11,600.0	90.51	270.00	6,745.2	63.0	-4,760.1	4,760.4	0.00	0.00	0.00
11,700.0	90.51	270.00	6,744.3	63.0	-4,860.1	4,860.4	0.00	0.00	0.00
11,800.0	90.51	270.00	6,743.4	63.0	-4,960.1	4,960.4	0.00	0.00	0.00
11,900.0	90.51	270.00	6,742.5	63.0	-5,060.0	5,060.4	0.00	0.00	0.00
12,000.0	90.51	270.00	6,741.6	63.0	-5,160.0	5,160.4	0.00	0.00	0.00
12,100.0	90.51	270.00	6,740.7	63.0	-5,260.0	5,260.4	0.00	0.00	0.00
12,200.0	90.51	270.00	6,739.9	63.0	-5,360.0	5,360.4	0.00	0.00	0.00
12,300.0	90.51	270.00	6,739.0	63.0	-5,460.0	5,460.4	0.00	0.00	0.00
12,400.0	90.51	270.00	6,738.1	63.0	-5,560.0	5,560.4	0.00	0.00	0.00
12,500.0	90.51	270.00	6,737.2	63.0	-5,660.0	5,660.4	0.00	0.00	0.00
12,600.0	90.51	270.00	6,736.3	63.0	-5,760.0	5,760.4	0.00	0.00	0.00
12,700.0	90.51	270.00	6,735.4	63.0	-5,860.0	5,860.3	0.00	0.00	0.00
12,800.0	90.51	270.00	6,734.5	63.0	-5,960.0	5,960.3	0.00	0.00	0.00
12,900.0	90.51	270.00	6,733.6	63.0	-6,060.0	6,060.3	0.00	0.00	0.00
13,000.0	90.51	270.00	6,732.7	63.0	-6,160.0	6,160.3	0.00	0.00	0.00
13,100.0	90.51	270.00	6,731.8	63.0	-6,260.0	6,260.3	0.00	0.00	0.00
13,200.0	90.51	270.00	6,731.0	63.0	-6,360.0	6,360.3	0.00	0.00	0.00
13,300.0	90.51	270.00	6,730.1	63.0	-6,460.0	6,460.3	0.00	0.00	0.00
13,400.0	90.51	270.00	6,729.2	63.0	-6,560.0	6,560.3	0.00	0.00	0.00
13,500.0	90.51	270.00	6,728.3	63.0	-6,660.0	6,660.3	0.00	0.00	0.00
13,600.0	90.51	270.00	6,727.4	63.0	-6,760.0	6,760.3	0.00	0.00	0.00
13,700.0	90.51	270.00	6,726.5	63.0	-6,860.0	6,860.3	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,800.0	90.51	270.00	6,725.6	63.0	-6,960.0	6,960.3	0.00	0.00	0.00
13,869.2	90.51	270.00	6,725.0	63.0	-7,029.1	7,029.4	0.00	0.00	0.00

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
SHL 467'FNL & 410'F	- plan hits target center	0.00	0.00	1.0	0.0	0.0	1,402,146.96	3,249,639.19	40.433830 -104.603200
- Point									
50' E/W Hardline (1U-	- plan misses target center by 3720.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)	0.00	0.00	1.0	63.0	-3,719.4	1,402,172.32	3,245,919.45	40.434002 -104.616561
- Rectangle (sides W-6,619.3 H100.0 D0.0)									
BHL 413'FNL & 2145'	- plan hits target center	0.00	0.00	6,725.0	63.0	-7,029.1	1,402,138.80	3,242,610.06	40.434000 -104.628450
- Point									
		7,249.6	6,783.9	7"					7 7-1/2

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,490.3	3,486.0	PARKMAN		0.00		
4,255.1	4,244.0	SUSSEX		0.00		
5,219.7	5,200.0	SHANNON		0.00		
6,693.8	6,595.0	SHARON SPRINGS		0.00		
6,742.7	6,626.0	NIOBRARA A		0.00		
6,991.5	6,743.0	NIOBRARA B		0.00		
	6,835.0	NIOBRARA C		0.00		
	6,864.0	FT HAYS		0.00		
	6,881.0	CODELL		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
2,500.0	2,500.0	0.0	0.0	KOP #1
6,042.8	6,020.0	63.0	360.9	KOP #2
7,249.6	6,783.9	63.0	-409.8	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.1-T5N-R65W**

**LDS 5N65W1U Pad Sec.1-T5N-R65W**

**LDS 1U-234**

**Wellbore #1**

**Plan #2 (4-30-15)**

## **Anticollision Report**

**30 April, 2015**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (4-30-15)
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria
<b>Interpolation Method:</b>	MD Interval 100.0ft
<b>Depth Range:</b>	Unlimited
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft
<b>Warning Levels Evaluated at:</b>	2.00 Sigma
<b>Error Model:</b>	ISCWSA
<b>Scan Method:</b>	Closest Approach 3D
<b>Error Surface:</b>	Elliptical Conic

Survey Tool Program		Date	4/30/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	13,868.3	Plan #2 (4-30-15) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec.1-T5N-R65W						
BJB 1 (P&A) - Wellbore #1 - Wellbore #1	8,440.5	6,760.3	52.0	-134.9	0.278	Level 1, CC, ES, SF
BJB 4 (Exist.) - Wellbore #1 - Wellbore #1	7,452.2	6,767.1	197.7	35.7	1.220	Level 2, CC, ES, SF
Gatewood 3-1 (Exist.) - Wellbore #1 - Wellbore #1	9,568.0	6,746.3	226.7	9.5	1.044	Level 2, CC, ES, SF
Gatewood 4-1 (Exist.) - Wellbore #1 - Wellbore #1	11,246.7	6,737.3	193.7	-69.9	0.735	Level 1, CC, ES, SF
Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1	7,089.3	6,800.6	285.2	129.7	1.834	CC
Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1	7,100.0	6,802.6	285.4	129.7	1.833	ES, SF
Existing Wells Sec.2-T5N-R65W						
Frudden 1 (Exist.) - Wellbore #1 - Wellbore #1	12,393.6	6,729.5	262.8	-41.7	0.863	Level 1, CC
Frudden 1 (Exist.) - Wellbore #1 - Wellbore #1	12,400.0	6,729.3	262.9	-41.8	0.863	Level 1, ES, SF
Existing Wells Sec.36-T6N-R36W						
LDS F 01-29 (Exist.) - Wellbore #1 - Wellbore #1	10,397.5	6,748.9	622.2	382.0	2.590	CC
LDS F 01-29 (Exist.) - Wellbore #1 - Wellbore #1	10,400.0	6,748.9	622.2	381.9	2.589	ES, SF
LDS 5N65W1U Pad Sec.1-T5N-R65W						
LDS 1U-304 - Wellbore #1 - Plan #2 (4-13-15)	1,656.1	1,657.2	30.7	23.5	4.260	CC
LDS 1U-304 - Wellbore #1 - Plan #2 (4-13-15)	13,869.2	13,954.6	228.9	-169.3	0.575	Level 1, ES, SF
LDS 1V-204 - Wellbore #1 - Plan #2 (4-15-15)	200.0	198.0	118.4	117.7	176.715	CC, ES
LDS 1V-204 - Wellbore #1 - Plan #2 (4-15-15)	2,500.0	2,445.5	431.7	418.1	31.734	SF
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	1,000.0	999.0	57.9	53.6	13.558	CC, ES
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	13,869.2	13,874.0	521.0	117.9	1.293	Level 3, SF
LDS 1V-304 - Wellbore #1 - Plan #2 (4-13-15)	400.0	399.0	89.1	87.5	56.697	CC, ES
LDS 1V-304 - Wellbore #1 - Plan #2 (4-13-15)	13,869.2	13,928.4	734.6	331.9	1.824	SF
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	1,600.0	1,599.0	28.8	21.8	4.130	CC
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	13,869.2	13,952.2	338.6	-57.3	0.855	Level 1, ES, SF
LDS F01-28D Sec.36-T6N-R65W						
LDS F01-28D - LDS F01-28D - LDS F01-28D	9,000.2	6,945.9	511.3	417.8	5.466	CC, ES
LDS F01-28D - LDS F01-28D - LDS F01-28D	9,100.0	6,943.1	521.0	424.7	5.412	SF
LDS F01-30D Sec.36-T6N-R65W						
LDS F01-30D - LDS F01-30D - LDS F01-30D	11,637.1	6,945.1	470.2	314.4	3.017	CC, ES
LDS F01-30D - LDS F01-30D - LDS F01-30D	11,700.0	6,945.0	474.4	316.8	3.010	SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Noffsinger Pad Sec.2-T5N-R65W						
Noffsinger 2RD - Wellbore #1 - Wellbore #1	13,020.4	6,865.7	364.3	170.6	1.881	CC, ES, SF
Noffsinger 31-2D - Wellbore #1 - Wellbore #1	13,711.5	6,834.1	227.4	9.6	1.044	Level 2, CC, ES, SF

<b>Offset Design</b> Existing Wells Sec.1-T5N-R65W - BJB 1 (P&A) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7040-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	
7,500.0	6,781.7	6,768.7	6,768.7	27.7	135.4	-99.15	11.0	-1,600.7	941.9	780.8	161.13	5.846	
7,600.0	6,780.8	6,767.8	6,767.8	30.1	135.4	-98.19	11.0	-1,600.7	842.1	678.3	163.82	5.140	
7,700.0	6,779.9	6,766.9	6,766.9	32.5	135.3	-97.23	11.0	-1,600.7	742.3	575.8	166.55	4.457	
7,800.0	6,779.0	6,766.0	6,766.0	35.0	135.3	-96.26	11.0	-1,600.7	642.6	473.3	169.31	3.795	
7,900.0	6,778.1	6,765.1	6,765.1	37.5	135.3	-95.29	11.0	-1,600.7	543.0	370.9	172.08	3.155	
8,000.0	6,777.2	6,764.2	6,764.2	40.0	135.3	-94.32	11.0	-1,600.7	443.6	268.7	174.85	2.537	
8,100.0	6,776.4	6,763.4	6,763.4	42.6	135.3	-93.34	11.0	-1,600.7	344.4	166.8	177.61	1.939	
8,200.0	6,775.5	6,762.5	6,762.5	45.2	135.2	-92.36	11.0	-1,600.7	246.1	65.7	180.34	1.364	Level 3
8,300.0	6,774.6	6,761.6	6,761.6	47.9	135.2	-91.38	11.0	-1,600.7	149.8	-33.2	183.06	0.818	Level 1
8,400.0	6,773.7	6,760.7	6,760.7	50.5	135.2	-90.40	11.0	-1,600.7	65.9	-119.8	185.74	0.355	Level 1
8,440.5	6,773.3	6,760.3	6,760.3	51.6	135.2	-90.00	11.0	-1,600.7	52.0	-134.9	186.81	0.278	Level 1, CC, ES, SF
8,500.0	6,772.8	6,759.8	6,759.8	53.2	135.2	-89.42	11.0	-1,600.7	79.0	-109.4	188.38	0.419	Level 1
8,600.0	6,771.9	6,758.9	6,758.9	55.9	135.2	-88.44	11.0	-1,600.7	167.7	-23.3	190.98	0.878	Level 1
8,700.0	6,771.0	6,758.0	6,758.0	58.6	135.2	-87.45	11.0	-1,600.7	264.6	71.1	193.54	1.367	Level 3
8,800.0	6,770.1	6,757.1	6,757.1	61.3	135.1	-86.48	11.0	-1,600.7	363.2	167.2	196.05	1.853	
8,900.0	6,769.2	6,756.2	6,756.2	64.0	135.1	-85.50	11.0	-1,600.7	462.4	263.9	198.50	2.329	
9,000.0	6,768.3	6,755.3	6,755.3	66.7	135.1	-84.53	11.0	-1,600.7	561.9	361.0	200.91	2.797	
9,100.0	6,767.5	6,754.5	6,754.5	69.5	135.1	-83.55	11.0	-1,600.7	661.5	458.3	203.25	3.255	
9,200.0	6,766.6	6,753.6	6,753.6	72.2	135.1	-82.59	11.0	-1,600.7	761.2	555.7	205.54	3.704	
9,300.0	6,765.7	6,752.7	6,752.7	74.9	135.1	-81.62	11.0	-1,600.7	861.0	653.3	207.76	4.144	
9,400.0	6,764.8	6,751.8	6,751.8	77.7	135.0	-80.67	11.0	-1,600.7	960.9	750.9	209.93	4.577	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - BJB 4 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7064-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-102.41	-102.41	-134.8	-612.4	627.3				
100.0	100.0	85.0	85.0	0.1	1.7	-102.41	-102.41	-134.8	-612.4	627.1	625.3	1.81	345.970	
200.0	200.0	185.0	185.0	0.3	3.7	-102.41	-102.41	-134.8	-612.4	627.1	623.1	4.04	155.325	
300.0	300.0	285.0	285.0	0.6	5.7	-102.41	-102.41	-134.8	-612.4	627.1	620.8	6.26	100.142	
400.0	400.0	385.0	385.0	0.8	7.7	-102.41	-102.41	-134.8	-612.4	627.1	618.6	8.49	73.891	
500.0	500.0	485.0	485.0	1.0	9.7	-102.41	-102.41	-134.8	-612.4	627.1	616.4	10.71	58.544	
600.0	600.0	585.0	585.0	1.2	11.7	-102.41	-102.41	-134.8	-612.4	627.1	614.2	12.94	48.476	
700.0	700.0	685.0	685.0	1.5	13.7	-102.41	-102.41	-134.8	-612.4	627.1	611.9	15.16	41.362	
800.0	800.0	785.0	785.0	1.7	15.7	-102.41	-102.41	-134.8	-612.4	627.1	609.7	17.39	36.069	
900.0	900.0	885.0	885.0	1.9	17.7	-102.41	-102.41	-134.8	-612.4	627.1	607.5	19.61	31.977	
1,000.0	1,000.0	985.0	985.0	2.1	19.7	-102.41	-102.41	-134.8	-612.4	627.1	605.3	21.84	28.719	
1,100.0	1,100.0	1,085.0	1,085.0	2.4	21.7	-102.41	-102.41	-134.8	-612.4	627.1	603.0	24.06	26.064	
1,200.0	1,200.0	1,185.0	1,185.0	2.6	23.7	-102.41	-102.41	-134.8	-612.4	627.1	600.8	26.28	23.858	
1,300.0	1,300.0	1,285.0	1,285.0	2.8	25.7	-102.41	-102.41	-134.8	-612.4	627.1	598.6	28.51	21.996	
1,400.0	1,400.0	1,385.0	1,385.0	3.0	27.7	-102.41	-102.41	-134.8	-612.4	627.1	596.4	30.73	20.404	
1,500.0	1,500.0	1,485.0	1,485.0	3.3	29.7	-102.41	-102.41	-134.8	-612.4	627.1	594.1	32.96	19.026	
1,600.0	1,600.0	1,585.0	1,585.0	3.5	31.7	-102.41	-102.41	-134.8	-612.4	627.1	591.9	35.18	17.823	
1,700.0	1,700.0	1,685.0	1,685.0	3.7	33.7	-102.41	-102.41	-134.8	-612.4	627.1	589.7	37.41	16.763	
1,800.0	1,800.0	1,785.0	1,785.0	3.9	35.7	-102.41	-102.41	-134.8	-612.4	627.1	587.5	39.63	15.822	
1,900.0	1,900.0	1,885.0	1,885.0	4.2	37.7	-102.41	-102.41	-134.8	-612.4	627.1	585.2	41.86	14.981	
2,000.0	2,000.0	1,985.0	1,985.0	4.4	39.7	-102.41	-102.41	-134.8	-612.4	627.1	583.0	44.08	14.225	
2,100.0	2,100.0	2,085.0	2,085.0	4.6	41.7	-102.41	-102.41	-134.8	-612.4	627.1	580.8	46.31	13.542	
2,200.0	2,200.0	2,185.0	2,185.0	4.8	43.7	-102.41	-102.41	-134.8	-612.4	627.1	578.6	48.53	12.921	
2,300.0	2,300.0	2,285.0	2,285.0	5.1	45.7	-102.41	-102.41	-134.8	-612.4	627.1	576.3	50.76	12.355	
2,400.0	2,400.0	2,385.0	2,385.0	5.3	47.7	-102.41	-102.41	-134.8	-612.4	627.1	574.1	52.98	11.836	
2,500.0	2,500.0	2,485.0	2,485.0	5.5	49.7	-102.41	-102.41	-134.8	-612.4	627.1	571.9	55.21	11.359	
2,600.0	2,600.0	2,585.0	2,585.0	5.7	51.7	177.49	177.49	-134.8	-612.4	628.0	570.6	57.41	10.938	
2,700.0	2,700.0	2,685.0	2,685.0	5.9	53.7	177.50	177.50	-134.8	-612.4	630.6	571.0	59.59	10.583	
2,800.0	2,799.9	2,784.9	2,784.9	6.1	55.7	177.51	177.51	-134.8	-612.4	634.9	573.2	61.74	10.284	
2,900.0	2,899.7	2,884.7	2,884.7	6.3	57.7	177.53	177.53	-134.8	-612.4	641.0	577.2	63.87	10.036	
3,000.0	2,999.4	2,984.4	2,984.4	6.6	59.7	177.56	177.56	-134.8	-612.4	648.9	582.9	65.98	9.835	
3,100.0	3,098.9	3,083.9	3,083.9	6.8	61.7	177.59	177.59	-134.8	-612.4	658.5	590.4	68.06	9.675	
3,200.0	3,198.3	3,183.3	3,183.3	7.0	63.7	177.63	177.63	-134.8	-612.4	669.8	599.7	70.11	9.553	
3,300.0	3,297.4	3,282.4	3,282.4	7.3	65.6	177.67	177.67	-134.8	-612.4	682.7	610.5	72.18	9.458	
3,400.0	3,396.5	3,381.5	3,381.5	7.5	67.6	177.71	177.71	-134.8	-612.4	696.0	621.7	74.36	9.360	
3,500.0	3,495.6	3,480.6	3,480.6	7.8	69.6	177.76	177.76	-134.8	-612.4	709.3	632.8	76.55	9.267	
3,600.0	3,594.7	3,579.7	3,579.7	8.0	71.6	177.80	177.80	-134.8	-612.4	722.7	643.9	78.73	9.179	
3,700.0	3,693.9	3,678.9	3,678.9	8.3	73.6	177.84	177.84	-134.8	-612.4	736.0	655.1	80.91	9.096	
3,800.0	3,793.0	3,778.0	3,778.0	8.6	75.6	177.88	177.88	-134.8	-612.4	749.3	666.2	83.10	9.017	
3,900.0	3,892.1	3,877.1	3,877.1	8.9	77.5	177.91	177.91	-134.8	-612.4	762.6	677.3	85.28	8.942	
4,000.0	3,991.2	3,976.2	3,976.2	9.1	79.5	177.95	177.95	-134.8	-612.4	775.9	688.4	87.47	8.870	
4,100.0	4,090.3	4,075.3	4,075.3	9.4	81.5	177.98	177.98	-134.8	-612.4	789.2	699.6	89.66	8.802	
4,200.0	4,189.4	4,174.4	4,174.4	9.7	83.5	178.02	178.02	-134.8	-612.4	802.5	710.7	91.85	8.737	
4,300.0	4,288.5	4,273.5	4,273.5	10.0	85.5	178.05	178.05	-134.8	-612.4	815.9	721.8	94.04	8.676	
4,400.0	4,387.6	4,372.6	4,372.6	10.3	87.5	178.08	178.08	-134.8	-612.4	829.2	733.0	96.23	8.616	
4,500.0	4,486.7	4,471.7	4,471.7	10.6	89.4	178.11	178.11	-134.8	-612.4	842.5	744.1	98.43	8.560	
4,600.0	4,585.8	4,570.8	4,570.8	10.9	91.4	178.14	178.14	-134.8	-612.4	855.8	755.2	100.62	8.505	
4,700.0	4,684.9	4,669.9	4,669.9	11.2	93.4	178.17	178.17	-134.8	-612.4	869.1	766.3	102.81	8.453	
4,800.0	4,784.0	4,769.0	4,769.0	11.5	95.4	178.20	178.20	-134.8	-612.4	882.5	777.4	105.01	8.404	
4,900.0	4,883.1	4,868.1	4,868.1	11.8	97.4	178.22	178.22	-134.8	-612.4	895.8	788.6	107.20	8.356	
5,000.0	4,982.3	4,967.3	4,967.3	12.1	99.3	178.25	178.25	-134.8	-612.4	909.1	799.7	109.40	8.310	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - BJB 4 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7064-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	
5,100.0	5,081.4	5,066.4	5,066.4	12.4	101.3	178.27	-134.8	-612.4	922.4	810.8	111.60	8.266	
5,200.0	5,180.5	5,165.5	5,165.5	12.7	103.3	178.30	-134.8	-612.4	935.7	821.9	113.79	8.223	
5,300.0	5,279.6	5,264.6	5,264.6	13.0	105.3	178.32	-134.8	-612.4	949.1	833.1	115.99	8.182	
5,400.0	5,378.7	5,363.7	5,363.7	13.4	107.3	178.35	-134.8	-612.4	962.4	844.2	118.19	8.143	
5,500.0	5,477.9	5,462.9	5,462.9	13.7	109.3	178.37	-134.8	-612.4	975.1	854.4	120.67	8.080	
5,600.0	5,577.4	5,562.4	5,562.4	13.9	111.2	178.39	-134.8	-612.4	984.6	861.3	123.22	7.990	
5,700.0	5,677.2	5,662.2	5,662.2	14.1	113.2	178.41	-134.8	-612.4	990.6	865.0	125.64	7.884	
5,800.0	5,777.2	5,762.2	5,762.2	14.3	115.2	178.41	-134.8	-612.4	993.1	865.2	127.91	7.764	
5,900.0	5,877.2	5,862.2	5,862.2	14.4	117.2	-101.48	-134.8	-612.4	993.2	861.6	131.67	7.543	
6,000.0	5,977.2	5,962.2	5,962.2	14.6	119.2	-101.48	-134.8	-612.4	993.2	859.4	133.86	7.420	
6,100.0	6,077.1	6,062.1	6,062.1	14.8	121.2	-11.54	-134.8	-612.4	991.1	857.0	134.11	7.390	
6,200.0	6,176.1	6,161.1	6,161.1	14.9	123.2	-11.92	-134.8	-612.4	977.4	843.6	133.83	7.304	
6,300.0	6,272.4	6,257.4	6,257.4	14.9	125.1	-12.69	-134.8	-612.4	951.2	820.0	131.29	7.245	
6,400.0	6,364.3	6,349.3	6,349.3	14.9	127.0	-13.96	-134.8	-612.4	913.0	786.4	126.58	7.213	
6,500.0	6,450.4	6,435.4	6,435.4	14.9	128.7	-15.89	-134.8	-612.4	863.5	743.5	120.04	7.193	
6,600.0	6,529.1	6,514.1	6,514.1	15.1	130.3	-18.80	-134.8	-612.4	803.7	691.3	112.43	7.148	
6,700.0	6,599.1	6,584.1	6,584.1	15.4	131.7	-23.19	-134.8	-612.4	734.8	629.3	105.47	6.967	
6,800.0	6,659.2	6,644.2	6,644.2	16.0	132.9	-29.90	-134.8	-612.4	658.2	555.5	102.72	6.408	
6,900.0	6,708.3	6,693.3	6,693.3	16.9	133.9	-40.12	-134.8	-612.4	575.8	466.2	109.62	5.253	
7,000.0	6,745.7	6,730.7	6,730.7	18.1	134.6	-54.69	-134.8	-612.4	489.8	361.9	127.90	3.830	
7,100.0	6,770.6	6,755.6	6,755.6	19.6	135.1	-71.72	-134.8	-612.4	403.2	255.9	147.28	2.738	
7,200.0	6,782.8	6,767.8	6,767.8	21.4	135.4	-85.91	-134.8	-612.4	320.5	164.1	156.37	2.049	
7,300.0	6,783.5	6,768.5	6,768.5	23.4	135.4	-90.39	-134.8	-612.4	249.5	90.8	158.76	1.572	
7,400.0	6,782.6	6,767.6	6,767.6	25.5	135.4	-90.13	-134.8	-612.4	204.5	43.7	160.85	1.271 Level 3	
7,452.2	6,782.1	6,767.1	6,767.1	26.7	135.3	-90.00	-134.8	-612.4	197.7	35.7	162.01	1.220 Level 2, CC, ES, SF	
7,500.0	6,781.7	6,766.7	6,766.7	27.7	135.3	-89.88	-134.8	-612.4	203.4	40.3	163.07	1.247 Level 2	
7,600.0	6,780.8	6,765.8	6,765.8	30.1	135.3	-89.62	-134.8	-612.4	246.8	81.5	165.39	1.493 Level 3	
7,700.0	6,779.9	6,764.9	6,764.9	32.5	135.3	-89.36	-134.8	-612.4	317.0	149.2	167.77	1.889	
7,800.0	6,779.0	6,764.0	6,764.0	35.0	135.3	-89.10	-134.8	-612.4	400.0	229.8	170.21	2.350	
7,900.0	6,778.1	6,763.1	6,763.1	37.5	135.3	-88.85	-134.8	-612.4	489.5	316.8	172.70	2.834	
8,000.0	6,777.2	6,762.2	6,762.2	40.0	135.2	-88.59	-134.8	-612.4	582.4	407.1	175.21	3.324	
8,100.0	6,776.4	6,761.4	6,761.4	42.6	135.2	-88.33	-134.8	-612.4	677.3	499.5	177.76	3.810	
8,200.0	6,775.5	6,760.5	6,760.5	45.2	135.2	-88.07	-134.8	-612.4	773.5	593.1	180.33	4.289	
8,300.0	6,774.6	6,759.6	6,759.6	47.9	135.2	-87.81	-134.8	-612.4	870.5	687.6	182.92	4.759	
8,400.0	6,773.7	6,758.7	6,758.7	50.5	135.2	-87.56	-134.8	-612.4	968.1	782.6	185.52	5.219	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - Gatewood 3-1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7060-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,600.0	6,771.9	6,754.9	6,754.9	55.9	135.1	-92.18	-163.8	-2,728.2	994.2	803.3	190.86	5.209		
8,700.0	6,771.0	6,754.0	6,754.0	58.6	135.1	-91.95	-163.8	-2,728.2	897.1	703.6	193.56	4.635		
8,800.0	6,770.1	6,753.1	6,753.1	61.3	135.1	-91.73	-163.8	-2,728.2	800.8	604.5	196.27	4.080		
8,900.0	6,769.2	6,752.2	6,752.2	64.0	135.0	-91.50	-163.8	-2,728.2	705.4	506.4	198.99	3.545		
9,000.0	6,768.3	6,751.3	6,751.3	66.7	135.0	-91.28	-163.8	-2,728.2	611.6	409.9	201.71	3.032		
9,100.0	6,767.5	6,750.5	6,750.5	69.5	135.0	-91.05	-163.8	-2,728.2	520.0	315.6	204.44	2.544		
9,200.0	6,766.6	6,749.6	6,749.6	72.2	135.0	-90.83	-163.8	-2,728.2	432.3	225.1	207.17	2.086		
9,300.0	6,765.7	6,748.7	6,748.7	74.9	135.0	-90.60	-163.8	-2,728.2	351.1	141.2	209.90	1.672		
9,400.0	6,764.8	6,747.8	6,747.8	77.7	135.0	-90.38	-163.8	-2,728.2	282.2	69.6	212.64	1.327 Level 3		
9,500.0	6,763.9	6,746.9	6,746.9	80.4	134.9	-90.15	-163.8	-2,728.2	236.7	21.3	215.37	1.099 Level 2		
9,568.0	6,763.3	6,746.3	6,746.3	82.3	134.9	-90.00	-163.8	-2,728.2	226.7	9.5	217.23	1.044 Level 2, CC, ES, SF		
9,600.0	6,763.0	6,746.0	6,746.0	83.2	134.9	-89.93	-163.8	-2,728.2	229.0	10.9	218.11	1.050 Level 2		
9,700.0	6,762.1	6,745.1	6,745.1	85.9	134.9	-89.70	-163.8	-2,728.2	262.3	41.5	220.84	1.188 Level 2		
9,800.0	6,761.2	6,744.2	6,744.2	88.7	134.9	-89.48	-163.8	-2,728.2	324.4	100.8	223.58	1.451 Level 3		
9,900.0	6,760.3	6,743.3	6,743.3	91.5	134.9	-89.25	-163.8	-2,728.2	402.0	175.7	226.32	1.776		
10,000.0	6,759.4	6,742.4	6,742.4	94.2	134.8	-89.03	-163.8	-2,728.2	487.8	258.8	229.05	2.130		
10,100.0	6,758.5	6,741.5	6,741.5	97.0	134.8	-88.80	-163.8	-2,728.2	578.3	346.5	231.79	2.495		
10,200.0	6,757.7	6,740.7	6,740.7	99.8	134.8	-88.58	-163.8	-2,728.2	671.4	436.9	234.52	2.863		
10,300.0	6,756.8	6,739.8	6,739.8	102.6	134.8	-88.35	-163.8	-2,728.2	766.3	529.0	237.25	3.230		
10,400.0	6,755.9	6,738.9	6,738.9	105.3	134.8	-88.13	-163.8	-2,728.2	862.3	622.3	239.98	3.593		
10,500.0	6,755.0	6,738.0	6,738.0	108.1	134.8	-87.90	-163.8	-2,728.2	959.1	716.4	242.70	3.952		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - Gatewood 4-1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7045-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		
10,300.0	6,756.8	6,745.8	6,745.8	102.6	134.9	-92.49	-130.7	-4,406.8	966.3	729.0	237.27	4.073		
10,400.0	6,755.9	6,744.9	6,744.9	105.3	134.9	-92.23	-130.7	-4,406.8	868.6	628.5	240.07	3.618		
10,500.0	6,755.0	6,744.0	6,744.0	108.1	134.9	-91.97	-130.7	-4,406.8	771.4	528.6	242.87	3.176		
10,600.0	6,754.1	6,743.1	6,743.1	110.9	134.9	-91.70	-130.7	-4,406.8	675.1	429.4	245.66	2.748		
10,700.0	6,753.2	6,742.2	6,742.2	113.7	134.8	-91.44	-130.7	-4,406.8	580.0	331.6	248.45	2.335		
10,800.0	6,752.3	6,741.3	6,741.3	116.5	134.8	-91.18	-130.7	-4,406.8	486.9	235.7	251.24	1.938		
10,900.0	6,751.4	6,740.4	6,740.4	119.2	134.8	-90.91	-130.7	-4,406.8	397.2	143.1	254.02	1.564		
11,000.0	6,750.5	6,739.5	6,739.5	122.0	134.8	-90.65	-130.7	-4,406.8	313.7	56.9	256.80	1.221 Level 2		
11,100.0	6,749.6	6,738.6	6,738.6	124.8	134.8	-90.39	-130.7	-4,406.8	243.0	-16.6	259.58	0.936 Level 1		
11,200.0	6,748.8	6,737.8	6,737.8	127.6	134.8	-90.12	-130.7	-4,406.8	199.3	-63.1	262.35	0.760 Level 1		
11,246.7	6,748.3	6,737.3	6,737.3	128.9	134.7	-90.00	-130.7	-4,406.8	193.7	-69.9	263.65	0.735 Level 1, CC, ES, SF		
11,300.0	6,747.9	6,736.9	6,736.9	130.4	134.7	-89.86	-130.7	-4,406.8	200.9	-64.2	265.12	0.758 Level 1		
11,400.0	6,747.0	6,736.0	6,736.0	133.2	134.7	-89.60	-130.7	-4,406.8	247.0	-20.9	267.89	0.922 Level 1		
11,500.0	6,746.1	6,735.1	6,735.1	136.0	134.7	-89.33	-130.7	-4,406.8	318.8	48.2	270.64	1.178 Level 2		
11,600.0	6,745.2	6,734.2	6,734.2	138.8	134.7	-89.07	-130.7	-4,406.8	402.9	129.5	273.40	1.474 Level 3		
11,700.0	6,744.3	6,733.3	6,733.3	141.5	134.7	-88.81	-130.7	-4,406.8	492.9	216.7	276.15	1.785		
11,800.0	6,743.4	6,732.4	6,732.4	144.3	134.6	-88.54	-130.7	-4,406.8	586.2	307.3	278.89	2.102		
11,900.0	6,742.5	6,731.5	6,731.5	147.1	134.6	-88.28	-130.7	-4,406.8	681.3	399.7	281.63	2.419		
12,000.0	6,741.6	6,730.6	6,730.6	149.9	134.6	-88.02	-130.7	-4,406.8	777.7	493.4	284.36	2.735		
12,100.0	6,740.7	6,729.7	6,729.7	152.7	134.6	-87.75	-130.7	-4,406.8	874.9	587.8	287.08	3.048		
12,200.0	6,739.9	6,728.9	6,728.9	155.5	134.6	-87.49	-130.7	-4,406.8	972.7	682.9	289.80	3.356		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7140-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	32.0	32.0	0.0	0.6	-131.57	-131.57	-222.2	-250.5	334.9	334.3	0.64	523.115	
100.0	100.0	132.0	132.0	0.1	2.6	-131.57	-131.57	-222.2	-250.5	334.9	332.1	2.75	121.667	
200.0	200.0	232.0	232.0	0.3	4.6	-131.57	-131.57	-222.2	-250.5	334.9	329.9	4.98	67.284	
300.0	300.0	332.0	332.0	0.6	6.6	-131.57	-131.57	-222.2	-250.5	334.9	327.7	7.20	46.500	
400.0	400.0	432.0	432.0	0.8	8.6	-131.57	-131.57	-222.2	-250.5	334.9	325.5	9.43	35.526	
500.0	500.0	532.0	532.0	1.0	10.6	-131.57	-131.57	-222.2	-250.5	334.9	323.2	11.65	28.743	
600.0	600.0	632.0	632.0	1.2	12.6	-131.57	-131.57	-222.2	-250.5	334.9	321.0	13.88	24.134	
700.0	700.0	732.0	732.0	1.5	14.6	-131.57	-131.57	-222.2	-250.5	334.9	318.8	16.10	20.800	
800.0	800.0	832.0	832.0	1.7	16.6	-131.57	-131.57	-222.2	-250.5	334.9	316.6	18.33	18.275	
900.0	900.0	932.0	932.0	1.9	18.6	-131.57	-131.57	-222.2	-250.5	334.9	314.3	20.55	16.296	
1,000.0	1,000.0	1,032.0	1,032.0	2.1	20.6	-131.57	-131.57	-222.2	-250.5	334.9	312.1	22.78	14.704	
1,100.0	1,100.0	1,132.0	1,132.0	2.4	22.6	-131.57	-131.57	-222.2	-250.5	334.9	309.9	25.00	13.396	
1,200.0	1,200.0	1,232.0	1,232.0	2.6	24.6	-131.57	-131.57	-222.2	-250.5	334.9	307.7	27.22	12.301	
1,300.0	1,300.0	1,332.0	1,332.0	2.8	26.6	-131.57	-131.57	-222.2	-250.5	334.9	305.4	29.45	11.372	
1,400.0	1,400.0	1,432.0	1,432.0	3.0	28.6	-131.57	-131.57	-222.2	-250.5	334.9	303.2	31.67	10.573	
1,500.0	1,500.0	1,532.0	1,532.0	3.3	30.6	-131.57	-131.57	-222.2	-250.5	334.9	301.0	33.90	9.879	
1,600.0	1,600.0	1,632.0	1,632.0	3.5	32.6	-131.57	-131.57	-222.2	-250.5	334.9	298.8	36.12	9.271	
1,700.0	1,700.0	1,732.0	1,732.0	3.7	34.6	-131.57	-131.57	-222.2	-250.5	334.9	296.5	38.35	8.733	
1,800.0	1,800.0	1,832.0	1,832.0	3.9	36.6	-131.57	-131.57	-222.2	-250.5	334.9	294.3	40.57	8.254	
1,900.0	1,900.0	1,932.0	1,932.0	4.2	38.6	-131.57	-131.57	-222.2	-250.5	334.9	292.1	42.80	7.825	
2,000.0	2,000.0	2,032.0	2,032.0	4.4	40.6	-131.57	-131.57	-222.2	-250.5	334.9	289.9	45.02	7.438	
2,074.0	2,074.0	2,106.0	2,106.0	4.5	42.1	-131.57	-131.57	-222.2	-250.5	334.9	288.2	46.67	7.176	
2,100.0	2,100.0	2,132.0	2,132.0	4.6	42.6	-131.57	-131.57	-222.2	-250.5	334.9	287.6	47.25	7.088	
2,200.0	2,200.0	2,232.0	2,232.0	4.8	44.6	-131.57	-131.57	-222.2	-250.5	334.9	285.4	49.47	6.769	
2,300.0	2,300.0	2,332.0	2,332.0	5.1	46.6	-131.57	-131.57	-222.2	-250.5	334.9	283.2	51.70	6.478	
2,400.0	2,400.0	2,432.0	2,432.0	5.3	48.6	-131.57	-131.57	-222.2	-250.5	334.9	281.0	53.92	6.211	
2,500.0	2,500.0	2,532.0	2,532.0	5.5	50.6	-131.57	-131.57	-222.2	-250.5	334.9	278.8	56.15	5.965	
2,600.0	2,600.0	2,632.0	2,632.0	5.7	52.6	148.40	148.40	-222.2	-250.5	335.6	277.3	58.35	5.752	
2,700.0	2,700.0	2,732.0	2,732.0	5.9	54.6	148.62	148.62	-222.2	-250.5	337.9	277.3	60.54	5.581	
2,800.0	2,799.9	2,831.9	2,831.9	6.1	56.6	148.98	148.98	-222.2	-250.5	341.6	278.9	62.70	5.448	
2,900.0	2,899.7	2,931.7	2,931.7	6.3	58.6	149.47	149.47	-222.2	-250.5	346.9	282.0	64.85	5.348	
3,000.0	2,999.4	3,031.4	3,031.4	6.6	60.6	150.08	150.08	-222.2	-250.5	353.6	286.7	66.99	5.279	
3,100.0	3,098.9	3,130.9	3,130.9	6.8	62.6	150.80	150.80	-222.2	-250.5	362.0	292.9	69.09	5.239	
3,200.0	3,198.3	3,230.3	3,230.3	7.0	64.6	151.60	151.60	-222.2	-250.5	371.9	300.7	71.18	5.225	
3,300.0	3,297.4	3,329.4	3,329.4	7.3	66.6	152.49	152.49	-222.2	-250.5	383.4	310.1	73.28	5.232	
3,400.0	3,396.5	3,428.5	3,428.5	7.5	68.6	153.38	153.38	-222.2	-250.5	395.3	319.8	75.46	5.238	
3,500.0	3,495.6	3,527.6	3,527.6	7.8	70.6	154.22	154.22	-222.2	-250.5	407.2	329.6	77.65	5.245	
3,600.0	3,594.7	3,626.7	3,626.7	8.0	72.5	155.01	155.01	-222.2	-250.5	419.3	339.5	79.84	5.252	
3,700.0	3,693.9	3,725.9	3,725.9	8.3	74.5	155.75	155.75	-222.2	-250.5	431.4	349.4	82.03	5.260	
3,800.0	3,793.0	3,825.0	3,825.0	8.6	76.5	156.46	156.46	-222.2	-250.5	443.6	359.4	84.22	5.268	
3,900.0	3,892.1	3,924.1	3,924.1	8.9	78.5	157.13	157.13	-222.2	-250.5	455.9	369.5	86.41	5.276	
4,000.0	3,991.2	4,023.2	4,023.2	9.1	80.5	157.76	157.76	-222.2	-250.5	468.2	379.6	88.60	5.285	
4,100.0	4,090.3	4,122.3	4,122.3	9.4	82.4	158.36	158.36	-222.2	-250.5	480.6	389.8	90.79	5.293	
4,200.0	4,189.4	4,221.4	4,221.4	9.7	84.4	158.93	158.93	-222.2	-250.5	493.0	400.0	92.99	5.302	
4,300.0	4,288.5	4,320.5	4,320.5	10.0	86.4	159.47	159.47	-222.2	-250.5	505.5	410.3	95.18	5.311	
4,400.0	4,387.6	4,419.6	4,419.6	10.3	88.4	159.99	159.99	-222.2	-250.5	518.0	420.6	97.38	5.320	
4,500.0	4,486.7	4,518.7	4,518.7	10.6	90.4	160.48	160.48	-222.2	-250.5	530.6	431.0	99.57	5.328	
4,600.0	4,585.8	4,617.8	4,617.8	10.9	92.4	160.95	160.95	-222.2	-250.5	543.1	441.4	101.77	5.337	
4,700.0	4,684.9	4,716.9	4,716.9	11.2	94.3	161.40	161.40	-222.2	-250.5	555.8	451.8	103.96	5.346	
4,800.0	4,784.0	4,816.0	4,816.0	11.5	96.3	161.83	161.83	-222.2	-250.5	568.4	462.3	106.16	5.354	
4,900.0	4,883.1	4,915.1	4,915.1	11.8	98.3	162.24	162.24	-222.2	-250.5	581.1	472.8	108.36	5.363	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 7140-UNKNOWN												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	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)			
5,000.0	4,982.3	5,014.3	5,014.3	12.1	100.3	162.63	-222.2	-250.5	593.8	483.3	110.56	5.371	
5,100.0	5,081.4	5,113.4	5,113.4	12.4	102.3	163.00	-222.2	-250.5	606.6	493.8	112.76	5.379	
5,200.0	5,180.5	5,212.5	5,212.5	12.7	104.2	163.36	-222.2	-250.5	619.3	504.4	114.95	5.388	
5,300.0	5,279.6	5,311.6	5,311.6	13.0	106.2	163.71	-222.2	-250.5	632.1	515.0	117.15	5.396	
5,400.0	5,378.7	5,410.7	5,410.7	13.4	108.2	164.04	-222.2	-250.5	644.9	525.6	119.35	5.404	
5,500.0	5,477.9	5,509.9	5,509.9	13.7	110.2	164.38	-222.2	-250.5	657.2	535.3	121.81	5.395	
5,600.0	5,577.4	5,609.4	5,609.4	13.9	112.2	164.65	-222.2	-250.5	666.3	542.0	124.34	5.359	
5,700.0	5,677.2	5,709.2	5,709.2	14.1	114.2	164.82	-222.2	-250.5	672.1	545.4	126.73	5.304	
5,800.0	5,777.2	5,809.2	5,809.2	14.3	116.2	164.89	-222.2	-250.5	674.6	545.6	129.00	5.230	
5,900.0	5,877.2	5,909.2	5,909.2	14.4	118.2	-115.00	-222.2	-250.5	674.7	542.2	132.48	5.093	
6,000.0	5,977.2	6,009.2	6,009.2	14.6	120.2	-115.00	-222.2	-250.5	674.7	540.0	134.67	5.010	
6,100.0	6,077.1	6,109.1	6,109.1	14.8	122.2	-25.14	-222.2	-250.5	672.7	537.5	135.25	4.974	
6,200.0	6,176.1	6,208.1	6,208.1	14.9	124.2	-26.07	-222.2	-250.5	660.1	524.8	135.34	4.877	
6,300.0	6,272.4	6,304.4	6,304.4	14.9	126.1	-27.99	-222.2	-250.5	636.1	502.4	133.72	4.757	
6,400.0	6,364.3	6,396.3	6,396.3	14.9	127.9	-31.11	-222.2	-250.5	601.4	470.5	130.90	4.594	
6,500.0	6,450.4	6,482.4	6,482.4	14.9	129.6	-35.79	-222.2	-250.5	557.2	429.1	128.05	4.351	
6,600.0	6,529.1	6,561.1	6,561.1	15.1	131.2	-42.52	-222.2	-250.5	505.3	378.1	127.14	3.974	
6,700.0	6,599.1	6,631.1	6,631.1	15.4	132.6	-51.66	-222.2	-250.5	448.2	317.7	130.53	3.434	
6,800.0	6,659.2	6,691.2	6,691.2	16.0	133.8	-62.94	-222.2	-250.5	389.9	251.4	138.50	2.815	
6,900.0	6,708.3	6,740.3	6,740.3	16.9	134.8	-74.77	-222.2	-250.5	336.7	189.3	147.36	2.285	
7,000.0	6,745.7	6,777.7	6,777.7	18.1	135.6	-84.60	-222.2	-250.5	297.9	144.9	153.03	1.947	
7,089.3	6,768.6	6,800.6	6,800.6	19.5	136.0	-90.00	-222.2	-250.5	285.2	129.7	155.49	1.834 CC	
7,100.0	6,770.6	6,802.6	6,802.6	19.6	136.1	-90.39	-222.2	-250.5	285.4	129.7	155.69	1.833 ES, SF	
7,200.0	6,782.8	6,814.8	6,814.8	21.4	136.3	-91.23	-222.2	-250.5	305.6	147.9	157.69	1.938	
7,300.0	6,783.5	6,815.5	6,815.5	23.4	136.3	-89.63	-222.2	-250.5	354.0	194.3	159.69	2.217	
7,400.0	6,782.6	6,814.6	6,814.6	25.5	136.3	-89.45	-222.2	-250.5	421.0	259.2	161.78	2.602	
7,500.0	6,781.7	6,813.7	6,813.7	27.7	136.3	-89.27	-222.2	-250.5	499.2	335.2	164.00	3.044	
7,600.0	6,780.8	6,812.8	6,812.8	30.1	136.3	-89.09	-222.2	-250.5	584.0	417.7	166.31	3.512	
7,700.0	6,779.9	6,811.9	6,811.9	32.5	136.2	-88.91	-222.2	-250.5	673.1	504.4	168.69	3.990	
7,800.0	6,779.0	6,811.0	6,811.0	35.0	136.2	-88.73	-222.2	-250.5	764.8	593.7	171.13	4.469	
7,900.0	6,778.1	6,810.1	6,810.1	37.5	136.2	-88.55	-222.2	-250.5	858.4	684.8	173.61	4.944	
8,000.0	6,777.2	6,809.2	6,809.2	40.0	136.2	-88.37	-222.2	-250.5	953.3	777.2	176.14	5.412	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.2-T5N-R65W - Frudden 1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
11,500.0	6,746.1	6,759.6	6,759.1	136.0	142.5	-95.62	-200.3	-5,552.9	931.0	653.7	277.30	3.357		
11,600.0	6,745.2	6,756.2	6,755.6	138.8	142.6	-94.89	-200.3	-5,552.9	835.6	555.1	280.51	2.979		
11,700.0	6,744.3	6,752.8	6,752.2	141.5	142.7	-94.15	-200.2	-5,553.0	741.4	457.7	283.68	2.613		
11,800.0	6,743.4	6,749.4	6,748.8	144.3	142.9	-93.42	-200.1	-5,553.1	648.9	362.1	286.81	2.262		
11,900.0	6,742.5	6,746.0	6,745.5	147.1	143.0	-92.68	-200.1	-5,553.2	559.0	269.1	289.90	1.928		
12,000.0	6,741.6	6,742.7	6,742.1	149.9	143.1	-91.95	-200.0	-5,553.3	473.1	180.2	292.94	1.615		
12,100.0	6,740.7	6,739.3	6,738.7	152.7	143.3	-91.22	-200.0	-5,553.4	393.9	98.0	295.94	1.331	Level 3	
12,200.0	6,739.9	6,736.0	6,735.4	155.5	143.4	-90.49	-199.9	-5,553.4	326.4	27.5	298.90	1.092	Level 2	
12,300.0	6,739.0	6,732.6	6,732.0	158.3	143.5	-89.76	-199.9	-5,553.5	279.0	-22.8	301.81	0.924	Level 1	
12,393.6	6,738.1	6,729.5	6,728.9	160.9	143.7	-89.08	-199.8	-5,553.6	262.8	-41.7	304.49	0.863	Level 1, CC	
12,400.0	6,738.1	6,729.3	6,728.7	161.1	143.7	-89.04	-199.8	-5,553.6	262.9	-41.8	304.68	0.863	Level 1, ES, SF	
12,500.0	6,737.2	6,726.0	6,725.4	163.9	143.8	-88.32	-199.8	-5,553.7	283.5	-24.0	307.49	0.922	Level 1	
12,600.0	6,736.3	6,722.7	6,722.1	166.7	143.9	-87.60	-199.7	-5,553.8	334.1	23.8	310.26	1.077	Level 2	
12,700.0	6,735.4	6,719.4	6,718.8	169.5	144.1	-86.88	-199.7	-5,553.8	403.6	90.6	312.98	1.289	Level 3	
12,800.0	6,734.5	6,716.1	6,715.5	172.3	144.2	-86.16	-199.6	-5,553.9	483.8	168.1	315.65	1.533		
12,900.0	6,733.6	6,712.8	6,712.2	175.1	144.3	-85.45	-199.6	-5,554.0	570.3	252.0	318.27	1.792		
13,000.0	6,732.7	6,709.5	6,709.0	177.9	144.5	-84.74	-199.5	-5,554.1	660.6	339.8	320.84	2.059		
13,100.0	6,731.8	6,706.3	6,705.7	180.7	144.6	-84.04	-199.5	-5,554.2	753.3	430.0	323.35	2.330		
13,200.0	6,731.0	6,703.0	6,702.5	183.5	144.7	-83.34	-199.4	-5,554.2	847.7	521.9	325.82	2.602		
13,300.0	6,730.1	6,700.0	6,699.4	186.3	144.8	-82.68	-199.4	-5,554.3	943.3	615.0	328.25	2.874		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.36-T6N-R36W - LDS F 01-29 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7076-Reference													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,700.0	6,762.1	6,755.1	6,755.1	85.9	135.1	90.57	685.2	-3,557.6	934.7	713.7	221.04	4.229		
9,800.0	6,761.2	6,754.2	6,754.2	88.7	135.1	90.49	685.2	-3,557.6	862.7	638.9	223.78	3.855		
9,900.0	6,760.3	6,753.3	6,753.3	91.5	135.1	90.41	685.2	-3,557.6	796.7	570.1	226.53	3.517		
10,000.0	6,759.4	6,752.4	6,752.4	94.2	135.0	90.33	685.2	-3,557.6	738.4	509.1	229.29	3.220		
10,100.0	6,758.5	6,751.5	6,751.5	97.0	135.0	90.24	685.2	-3,557.6	689.7	457.7	232.04	2.972		
10,200.0	6,757.7	6,750.7	6,750.7	99.8	135.0	90.16	685.2	-3,557.6	652.8	418.0	234.80	2.780		
10,300.0	6,756.8	6,749.8	6,749.8	102.6	135.0	90.08	685.2	-3,557.6	629.8	392.3	237.55	2.651		
10,397.5	6,755.9	6,748.9	6,748.9	105.3	135.0	90.00	685.2	-3,557.6	622.2	382.0	240.24	2.590 CC		
10,400.0	6,755.9	6,748.9	6,748.9	105.3	135.0	90.00	685.2	-3,557.6	622.2	381.9	240.31	2.589 ES, SF		
10,500.0	6,755.0	6,748.0	6,748.0	108.1	135.0	89.92	685.2	-3,557.6	630.6	387.5	243.07	2.594		
10,600.0	6,754.1	6,747.1	6,747.1	110.9	134.9	89.83	685.2	-3,557.6	654.3	408.5	245.83	2.662		
10,700.0	6,753.2	6,746.2	6,746.2	113.7	134.9	89.75	685.2	-3,557.6	691.8	443.2	248.60	2.783		
10,800.0	6,752.3	6,745.3	6,745.3	116.5	134.9	89.67	685.2	-3,557.6	741.0	489.7	251.36	2.948		
10,900.0	6,751.4	6,744.4	6,744.4	119.2	134.9	89.59	685.2	-3,557.6	799.8	545.6	254.12	3.147		
11,000.0	6,750.5	6,743.5	6,743.5	122.0	134.9	89.51	685.2	-3,557.6	866.1	609.2	256.89	3.371		
11,100.0	6,749.6	6,742.6	6,742.6	124.8	134.9	89.42	685.2	-3,557.6	938.4	678.7	259.66	3.614		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-13-15)													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	Offset	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-45.52	-45.52	21.9	-22.3	31.2	31.2	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-45.52	-45.52	21.9	-22.3	31.2	31.0	0.23	137.486	
200.0	200.0	201.0	201.0	0.3	0.3	-45.52	-45.52	21.9	-22.3	31.2	30.5	0.68	46.133	
300.0	300.0	301.0	301.0	0.6	0.6	-45.52	-45.52	21.9	-22.3	31.2	30.1	1.13	27.717	
400.0	400.0	401.0	401.0	0.8	0.8	-45.52	-45.52	21.9	-22.3	31.2	29.6	1.58	19.809	
500.0	500.0	501.0	501.0	1.0	1.0	-45.52	-45.52	21.9	-22.3	31.2	29.2	2.03	15.412	
600.0	600.0	601.0	601.0	1.2	1.2	-45.52	-45.52	21.9	-22.3	31.2	28.7	2.47	12.612	
700.0	700.0	701.0	701.0	1.5	1.5	-45.52	-45.52	21.9	-22.3	31.2	28.3	2.92	10.673	
800.0	800.0	801.0	801.0	1.7	1.7	-45.52	-45.52	21.9	-22.3	31.2	27.8	3.37	9.251	
900.0	900.0	901.0	901.0	1.9	1.9	-45.52	-45.52	21.9	-22.3	31.2	27.4	3.82	8.164	
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-45.52	-45.52	21.9	-22.3	31.2	26.9	4.27	7.305	
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	-45.52	-45.52	21.9	-22.3	31.2	26.5	4.72	6.609	
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	-45.52	-45.52	21.9	-22.3	31.2	26.0	5.17	6.035	
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	-45.52	-45.52	21.9	-22.3	31.2	25.6	5.62	5.552	
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	-45.52	-45.52	21.9	-22.3	31.2	25.1	6.07	5.141	
1,500.0	1,500.0	1,501.1	1,501.1	3.3	3.3	-43.91	-43.91	22.4	-21.5	31.1	24.5	6.51	4.768	
1,600.0	1,600.0	1,601.1	1,601.1	3.5	3.5	-39.05	-39.05	23.9	-19.4	30.8	23.8	6.95	4.423	
1,656.1	1,656.1	1,657.2	1,657.1	3.6	3.6	-34.87	-34.87	25.2	-17.5	30.7	23.5	7.20	4.260 CC	
1,700.0	1,700.0	1,701.0	1,700.9	3.7	3.7	-30.89	-30.89	26.4	-15.8	30.7	23.4	7.39	4.159	
1,800.0	1,800.0	1,800.7	1,800.4	3.9	3.9	-19.83	-19.83	29.9	-10.8	31.8	23.9	7.83	4.055	
1,900.0	1,900.0	1,900.2	1,899.6	4.2	4.1	-7.24	-7.24	34.3	-4.4	34.6	26.4	8.28	4.186	
2,000.0	2,000.0	1,999.4	1,998.3	4.4	4.4	4.93	4.93	39.8	3.4	40.0	31.3	8.73	4.583	
2,100.0	2,100.0	2,098.2	2,096.5	4.6	4.6	15.26	15.26	46.2	12.6	48.1	38.9	9.20	5.226	
2,200.0	2,200.0	2,197.4	2,194.9	4.8	4.9	23.04	23.04	53.1	22.6	58.1	48.4	9.68	5.999	
2,300.0	2,300.0	2,296.7	2,293.4	5.1	5.1	28.48	28.48	60.1	32.6	68.8	58.6	10.17	6.767	
2,400.0	2,400.0	2,395.9	2,391.9	5.3	5.4	32.43	32.43	67.1	42.6	80.0	69.3	10.66	7.502	
2,500.0	2,500.0	2,495.1	2,490.4	5.5	5.7	35.40	35.40	74.1	52.6	91.5	80.3	11.16	8.193	
2,600.0	2,600.0	2,594.5	2,589.0	5.7	6.0	-42.65	-42.65	81.0	62.7	102.5	91.1	11.44	8.960	
2,700.0	2,700.0	2,694.0	2,687.7	5.9	6.2	-41.58	-41.58	88.0	72.7	112.3	100.4	11.87	9.460	
2,800.0	2,799.9	2,793.6	2,786.6	6.1	6.5	-41.23	-41.23	95.0	82.7	120.9	108.5	12.31	9.818	
2,900.0	2,899.7	2,893.3	2,885.6	6.3	6.8	-41.43	-41.43	102.0	92.8	128.1	115.3	12.75	10.043	
3,000.0	2,999.4	2,993.1	2,984.6	6.6	7.1	-42.12	-42.12	109.1	102.9	134.0	120.8	13.20	10.150	
3,100.0	3,098.9	3,093.0	3,083.7	6.8	7.4	-43.24	-43.24	116.1	112.9	138.7	125.0	13.67	10.151	
3,200.0	3,198.3	3,192.9	3,182.8	7.0	7.7	-44.78	-44.78	123.1	123.0	142.2	128.1	14.14	10.058	
3,300.0	3,297.4	3,292.7	3,281.9	7.3	8.0	-46.73	-46.73	130.1	133.1	144.7	130.0	14.63	9.888	
3,400.0	3,396.5	3,392.6	3,381.0	7.5	8.3	-48.73	-48.73	137.1	143.2	147.1	131.9	15.14	9.710	
3,500.0	3,495.6	3,492.4	3,480.1	7.8	8.6	-50.67	-50.67	144.2	153.2	149.6	133.9	15.67	9.548	
3,600.0	3,594.7	3,592.2	3,579.2	8.0	8.9	-52.54	-52.54	151.2	163.3	152.3	136.1	16.20	9.401	
3,700.0	3,693.9	3,692.1	3,678.3	8.3	9.2	-54.34	-54.34	158.2	173.4	155.2	138.5	16.75	9.266	
3,800.0	3,793.0	3,791.9	3,777.3	8.6	9.5	-56.07	-56.07	165.2	183.5	158.2	140.9	17.30	9.144	
3,900.0	3,892.1	3,891.8	3,876.4	8.9	9.8	-57.74	-57.74	172.2	193.5	161.4	143.5	17.87	9.032	
4,000.0	3,991.2	3,991.6	3,975.5	9.1	10.1	-59.34	-59.34	179.2	203.6	164.7	146.2	18.44	8.929	
4,100.0	4,090.3	4,091.4	4,074.6	9.4	10.4	-60.88	-60.88	186.3	213.7	168.1	149.1	19.03	8.836	
4,200.0	4,189.4	4,191.3	4,173.7	9.7	10.7	-62.36	-62.36	193.3	223.7	171.6	152.0	19.61	8.751	
4,300.0	4,288.5	4,291.1	4,272.8	10.0	11.0	-63.78	-63.78	200.3	233.8	175.3	155.1	20.21	8.673	
4,400.0	4,387.6	4,391.0	4,371.8	10.3	11.4	-65.13	-65.13	207.3	243.9	179.0	158.2	20.81	8.602	
4,500.0	4,486.7	4,490.8	4,470.9	10.6	11.7	-66.44	-66.44	214.3	254.0	182.9	161.5	21.42	8.538	
4,600.0	4,585.8	4,590.7	4,570.0	10.9	12.0	-67.68	-67.68	221.4	264.0	186.8	164.8	22.03	8.479	
4,700.0	4,684.9	4,690.5	4,669.1	11.2	12.3	-68.88	-68.88	228.4	274.1	190.8	168.2	22.65	8.426	
4,800.0	4,784.0	4,790.3	4,768.2	11.5	12.6	-70.03	-70.03	235.4	284.2	194.9	171.7	23.27	8.377	
4,900.0	4,883.1	4,890.2	4,867.3	11.8	12.9	-71.12	-71.12	242.4	294.2	199.1	175.2	23.90	8.333	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-13-15)												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	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,982.3	4,990.0	4,966.3	12.1	13.2	-72.18	249.4	304.3	203.4	178.8	24.52	8.292	
5,100.0	5,081.4	5,089.9	5,065.4	12.4	13.5	-73.19	256.4	314.4	207.7	182.5	25.15	8.256	
5,200.0	5,180.5	5,189.7	5,164.5	12.7	13.9	-74.15	263.5	324.5	212.0	186.3	25.79	8.223	
5,300.0	5,279.6	5,289.5	5,263.6	13.0	14.2	-75.08	270.5	334.5	216.5	190.1	26.42	8.193	
5,400.0	5,378.7	5,390.1	5,363.4	13.4	14.5	-75.99	277.5	344.7	220.9	193.9	27.06	8.165	
5,500.0	5,477.9	5,495.0	5,467.8	13.7	14.7	-77.26	283.5	353.2	224.2	196.5	27.62	8.116	
5,600.0	5,577.4	5,599.9	5,572.4	13.9	14.9	-78.44	287.2	358.6	225.9	197.9	28.09	8.045	
5,700.0	5,677.2	5,704.7	5,677.2	14.1	15.1	-79.46	288.8	360.9	226.3	197.8	28.50	7.942	
5,800.0	5,777.2	5,805.7	5,778.2	14.3	15.3	-80.08	288.9	360.9	225.9	197.1	28.87	7.825	
5,848.2	5,825.4	5,853.8	5,826.4	14.3	15.4	-80.15	288.9	360.9	225.9	196.8	29.05	7.776	
5,900.0	5,877.2	5,905.7	5,878.2	14.4	15.4	0.01	288.9	360.9	225.9	199.2	26.75	8.446	
6,000.0	5,977.2	6,005.7	5,978.2	14.6	15.6	0.01	288.9	360.9	225.9	198.8	27.16	8.318	
6,047.5	6,024.7	6,053.2	6,025.7	14.7	15.7	90.22	288.9	360.9	225.9	196.1	29.78	7.585	
6,100.0	6,077.1	6,105.6	6,078.1	14.8	15.8	90.55	288.9	360.9	225.9	196.0	29.96	7.541	
6,200.0	6,176.1	6,205.9	6,178.3	14.9	16.0	93.14	288.9	357.2	226.3	196.2	30.08	7.522	
6,300.0	6,272.4	6,307.7	6,278.7	14.9	16.0	95.80	288.9	340.5	227.1	197.0	30.05	7.557	
6,400.0	6,364.3	6,411.0	6,377.3	14.9	16.0	98.35	288.9	310.0	228.4	198.4	29.93	7.629	
6,500.0	6,450.4	6,515.8	6,472.2	14.9	16.0	100.74	288.9	265.8	230.0	200.2	29.81	7.715	
6,600.0	6,529.1	6,622.0	6,561.3	15.1	15.9	102.93	288.9	208.2	231.8	202.0	29.80	7.779	
6,700.0	6,599.1	6,729.6	6,642.6	15.4	15.9	104.87	288.9	137.8	233.8	203.7	30.07	7.774	
6,800.0	6,659.2	6,838.4	6,713.9	16.0	16.1	106.53	288.9	55.7	235.7	204.9	30.80	7.653	
6,900.0	6,708.3	6,948.4	6,773.4	16.9	16.8	107.88	288.9	-36.6	237.4	205.3	32.13	7.389	
7,000.0	6,745.7	7,059.2	6,819.3	18.1	17.9	108.91	288.9	-137.4	238.8	204.6	34.18	6.987	
7,100.0	6,770.6	7,170.7	6,850.3	19.6	19.5	109.59	288.9	-244.4	239.8	202.9	36.92	6.494	
7,200.0	6,782.8	7,282.6	6,865.4	21.4	21.4	109.92	288.9	-355.1	240.3	200.0	40.27	5.967	
7,300.0	6,783.5	7,389.0	6,866.1	23.4	23.5	109.87	288.9	-461.5	240.2	196.2	44.01	5.458	
7,400.0	6,782.6	7,489.0	6,864.6	25.5	25.5	109.72	288.9	-561.5	240.0	192.0	48.01	4.999	
7,500.0	6,781.7	7,589.0	6,863.0	27.7	27.7	109.57	288.9	-661.5	239.8	187.5	52.25	4.589	
7,600.0	6,780.8	7,689.0	6,861.4	30.1	30.0	109.41	288.9	-761.5	239.5	182.9	56.68	4.226	
7,700.0	6,779.9	7,789.0	6,859.8	32.5	32.4	109.26	288.9	-861.5	239.3	178.0	61.27	3.906	
7,800.0	6,779.0	7,889.0	6,858.3	35.0	34.9	109.11	288.9	-961.4	239.1	173.1	65.98	3.623	
7,900.0	6,778.1	7,989.0	6,856.7	37.5	37.4	108.95	288.9	-1,061.4	238.9	168.1	70.80	3.374	
8,000.0	6,777.2	8,089.0	6,855.1	40.0	39.9	108.80	288.9	-1,161.4	238.6	162.9	75.70	3.152	
8,100.0	6,776.4	8,189.0	6,853.6	42.6	42.5	108.64	288.9	-1,261.4	238.4	157.7	80.68	2.955	
8,200.0	6,775.5	8,289.0	6,852.0	45.2	45.1	108.49	288.9	-1,361.4	238.2	152.5	85.71	2.779	
8,300.0	6,774.6	8,389.0	6,850.4	47.9	47.7	108.33	288.9	-1,461.4	238.0	147.2	90.79	2.621	
8,400.0	6,773.7	8,489.0	6,848.9	50.5	50.4	108.18	288.9	-1,561.4	237.8	141.8	95.92	2.479	
8,500.0	6,772.8	8,589.0	6,847.3	53.2	53.0	108.02	288.9	-1,661.3	237.6	136.5	101.09	2.350	
8,600.0	6,771.9	8,689.0	6,845.7	55.9	55.7	107.87	288.9	-1,761.3	237.3	131.1	106.29	2.233	
8,700.0	6,771.0	8,789.0	6,844.1	58.6	58.4	107.71	288.9	-1,861.3	237.1	125.6	111.53	2.126	
8,800.0	6,770.1	8,889.0	6,842.6	61.3	61.1	107.55	288.9	-1,961.3	236.9	120.1	116.79	2.029	
8,900.0	6,769.2	8,989.0	6,841.0	64.0	63.8	107.40	288.9	-2,061.3	236.7	114.7	122.08	1.939	
9,000.0	6,768.3	9,089.0	6,839.4	66.7	66.5	107.24	288.9	-2,161.3	236.5	109.1	127.39	1.857	
9,100.0	6,767.5	9,189.0	6,837.9	69.5	69.2	107.08	288.9	-2,261.3	236.3	103.6	132.72	1.781	
9,200.0	6,766.6	9,288.9	6,836.3	72.2	72.0	106.92	288.9	-2,361.2	236.1	98.1	138.07	1.710	
9,300.0	6,765.7	9,388.9	6,834.7	74.9	74.7	106.76	288.9	-2,461.2	235.9	92.5	143.44	1.645	
9,400.0	6,764.8	9,488.9	6,833.1	77.7	77.5	106.61	288.9	-2,561.2	235.7	86.9	148.82	1.584	
9,500.0	6,763.9	9,588.9	6,831.6	80.4	80.2	106.45	288.9	-2,661.2	235.5	81.3	154.23	1.527	
9,600.0	6,763.0	9,688.9	6,830.0	83.2	83.0	106.29	288.9	-2,761.2	235.3	75.7	159.64	1.474 Level 3	
9,700.0	6,762.1	9,788.9	6,828.4	85.9	85.7	106.13	288.8	-2,861.2	235.2	70.1	165.07	1.425 Level 3	
9,800.0	6,761.2	9,888.9	6,826.9	88.7	88.5	105.97	288.8	-2,961.1	235.0	64.4	170.52	1.378 Level 3	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-13-15)													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	Offset	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
9,900.0	6,760.3	9,988.9	6,825.3	91.5	91.2	105.81		288.8	-3,061.1	234.8	58.8	175.98	1.334	Level 3
10,000.0	6,759.4	10,088.9	6,823.7	94.2	94.0	105.65		288.8	-3,161.1	234.6	53.1	181.45	1.293	Level 3
10,100.0	6,758.5	10,188.9	6,822.1	97.0	96.8	105.49		288.8	-3,261.1	234.4	47.5	186.93	1.254	Level 3
10,200.0	6,757.7	10,288.9	6,820.6	99.8	99.5	105.33		288.8	-3,361.1	234.2	41.8	192.42	1.217	Level 2
10,300.0	6,756.8	10,388.9	6,819.0	102.6	102.3	105.17		288.8	-3,461.1	234.0	36.1	197.92	1.183	Level 2
10,400.0	6,755.9	10,488.9	6,817.4	105.3	105.1	105.01		288.8	-3,561.1	233.9	30.4	203.43	1.150	Level 2
10,500.0	6,755.0	10,588.9	6,815.9	108.1	107.8	104.85		288.8	-3,661.0	233.7	24.7	208.96	1.118	Level 2
10,600.0	6,754.1	10,688.9	6,814.3	110.9	110.6	104.69		288.8	-3,761.0	233.5	19.0	214.49	1.089	Level 2
10,700.0	6,753.2	10,788.9	6,812.7	113.7	113.4	104.52		288.8	-3,861.0	233.3	13.3	220.03	1.061	Level 2
10,800.0	6,752.3	10,888.9	6,811.2	116.5	116.2	104.36		288.8	-3,961.0	233.2	7.6	225.58	1.034	Level 2
10,900.0	6,751.4	10,988.9	6,809.6	119.2	119.0	104.20		288.8	-4,061.0	233.0	1.9	231.14	1.008	Level 2
11,000.0	6,750.5	11,088.9	6,808.0	122.0	121.7	104.04		288.8	-4,161.0	232.8	-3.9	236.70	0.984	Level 1
11,100.0	6,749.6	11,188.9	6,806.4	124.8	124.5	103.88		288.8	-4,261.0	232.7	-9.6	242.28	0.960	Level 1
11,200.0	6,748.8	11,288.9	6,804.9	127.6	127.3	103.71		288.8	-4,360.9	232.5	-15.3	247.86	0.938	Level 1
11,300.0	6,747.9	11,388.9	6,803.3	130.4	130.1	103.55		288.8	-4,460.9	232.4	-21.1	253.45	0.917	Level 1
11,400.0	6,747.0	11,488.9	6,801.7	133.2	132.9	103.39		288.8	-4,560.9	232.2	-26.9	259.05	0.896	Level 1
11,500.0	6,746.1	11,588.9	6,800.2	136.0	135.7	103.22		288.8	-4,660.9	232.0	-32.6	264.65	0.877	Level 1
11,600.0	6,745.2	11,688.9	6,798.6	138.8	138.5	103.06		288.8	-4,760.9	231.9	-38.4	270.26	0.858	Level 1
11,700.0	6,744.3	11,788.9	6,797.0	141.5	141.3	102.90		288.8	-4,860.9	231.7	-44.2	275.88	0.840	Level 1
11,800.0	6,743.4	11,888.9	6,795.4	144.3	144.0	102.73		288.8	-4,960.9	231.6	-49.9	281.50	0.823	Level 1
11,900.0	6,742.5	11,988.9	6,793.9	147.1	146.8	102.57		288.8	-5,060.8	231.4	-55.7	287.13	0.806	Level 1
12,000.0	6,741.6	12,088.9	6,792.3	149.9	149.6	102.40		288.8	-5,160.8	231.3	-61.5	292.77	0.790	Level 1
12,100.0	6,740.7	12,188.9	6,790.7	152.7	152.4	102.24		288.8	-5,260.8	231.1	-67.3	298.41	0.775	Level 1
12,200.0	6,739.9	12,288.9	6,789.2	155.5	155.2	102.07		288.8	-5,360.8	231.0	-73.1	304.05	0.760	Level 1
12,300.0	6,739.0	12,388.9	6,787.6	158.3	158.0	101.91		288.8	-5,460.8	230.8	-78.9	309.70	0.745	Level 1
12,400.0	6,738.1	12,488.9	6,786.0	161.1	160.8	101.74		288.8	-5,560.8	230.7	-84.7	315.36	0.732	Level 1
12,500.0	6,737.2	12,588.9	6,784.5	163.9	163.6	101.58		288.8	-5,660.8	230.6	-90.5	321.02	0.718	Level 1
12,600.0	6,736.3	12,688.9	6,782.9	166.7	166.4	101.41		288.8	-5,760.7	230.4	-96.3	326.69	0.705	Level 1
12,700.0	6,735.4	12,788.9	6,781.3	169.5	169.2	101.24		288.8	-5,860.7	230.3	-102.1	332.36	0.693	Level 1
12,800.0	6,734.5	12,888.9	6,779.7	172.3	172.0	101.08		288.8	-5,960.7	230.2	-107.9	338.03	0.681	Level 1
12,900.0	6,733.6	12,988.9	6,778.2	175.1	174.8	100.91		288.8	-6,060.7	230.0	-113.7	343.71	0.669	Level 1
13,000.0	6,732.7	13,088.9	6,776.6	177.9	177.6	100.75		288.8	-6,160.7	229.9	-119.5	349.40	0.658	Level 1
13,100.0	6,731.8	13,188.9	6,775.0	180.7	180.4	100.58		288.8	-6,260.7	229.8	-125.3	355.08	0.647	Level 1
13,200.0	6,731.0	13,288.9	6,773.5	183.5	183.2	100.41		288.8	-6,360.6	229.7	-131.1	360.78	0.637	Level 1
13,300.0	6,730.1	13,388.9	6,771.9	186.3	186.0	100.25		288.8	-6,460.6	229.5	-136.9	366.47	0.626	Level 1
13,400.0	6,729.2	13,488.9	6,770.3	189.1	188.8	100.08		288.8	-6,560.6	229.4	-142.8	372.17	0.616	Level 1
13,500.0	6,728.3	13,588.9	6,768.7	191.9	191.6	99.91		288.8	-6,660.6	229.3	-148.6	377.87	0.607	Level 1
13,600.0	6,727.4	13,688.9	6,767.2	194.7	194.4	99.74		288.8	-6,760.6	229.2	-154.4	383.58	0.597	Level 1
13,700.0	6,726.5	13,788.9	6,765.6	197.5	197.2	99.57		288.8	-6,860.6	229.1	-160.2	389.28	0.588	Level 1
13,800.0	6,725.6	13,888.9	6,764.0	200.3	200.0	99.41		288.8	-6,960.6	228.9	-166.0	394.99	0.580	Level 1
13,852.5	6,725.1	13,941.4	6,763.2	201.2	201.4	99.32		288.8	-7,013.1	228.9	-168.6	397.48	0.576	Level 1
13,869.2	6,725.0	13,954.6	6,763.0	201.5	201.8	99.30		288.8	-7,026.3	228.9	-169.3	398.16	0.575	Level 1, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #2 (4-15-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +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	135.07	135.07	-83.8	83.6	118.4				
100.0	100.0	98.0	98.0	0.1	0.1	135.07	135.07	-83.8	83.6	118.4	118.1	0.22	531.921	
200.0	200.0	198.0	198.0	0.3	0.3	135.07	135.07	-83.8	83.6	118.4	117.7	0.67	176.715 CC, ES	
300.0	300.0	296.2	296.2	0.6	0.5	135.25	135.25	-84.6	83.8	119.1	118.0	1.09	108.989	
400.0	400.0	394.4	394.3	0.8	0.7	135.78	135.78	-86.9	84.6	121.4	119.8	1.51	80.164	
500.0	500.0	492.4	492.2	1.0	0.9	136.63	136.63	-90.9	85.9	125.2	123.2	1.95	64.130	
600.0	600.0	590.2	589.9	1.2	1.2	137.73	137.73	-96.4	87.7	130.6	128.2	2.40	54.298	
700.0	700.0	687.8	687.2	1.5	1.4	139.03	139.03	-103.6	89.9	137.6	134.7	2.87	47.897	
800.0	800.0	785.2	784.1	1.7	1.7	140.44	140.44	-112.2	92.7	146.2	142.9	3.36	43.565	
900.0	900.0	882.2	880.5	1.9	2.0	141.90	141.90	-122.4	96.0	156.5	152.7	3.86	40.568	
1,000.0	1,000.0	978.8	976.4	2.1	2.3	143.36	143.36	-134.1	99.7	168.5	164.2	4.38	38.473	
1,100.0	1,100.0	1,074.9	1,071.5	2.4	2.6	144.78	144.78	-147.3	104.0	182.2	177.3	4.92	37.011	
1,200.0	1,200.0	1,170.6	1,166.0	2.6	2.9	146.13	146.13	-161.9	108.7	197.6	192.1	5.49	36.006	
1,300.0	1,300.0	1,266.0	1,259.8	2.8	3.3	147.40	147.40	-177.9	113.8	214.6	208.6	6.07	35.348	
1,400.0	1,400.0	1,364.3	1,356.4	3.0	3.7	148.55	148.55	-195.1	119.3	232.5	225.8	6.69	34.771	
1,500.0	1,500.0	1,462.6	1,453.1	3.3	4.0	149.54	149.54	-212.3	124.9	250.4	243.1	7.30	34.278	
1,600.0	1,600.0	1,560.8	1,549.7	3.5	4.4	150.40	150.40	-229.5	130.4	268.4	260.4	7.93	33.854	
1,700.0	1,700.0	1,659.1	1,646.3	3.7	4.8	151.15	151.15	-246.7	135.9	286.4	277.8	8.55	33.486	
1,800.0	1,800.0	1,757.4	1,742.9	3.9	5.2	151.82	151.82	-263.9	141.4	304.5	295.3	9.18	33.166	
1,900.0	1,900.0	1,855.7	1,839.6	4.2	5.7	152.41	152.41	-281.1	146.9	322.6	312.8	9.81	32.884	
2,000.0	2,000.0	1,954.0	1,936.2	4.4	6.1	152.93	152.93	-298.3	152.5	340.7	330.3	10.44	32.635	
2,100.0	2,100.0	2,052.3	2,032.8	4.6	6.5	153.40	153.40	-315.5	158.0	358.8	347.8	11.07	32.414	
2,200.0	2,200.0	2,150.6	2,129.4	4.8	6.9	153.83	153.83	-332.7	163.5	377.0	365.3	11.70	32.217	
2,300.0	2,300.0	2,248.9	2,226.0	5.1	7.3	154.22	154.22	-349.9	169.0	395.2	382.9	12.34	32.039	
2,400.0	2,400.0	2,347.2	2,322.7	5.3	7.7	154.57	154.57	-367.1	174.6	413.4	400.5	12.97	31.879	
2,500.0	2,500.0	2,445.5	2,419.3	5.5	8.1	154.90	154.90	-384.3	180.1	431.7	418.1	13.60	31.734 SF	
2,600.0	2,600.0	2,543.8	2,515.9	5.7	8.5	75.02	75.02	-401.5	185.6	449.7	438.0	11.71	38.408	
2,700.0	2,700.0	2,642.2	2,612.6	5.9	8.9	75.43	75.43	-418.7	191.1	467.3	455.1	12.16	38.427	
2,800.0	2,799.9	2,740.5	2,709.2	6.1	9.3	76.01	76.01	-435.9	196.6	484.5	471.9	12.61	38.414	
2,900.0	2,899.7	2,838.7	2,805.8	6.3	9.7	76.73	76.73	-453.1	202.2	501.5	488.4	13.07	38.373	
3,000.0	2,999.4	2,936.9	2,902.3	6.6	10.2	77.58	77.58	-470.3	207.7	518.1	504.6	13.53	38.306	
3,100.0	3,098.9	3,035.0	2,998.7	6.8	10.6	78.56	78.56	-487.5	213.2	534.6	520.6	13.99	38.214	
3,200.0	3,198.3	3,133.0	3,095.0	7.0	11.0	79.64	79.64	-504.6	218.7	551.0	536.5	14.46	38.097	
3,300.0	3,297.4	3,230.8	3,191.2	7.3	11.4	80.87	80.87	-521.7	224.2	567.3	552.4	14.95	37.959	
3,400.0	3,396.5	3,328.5	3,287.3	7.5	11.8	82.17	82.17	-538.8	229.7	583.9	568.5	15.44	37.819	
3,500.0	3,495.6	3,426.3	3,383.3	7.8	12.2	83.40	83.40	-556.0	235.2	600.8	584.8	15.94	37.679	
3,600.0	3,594.7	3,524.0	3,479.4	8.0	12.6	84.56	84.56	-573.1	240.7	617.9	601.4	16.46	37.539	
3,700.0	3,693.9	3,621.8	3,575.5	8.3	13.0	85.66	85.66	-590.2	246.1	635.2	618.3	16.99	37.400	
3,800.0	3,793.0	3,719.5	3,671.6	8.6	13.4	86.70	86.70	-607.3	251.6	652.8	635.3	17.52	37.262	
3,900.0	3,892.1	3,817.3	3,767.7	8.9	13.8	87.69	87.69	-624.4	257.1	670.6	652.5	18.06	37.127	
4,000.0	3,991.2	3,915.1	3,863.8	9.1	14.3	88.62	88.62	-641.5	262.6	688.6	670.0	18.61	36.995	
4,100.0	4,090.3	4,012.8	3,959.9	9.4	14.7	89.51	89.51	-658.6	268.1	706.7	687.5	19.17	36.866	
4,200.0	4,189.4	4,110.6	4,056.0	9.7	15.1	90.36	90.36	-675.7	273.6	725.0	705.3	19.73	36.741	
4,300.0	4,288.5	4,208.3	4,152.1	10.0	15.5	91.16	91.16	-692.8	279.1	743.4	723.1	20.30	36.619	
4,400.0	4,387.6	4,306.1	4,248.2	10.3	15.9	91.93	91.93	-709.9	284.6	762.0	741.1	20.88	36.502	
4,500.0	4,486.7	4,403.8	4,344.3	10.6	16.3	92.66	92.66	-727.0	290.1	780.7	759.3	21.46	36.388	
4,600.0	4,585.8	4,501.6	4,440.4	10.9	16.7	93.35	93.35	-744.1	295.6	799.5	777.5	22.04	36.278	
4,700.0	4,684.9	4,599.4	4,536.4	11.2	17.1	94.01	94.01	-761.2	301.1	818.5	795.9	22.63	36.173	
4,800.0	4,784.0	4,697.1	4,632.5	11.5	17.5	94.65	94.65	-778.3	306.6	837.5	814.3	23.22	36.071	
4,900.0	4,883.1	4,794.9	4,728.6	11.8	18.0	95.25	95.25	-795.4	312.0	856.6	832.8	23.81	35.974	
5,000.0	4,982.3	4,892.6	4,824.7	12.1	18.4	95.83	95.83	-812.5	317.5	875.9	851.4	24.41	35.880	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #2 (4-15-15)												<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		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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,081.4	4,990.4	4,920.8	12.4	18.8	96.38	-829.6	323.0	895.2	870.1	25.01	35.790	
5,200.0	5,180.5	5,088.1	5,016.9	12.7	19.2	96.92	-846.7	328.5	914.5	888.9	25.61	35.704	
5,300.0	5,279.6	5,185.9	5,113.0	13.0	19.6	97.42	-863.9	334.0	934.0	907.8	26.22	35.621	
5,400.0	5,378.7	5,283.7	5,209.1	13.4	20.0	97.91	-881.0	339.5	953.5	926.7	26.83	35.541	
5,500.0	5,477.9	5,396.9	5,320.5	13.7	20.5	98.64	-900.4	345.7	972.7	945.3	27.47	35.415	
5,600.0	5,577.4	5,543.5	5,465.6	13.9	20.8	99.39	-920.2	352.1	987.8	959.8	28.05	35.212	
5,700.0	5,677.2	5,692.0	5,613.4	14.1	21.1	99.86	-933.1	356.2	997.5	968.9	28.58	34.906	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +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	133.82	133.82	-40.1	41.8	57.9				
100.0	100.0	99.0	99.0	0.1	0.1	133.82	133.82	-40.1	41.8	57.9	57.6	0.22	258.762	
200.0	200.0	199.0	199.0	0.3	0.3	133.82	133.82	-40.1	41.8	57.9	57.2	0.67	86.110	
300.0	300.0	299.0	299.0	0.6	0.6	133.82	133.82	-40.1	41.8	57.9	56.7	1.12	51.597	
400.0	400.0	399.0	399.0	0.8	0.8	133.82	133.82	-40.1	41.8	57.9	56.3	1.57	36.834	
500.0	500.0	499.0	499.0	1.0	1.0	133.82	133.82	-40.1	41.8	57.9	55.8	2.02	28.640	
600.0	600.0	599.0	599.0	1.2	1.2	133.82	133.82	-40.1	41.8	57.9	55.4	2.47	23.428	
700.0	700.0	699.0	699.0	1.5	1.5	133.82	133.82	-40.1	41.8	57.9	55.0	2.92	19.821	
800.0	800.0	799.0	799.0	1.7	1.7	133.82	133.82	-40.1	41.8	57.9	54.5	3.37	17.176	
900.0	900.0	899.0	899.0	1.9	1.9	133.82	133.82	-40.1	41.8	57.9	54.1	3.82	15.154	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	133.82	133.82	-40.1	41.8	57.9	53.6	4.27	13.558 CC, ES	
1,100.0	1,100.0	1,098.0	1,098.0	2.4	2.3	133.94	133.94	-40.7	42.3	58.7	54.0	4.69	12.516	
1,200.0	1,200.0	1,197.0	1,196.9	2.6	2.5	134.31	134.31	-42.8	43.8	61.3	56.2	5.09	12.023	
1,300.0	1,300.0	1,295.8	1,295.7	2.8	2.7	134.87	134.87	-46.2	46.4	65.5	60.0	5.51	11.896	
1,400.0	1,400.0	1,394.4	1,394.1	3.0	2.9	135.53	135.53	-50.9	49.9	71.5	65.5	5.93	12.056	
1,500.0	1,500.0	1,492.9	1,492.2	3.3	3.1	136.24	136.24	-57.0	54.5	79.1	72.8	6.36	12.442	
1,600.0	1,600.0	1,591.0	1,589.9	3.5	3.3	136.94	136.94	-64.3	60.1	88.5	81.7	6.81	13.005	
1,700.0	1,700.0	1,688.8	1,687.1	3.7	3.6	137.59	137.59	-73.0	66.7	99.6	92.4	7.27	13.705	
1,800.0	1,800.0	1,787.5	1,785.0	3.9	3.8	138.17	138.17	-82.8	74.1	112.0	104.3	7.75	14.454	
1,900.0	1,900.0	1,886.7	1,883.5	4.2	4.1	138.64	138.64	-92.7	81.6	124.5	116.2	8.24	15.103	
2,000.0	2,000.0	1,985.9	1,981.9	4.4	4.4	139.03	139.03	-102.6	89.1	136.9	128.2	8.74	15.666	
2,100.0	2,100.0	2,085.1	2,080.4	4.6	4.6	139.35	139.35	-112.5	96.6	149.4	140.2	9.25	16.155	
2,200.0	2,200.0	2,184.3	2,178.8	4.8	4.9	139.62	139.62	-122.4	104.1	161.9	152.1	9.76	16.585	
2,300.0	2,300.0	2,283.5	2,277.2	5.1	5.2	139.85	139.85	-132.3	111.5	174.4	164.1	10.28	16.964	
2,400.0	2,400.0	2,382.8	2,375.7	5.3	5.5	140.06	140.06	-142.1	119.0	186.9	176.1	10.80	17.301	
2,500.0	2,500.0	2,482.0	2,474.1	5.5	5.8	140.23	140.23	-152.0	126.5	199.3	188.0	11.33	17.601	
2,600.0	2,600.0	2,581.2	2,572.6	5.7	6.1	60.38	60.38	-161.9	134.0	211.4	200.2	11.17	18.922	
2,700.0	2,700.0	2,680.6	2,671.1	5.9	6.4	61.00	61.00	-171.8	141.5	222.6	211.0	11.60	19.188	
2,800.0	2,799.9	2,779.9	2,769.7	6.1	6.7	61.94	61.94	-181.7	149.0	233.1	221.0	12.04	19.365	
2,900.0	2,899.7	2,879.3	2,868.3	6.3	7.1	63.16	63.16	-191.6	156.5	242.8	230.3	12.47	19.464	
3,000.0	2,999.4	2,978.7	2,966.9	6.6	7.4	64.64	64.64	-201.5	164.0	251.9	238.9	12.92	19.498	
3,100.0	3,098.9	3,078.0	3,065.4	6.8	7.7	66.36	66.36	-211.4	171.5	260.4	247.1	13.37	19.477	
3,200.0	3,198.3	3,177.2	3,163.9	7.0	8.0	68.31	68.31	-221.3	179.0	268.6	254.7	13.84	19.411	
3,300.0	3,297.4	3,276.3	3,262.2	7.3	8.3	70.49	70.49	-231.2	186.4	276.5	262.2	14.32	19.310	
3,400.0	3,396.5	3,375.4	3,360.5	7.5	8.6	72.66	72.66	-241.1	193.9	284.7	269.9	14.82	19.215	
3,500.0	3,495.6	3,474.5	3,458.9	7.8	9.0	74.70	74.70	-250.9	201.4	293.3	278.0	15.33	19.136	
3,600.0	3,594.7	3,573.6	3,557.2	8.0	9.3	76.63	76.63	-260.8	208.9	302.2	286.4	15.85	19.070	
3,700.0	3,693.9	3,672.7	3,655.5	8.3	9.6	78.44	78.44	-270.7	216.4	311.5	295.1	16.38	19.016	
3,800.0	3,793.0	3,771.8	3,753.8	8.6	9.9	80.15	80.15	-280.6	223.8	321.1	304.2	16.92	18.972	
3,900.0	3,892.1	3,870.9	3,852.1	8.9	10.2	81.77	81.77	-290.4	231.3	330.9	313.4	17.47	18.936	
4,000.0	3,991.2	3,970.0	3,950.4	9.1	10.6	83.28	83.28	-300.3	238.8	341.0	323.0	18.03	18.908	
4,100.0	4,090.3	4,069.1	4,048.8	9.4	10.9	84.71	84.71	-310.2	246.3	351.3	332.7	18.60	18.887	
4,200.0	4,189.4	4,168.2	4,147.1	9.7	11.2	86.06	86.06	-320.1	253.7	361.8	342.6	19.17	18.872	
4,300.0	4,288.5	4,267.3	4,245.4	10.0	11.5	87.33	87.33	-329.9	261.2	372.5	352.8	19.75	18.861	
4,400.0	4,387.6	4,366.3	4,343.7	10.3	11.8	88.53	88.53	-339.8	268.7	383.4	363.0	20.33	18.855	
4,500.0	4,486.7	4,465.4	4,442.0	10.6	12.2	89.67	89.67	-349.7	276.2	394.4	373.5	20.92	18.853	
4,600.0	4,585.8	4,564.5	4,540.3	10.9	12.5	90.74	90.74	-359.6	283.6	405.6	384.1	21.51	18.855	
4,700.0	4,684.9	4,663.6	4,638.6	11.2	12.8	91.76	91.76	-369.4	291.1	416.9	394.8	22.10	18.859	
4,800.0	4,784.0	4,762.7	4,737.0	11.5	13.1	92.72	92.72	-379.3	298.6	428.3	405.6	22.70	18.867	
4,900.0	4,883.1	4,861.8	4,835.3	11.8	13.5	93.63	93.63	-389.2	306.1	439.9	416.5	23.30	18.876	
5,000.0	4,982.3	4,960.9	4,933.6	12.1	13.8	94.50	94.50	-399.1	313.5	451.5	427.6	23.90	18.887	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,081.4	5,060.0	5,031.9	12.4	14.1	95.32		-409.0	321.0	463.2	438.7	24.51	18.901	
5,200.0	5,180.5	5,159.1	5,130.2	12.7	14.4	96.10		-418.8	328.5	475.1	450.0	25.12	18.915	
5,300.0	5,279.6	5,258.2	5,228.5	13.0	14.8	96.84		-428.7	336.0	487.0	461.3	25.72	18.931	
5,400.0	5,378.7	5,357.3	5,326.9	13.4	15.1	97.55		-438.6	343.5	499.0	472.7	26.33	18.949	
5,500.0	5,477.9	5,470.5	5,439.4	13.7	15.4	98.47		-448.5	351.0	509.8	482.9	26.92	18.936	
5,600.0	5,577.4	5,586.9	5,555.5	13.9	15.6	99.29		-455.1	356.0	517.0	489.6	27.42	18.857	
5,700.0	5,677.2	5,703.7	5,672.2	14.1	15.8	99.89		-457.9	358.1	520.4	492.6	27.86	18.680	
5,800.0	5,777.2	5,807.7	5,776.2	14.3	16.0	100.19		-458.0	358.2	520.9	492.7	28.24	18.446	
5,900.0	5,877.2	5,907.7	5,876.2	14.4	16.1	-179.70		-458.0	358.2	521.0	493.0	27.96	18.629	
6,000.0	5,977.2	6,007.7	5,976.2	14.6	16.3	-179.70		-458.0	358.2	521.0	492.6	28.34	18.386	
6,100.0	6,077.1	6,107.5	6,075.9	14.8	16.4	-89.70		-458.0	356.0	521.0	491.7	29.28	17.792	
6,200.0	6,176.1	6,207.1	6,174.5	14.9	16.5	-89.70		-458.0	342.1	521.0	491.5	29.45	17.688	
6,300.0	6,272.4	6,306.8	6,270.5	14.9	16.5	-89.71		-458.0	315.5	521.0	491.5	29.51	17.654	
6,400.0	6,364.3	6,406.4	6,362.2	14.9	16.5	-89.73		-458.0	276.7	521.0	491.4	29.52	17.649	
6,500.0	6,450.4	6,506.1	6,448.1	14.9	16.5	-89.75		-458.0	226.2	521.0	491.4	29.58	17.610	
6,600.0	6,529.1	6,605.8	6,526.7	15.1	16.4	-89.77		-458.0	165.0	521.0	491.1	29.85	17.455	
6,700.0	6,599.1	6,705.6	6,596.7	15.4	16.4	-89.80		-458.0	94.0	521.0	490.5	30.48	17.095	
6,800.0	6,659.2	6,805.3	6,656.9	16.0	16.4	-89.83		-458.0	14.5	521.0	489.3	31.63	16.468	
6,900.0	6,708.3	6,905.2	6,706.2	16.9	16.6	-89.86		-458.0	-72.2	521.0	487.5	33.44	15.580	
7,000.0	6,745.7	7,005.0	6,743.8	18.1	17.8	-89.90		-458.0	-164.6	521.0	485.0	35.91	14.505	
7,100.0	6,770.6	7,104.9	6,769.1	19.6	19.4	-89.93		-458.0	-261.2	521.0	481.9	39.01	13.353	
7,200.0	6,782.8	7,204.9	6,781.5	21.4	21.3	-89.97		-458.0	-360.3	521.0	478.4	42.61	12.227	
7,300.0	6,783.5	7,304.9	6,782.4	23.4	23.3	-89.99		-458.0	-460.2	521.0	474.4	46.56	11.190	
7,400.0	6,782.6	7,404.9	6,781.6	25.5	25.4	-90.00		-458.0	-560.2	521.0	470.1	50.81	10.253	
7,500.0	6,781.7	7,504.9	6,780.7	27.7	27.7	-90.00		-458.0	-660.2	521.0	465.6	55.31	9.419	
7,600.0	6,780.8	7,604.9	6,779.8	30.1	30.1	-90.00		-458.0	-760.2	521.0	461.0	60.00	8.683	
7,700.0	6,779.9	7,704.9	6,778.9	32.5	32.5	-90.00		-458.0	-860.2	521.0	456.1	64.83	8.035	
7,800.0	6,779.0	7,804.9	6,778.1	35.0	35.0	-90.00		-458.0	-960.2	521.0	451.2	69.79	7.465	
7,900.0	6,778.1	7,904.9	6,777.2	37.5	37.5	-90.01		-458.0	-1,060.2	521.0	446.1	74.84	6.961	
8,000.0	6,777.2	8,004.9	6,776.3	40.0	40.1	-90.01		-458.0	-1,160.2	521.0	441.0	79.96	6.515	
8,100.0	6,776.4	8,104.9	6,775.4	42.6	42.7	-90.01		-458.0	-1,260.2	521.0	435.8	85.15	6.118	
8,200.0	6,775.5	8,204.9	6,774.6	45.2	45.3	-90.01		-458.0	-1,360.2	521.0	430.6	90.39	5.764	
8,300.0	6,774.6	8,304.9	6,773.7	47.9	47.9	-90.01		-458.0	-1,460.2	521.0	425.3	95.67	5.446	
8,400.0	6,773.7	8,404.9	6,772.8	50.5	50.6	-90.02		-458.0	-1,560.2	521.0	420.0	100.99	5.159	
8,500.0	6,772.8	8,504.9	6,772.0	53.2	53.2	-90.02		-458.0	-1,660.2	521.0	414.6	106.34	4.899	
8,600.0	6,771.9	8,604.9	6,771.1	55.9	55.9	-90.02		-458.0	-1,760.2	521.0	409.2	111.71	4.663	
8,700.0	6,771.0	8,704.9	6,770.2	58.6	58.6	-90.02		-458.0	-1,860.2	521.0	403.8	117.11	4.448	
8,800.0	6,770.1	8,804.9	6,769.3	61.3	61.3	-90.02		-458.0	-1,960.2	521.0	398.4	122.53	4.252	
8,900.0	6,769.2	8,904.9	6,768.5	64.0	64.1	-90.03		-458.0	-2,060.2	521.0	393.0	127.97	4.071	
9,000.0	6,768.3	9,004.9	6,767.6	66.7	66.8	-90.03		-458.0	-2,160.2	521.0	387.5	133.42	3.905	
9,100.0	6,767.5	9,104.9	6,766.7	69.5	69.5	-90.03		-458.0	-2,260.2	521.0	382.1	138.88	3.751	
9,200.0	6,766.6	9,204.9	6,765.8	72.2	72.3	-90.03		-458.0	-2,360.2	521.0	376.6	144.36	3.609	
9,300.0	6,765.7	9,304.9	6,765.0	74.9	75.0	-90.03		-458.0	-2,460.2	521.0	371.1	149.85	3.477	
9,400.0	6,764.8	9,404.9	6,764.1	77.7	77.7	-90.04		-458.0	-2,560.2	521.0	365.6	155.34	3.354	
9,500.0	6,763.9	9,504.9	6,763.2	80.4	80.5	-90.04		-458.0	-2,660.1	521.0	360.1	160.85	3.239	
9,600.0	6,763.0	9,604.9	6,762.4	83.2	83.3	-90.04		-458.0	-2,760.1	521.0	354.6	166.36	3.131	
9,700.0	6,762.1	9,704.9	6,761.5	85.9	86.0	-90.04		-458.0	-2,860.1	521.0	349.1	171.88	3.031	
9,800.0	6,761.2	9,804.9	6,760.6	88.7	88.8	-90.04		-458.0	-2,960.1	521.0	343.5	177.41	2.936	
9,900.0	6,760.3	9,904.9	6,759.7	91.5	91.5	-90.04		-458.0	-3,060.1	521.0	338.0	182.94	2.848	
10,000.0	6,759.4	10,004.9	6,758.9	94.2	94.3	-90.05		-458.0	-3,160.1	521.0	332.5	188.48	2.764	
10,100.0	6,758.5	10,104.9	6,758.0	97.0	97.1	-90.05		-458.0	-3,260.1	521.0	326.9	194.02	2.685	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)												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	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	6,757.7	10,204.9	6,757.1	99.8	99.9	-90.05	-458.0	-3,360.1	521.0	321.4	199.57	2.610	
10,300.0	6,756.8	10,304.9	6,756.2	102.6	102.6	-90.05	-458.0	-3,460.1	521.0	315.8	205.12	2.540	
10,400.0	6,755.9	10,404.9	6,755.4	105.3	105.4	-90.05	-458.0	-3,560.1	521.0	310.3	210.67	2.473	
10,500.0	6,755.0	10,504.9	6,754.5	108.1	108.2	-90.06	-458.0	-3,660.1	521.0	304.7	216.23	2.409	
10,600.0	6,754.1	10,604.9	6,753.6	110.9	111.0	-90.06	-458.0	-3,760.1	521.0	299.2	221.79	2.349	
10,700.0	6,753.2	10,704.9	6,752.8	113.7	113.7	-90.06	-458.0	-3,860.1	521.0	293.6	227.35	2.291	
10,800.0	6,752.3	10,804.9	6,751.9	116.5	116.5	-90.06	-458.0	-3,960.1	521.0	288.0	232.92	2.237	
10,900.0	6,751.4	10,904.9	6,751.0	119.2	119.3	-90.06	-458.0	-4,060.1	521.0	282.5	238.49	2.184	
11,000.0	6,750.5	11,004.9	6,750.1	122.0	122.1	-90.07	-458.0	-4,160.1	521.0	276.9	244.06	2.135	
11,100.0	6,749.6	11,104.9	6,749.3	124.8	124.9	-90.07	-458.0	-4,260.1	521.0	271.3	249.63	2.087	
11,200.0	6,748.8	11,204.9	6,748.4	127.6	127.7	-90.07	-458.0	-4,360.1	521.0	265.7	255.21	2.041	
11,300.0	6,747.9	11,304.9	6,747.5	130.4	130.5	-90.07	-458.0	-4,460.1	521.0	260.2	260.79	1.998	
11,400.0	6,747.0	11,404.9	6,746.6	133.2	133.2	-90.07	-458.0	-4,560.1	521.0	254.6	266.36	1.956	
11,500.0	6,746.1	11,504.9	6,745.8	136.0	136.0	-90.08	-458.0	-4,660.1	521.0	249.0	271.95	1.916	
11,600.0	6,745.2	11,604.9	6,744.9	138.8	138.8	-90.08	-458.0	-4,760.1	521.0	243.4	277.53	1.877	
11,700.0	6,744.3	11,704.9	6,744.0	141.5	141.6	-90.08	-458.0	-4,860.1	521.0	237.8	283.11	1.840	
11,800.0	6,743.4	11,804.9	6,743.2	144.3	144.4	-90.08	-458.0	-4,960.1	521.0	232.3	288.70	1.805	
11,900.0	6,742.5	11,904.9	6,742.3	147.1	147.2	-90.08	-458.0	-5,060.1	521.0	226.7	294.28	1.770	
12,000.0	6,741.6	12,004.9	6,741.4	149.9	150.0	-90.08	-458.0	-5,160.1	521.0	221.1	299.87	1.737	
12,100.0	6,740.7	12,104.9	6,740.5	152.7	152.8	-90.09	-458.0	-5,260.0	521.0	215.5	305.46	1.705	
12,200.0	6,739.9	12,204.9	6,739.7	155.5	155.6	-90.09	-458.0	-5,360.0	521.0	209.9	311.05	1.675	
12,300.0	6,739.0	12,304.9	6,738.8	158.3	158.4	-90.09	-458.0	-5,460.0	521.0	204.3	316.64	1.645	
12,400.0	6,738.1	12,404.9	6,737.9	161.1	161.2	-90.09	-458.0	-5,560.0	521.0	198.7	322.23	1.617	
12,500.0	6,737.2	12,504.9	6,737.0	163.9	164.0	-90.09	-458.0	-5,660.0	521.0	193.1	327.83	1.589	
12,600.0	6,736.3	12,604.9	6,736.2	166.7	166.8	-90.10	-458.0	-5,760.0	521.0	187.5	333.42	1.562	
12,700.0	6,735.4	12,704.9	6,735.3	169.5	169.6	-90.10	-458.0	-5,860.0	521.0	181.9	339.02	1.537	
12,800.0	6,734.5	12,804.9	6,734.4	172.3	172.4	-90.10	-458.0	-5,960.0	521.0	176.3	344.61	1.512	
12,900.0	6,733.6	12,904.9	6,733.6	175.1	175.2	-90.10	-458.0	-6,060.0	521.0	170.7	350.21	1.488 Level 3	
13,000.0	6,732.7	13,004.9	6,732.7	177.9	178.0	-90.10	-458.0	-6,160.0	521.0	165.2	355.81	1.464 Level 3	
13,100.0	6,731.8	13,104.9	6,731.8	180.7	180.8	-90.11	-458.0	-6,260.0	521.0	159.6	361.40	1.441 Level 3	
13,200.0	6,731.0	13,204.9	6,730.9	183.5	183.6	-90.11	-458.0	-6,360.0	521.0	154.0	367.00	1.419 Level 3	
13,300.0	6,730.1	13,304.9	6,730.1	186.3	186.4	-90.11	-458.0	-6,460.0	521.0	148.4	372.60	1.398 Level 3	
13,400.0	6,729.2	13,404.9	6,729.2	189.1	189.2	-90.11	-458.0	-6,560.0	521.0	142.8	378.20	1.377 Level 3	
13,500.0	6,728.3	13,504.9	6,728.3	191.9	192.0	-90.11	-458.0	-6,660.0	521.0	137.2	383.80	1.357 Level 3	
13,600.0	6,727.4	13,604.9	6,727.4	194.7	194.8	-90.12	-458.0	-6,760.0	521.0	131.6	389.40	1.338 Level 3	
13,700.0	6,726.5	13,704.9	6,726.6	197.5	197.6	-90.12	-458.0	-6,860.0	521.0	126.0	395.00	1.319 Level 3	
13,800.0	6,725.6	13,804.9	6,725.7	200.3	200.3	-90.12	-458.0	-6,960.0	521.0	120.4	400.56	1.301 Level 3	
13,869.2	6,725.0	13,874.0	6,725.1	201.5	201.6	-90.12	-458.0	-7,029.2	521.0	117.9	403.05	1.293 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-304 - Wellbore #1 - Plan #2 (4-13-15)													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	134.05	-61.9	64.0	89.1					
100.0	100.0	99.0	99.0	0.1	0.1	134.05	-61.9	64.0	89.1	88.9	0.22	398.301		
200.0	200.0	199.0	199.0	0.3	0.3	134.05	-61.9	64.0	89.1	88.4	0.67	132.546		
300.0	300.0	299.0	299.0	0.6	0.6	134.05	-61.9	64.0	89.1	88.0	1.12	79.421		
400.0	400.0	399.0	399.0	0.8	0.8	134.05	-61.9	64.0	89.1	87.5	1.57	56.697	CC, ES	
500.0	500.0	497.6	497.6	1.0	1.0	134.23	-62.7	64.4	89.9	87.9	1.99	45.099		
600.0	600.0	596.1	596.0	1.2	1.2	134.76	-64.9	65.5	92.3	89.9	2.40	38.392		
700.0	700.0	694.4	694.3	1.5	1.4	135.60	-68.7	67.3	96.3	93.5	2.83	34.046		
800.0	800.0	792.6	792.3	1.7	1.6	136.65	-74.0	69.9	102.0	98.8	3.27	31.204		
900.0	900.0	890.6	890.0	1.9	1.8	137.85	-80.8	73.2	109.4	105.7	3.73	29.367		
1,000.0	1,000.0	988.3	987.3	2.1	2.1	139.10	-89.1	77.2	118.5	114.3	4.20	28.220		
1,100.0	1,100.0	1,085.7	1,084.0	2.4	2.3	140.36	-98.8	81.9	129.2	124.5	4.69	27.560		
1,200.0	1,200.0	1,182.6	1,180.2	2.6	2.6	141.56	-110.0	87.3	141.6	136.4	5.20	27.248		
1,300.0	1,300.0	1,281.2	1,277.8	2.8	2.9	142.68	-122.3	93.2	155.2	149.5	5.73	27.090		
1,400.0	1,400.0	1,380.2	1,375.9	3.0	3.2	143.62	-134.7	99.2	168.9	162.6	6.27	26.926		
1,500.0	1,500.0	1,479.2	1,473.9	3.3	3.6	144.42	-147.1	105.3	182.6	175.8	6.82	26.770		
1,600.0	1,600.0	1,578.3	1,572.0	3.5	3.9	145.11	-159.5	111.3	196.4	189.0	7.37	26.626		
1,700.0	1,700.0	1,677.3	1,670.1	3.7	4.2	145.71	-171.9	117.3	210.1	202.2	7.93	26.493		
1,800.0	1,800.0	1,776.3	1,768.1	3.9	4.6	146.23	-184.4	123.3	223.9	215.4	8.49	26.373		
1,900.0	1,900.0	1,875.4	1,866.2	4.2	4.9	146.70	-196.8	129.3	237.7	228.7	9.05	26.263		
2,000.0	2,000.0	1,974.4	1,964.2	4.4	5.2	147.11	-209.2	135.3	251.5	241.9	9.61	26.163		
2,100.0	2,100.0	2,073.4	2,062.3	4.6	5.6	147.48	-221.6	141.3	265.4	255.2	10.18	26.072		
2,200.0	2,200.0	2,172.4	2,160.4	4.8	5.9	147.81	-234.0	147.3	279.2	268.4	10.74	25.988		
2,300.0	2,300.0	2,271.5	2,258.4	5.1	6.3	148.11	-246.4	153.3	293.0	281.7	11.31	25.912		
2,400.0	2,400.0	2,370.5	2,356.5	5.3	6.6	148.39	-258.8	159.3	306.9	295.0	11.88	25.842		
2,500.0	2,500.0	2,469.5	2,454.5	5.5	6.9	148.64	-271.2	165.3	320.7	308.3	12.44	25.778		
2,600.0	2,600.0	2,568.6	2,552.6	5.7	7.3	68.78	-283.7	171.3	334.3	322.8	11.45	29.189		
2,700.0	2,700.0	2,667.7	2,650.8	5.9	7.6	69.27	-296.1	177.3	347.2	335.3	11.89	29.194		
2,800.0	2,799.9	2,766.8	2,748.9	6.1	8.0	69.98	-308.5	183.3	359.6	347.3	12.34	29.149		
2,900.0	2,899.7	2,865.8	2,847.0	6.3	8.3	70.90	-320.9	189.3	371.5	358.7	12.78	29.062		
3,000.0	2,999.4	2,964.8	2,945.1	6.6	8.7	72.00	-333.3	195.4	383.0	369.8	13.23	28.939		
3,100.0	3,098.9	3,063.8	3,043.0	6.8	9.0	73.28	-345.7	201.4	394.1	380.4	13.69	28.784		
3,200.0	3,198.3	3,162.6	3,140.9	7.0	9.4	74.72	-358.1	207.3	405.0	390.9	14.16	28.601		
3,300.0	3,297.4	3,261.3	3,238.6	7.3	9.7	76.32	-370.5	213.3	415.8	401.2	14.64	28.396		
3,400.0	3,396.5	3,359.9	3,336.3	7.5	10.0	77.96	-382.8	219.3	426.8	411.7	15.14	28.198		
3,500.0	3,495.6	3,458.6	3,434.0	7.8	10.4	79.52	-395.2	225.3	438.2	422.6	15.64	28.013		
3,600.0	3,594.7	3,557.2	3,531.7	8.0	10.7	81.00	-407.6	231.3	449.9	433.7	16.16	27.840		
3,700.0	3,693.9	3,655.9	3,629.4	8.3	11.1	82.40	-419.9	237.3	461.9	445.2	16.69	27.679		
3,800.0	3,793.0	3,754.5	3,727.1	8.6	11.4	83.74	-432.3	243.2	474.1	456.9	17.22	27.528		
3,900.0	3,892.1	3,853.2	3,824.8	8.9	11.8	85.00	-444.7	249.2	486.6	468.8	17.77	27.387		
4,000.0	3,991.2	3,951.8	3,922.4	9.1	12.1	86.21	-457.0	255.2	499.3	481.0	18.32	27.255		
4,100.0	4,090.3	4,050.5	4,020.1	9.4	12.5	87.35	-469.4	261.2	512.2	493.3	18.88	27.132		
4,200.0	4,189.4	4,149.2	4,117.8	9.7	12.8	88.44	-481.8	267.2	525.3	505.8	19.44	27.018		
4,300.0	4,288.5	4,247.8	4,215.5	10.0	13.2	89.47	-494.1	273.2	538.6	518.5	20.01	26.911		
4,400.0	4,387.6	4,346.5	4,313.2	10.3	13.5	90.46	-506.5	279.1	552.0	531.4	20.59	26.812		
4,500.0	4,486.7	4,445.1	4,410.9	10.6	13.9	91.40	-518.8	285.1	565.6	544.4	21.17	26.720		
4,600.0	4,585.8	4,543.8	4,508.6	10.9	14.2	92.29	-531.2	291.1	579.3	557.6	21.75	26.634		
4,700.0	4,684.9	4,642.4	4,606.3	11.2	14.6	93.14	-543.6	297.1	593.2	570.9	22.34	26.554		
4,800.0	4,784.0	4,741.1	4,704.0	11.5	14.9	93.96	-555.9	303.1	607.2	584.3	22.93	26.480		
4,900.0	4,883.1	4,839.7	4,801.7	11.8	15.2	94.74	-568.3	309.1	621.3	597.8	23.53	26.411		
5,000.0	4,982.3	4,938.4	4,899.4	12.1	15.6	95.48	-580.7	315.0	635.6	611.4	24.12	26.347		

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-304 - Wellbore #1 - Plan #2 (4-13-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,081.4	5,037.0	4,997.0	12.4	15.9	96.19		-593.0	321.0	649.9	625.2	24.72	26.288	
5,200.0	5,180.5	5,135.7	5,094.7	12.7	16.3	96.87		-605.4	327.0	664.3	639.0	25.32	26.233	
5,300.0	5,279.6	5,234.3	5,192.4	13.0	16.6	97.52		-617.8	333.0	678.8	652.9	25.93	26.181	
5,400.0	5,378.7	5,333.0	5,290.1	13.4	17.0	98.15		-630.1	339.0	693.4	666.9	26.53	26.134	
5,500.0	5,477.9	5,431.7	5,387.9	13.7	17.3	98.87		-642.5	345.0	708.0	680.8	27.13	26.098	
5,600.0	5,577.4	5,555.7	5,510.9	13.9	17.7	99.53		-656.1	351.6	720.6	692.9	27.67	26.043	
5,700.0	5,677.2	5,684.7	5,639.5	14.1	17.9	99.95		-665.2	356.0	728.7	700.5	28.14	25.891	
5,800.0	5,777.2	5,814.3	5,769.1	14.3	18.1	100.12		-669.1	357.9	732.1	703.6	28.56	25.632	
5,900.0	5,877.2	5,921.4	5,876.2	14.4	18.2	-179.77		-669.3	357.9	732.3	701.9	30.38	24.107	
6,000.0	5,977.2	6,021.4	5,976.2	14.6	18.4	-179.77		-669.3	357.9	732.3	701.5	30.72	23.839	
6,100.0	6,077.1	6,121.4	6,076.1	14.8	18.5	-89.92		-669.3	357.7	732.3	702.7	29.60	24.742	
6,119.0	6,096.1	6,140.3	6,095.1	14.8	18.5	-90.00		-669.3	357.1	732.3	702.6	29.63	24.709	
6,200.0	6,176.1	6,221.4	6,175.7	14.9	18.6	-90.34		-669.3	349.0	732.3	702.5	29.77	24.596	
6,300.0	6,272.4	6,322.2	6,274.1	14.9	18.6	-90.75		-669.3	327.2	732.3	702.5	29.83	24.550	
6,400.0	6,364.3	6,423.7	6,369.3	14.9	18.6	-91.15		-669.3	292.3	732.4	702.6	29.83	24.553	
6,500.0	6,450.4	6,525.9	6,459.6	14.9	18.6	-91.53		-669.3	244.8	732.5	702.6	29.87	24.523	
6,600.0	6,529.1	6,628.7	6,543.4	15.1	18.6	-91.89		-669.3	185.2	732.6	702.6	30.09	24.348	
6,700.0	6,599.1	6,732.2	6,618.8	15.4	18.6	-92.21		-669.3	114.5	732.8	702.1	30.66	23.898	
6,800.0	6,659.2	6,836.2	6,684.3	16.0	18.5	-92.49		-669.3	33.8	732.9	701.2	31.76	23.076	
6,900.0	6,708.3	6,940.8	6,738.4	16.9	18.5	-92.73		-669.3	-55.6	733.1	699.6	33.52	21.871	
7,000.0	6,745.7	7,045.7	6,780.0	18.1	18.8	-92.93		-669.3	-151.8	733.2	697.2	35.98	20.380	
7,100.0	6,770.6	7,151.0	6,808.1	19.6	20.0	-93.07		-669.3	-253.2	733.3	694.2	39.09	18.757	
7,200.0	6,782.8	7,256.5	6,822.0	21.4	21.8	-93.15		-669.3	-357.7	733.4	690.6	42.75	17.156	
7,300.0	6,783.5	7,359.3	6,823.2	23.4	23.9	-93.18		-669.3	-460.5	733.4	686.6	46.74	15.691	
7,400.0	6,782.6	7,459.3	6,822.6	25.5	26.0	-93.21		-669.3	-560.5	733.4	682.4	50.98	14.387	
7,500.0	6,781.7	7,559.3	6,822.0	27.7	28.2	-93.23		-669.3	-660.5	733.4	678.0	55.46	13.225	
7,600.0	6,780.8	7,659.3	6,821.4	30.1	30.6	-93.25		-669.3	-760.5	733.4	673.3	60.13	12.198	
7,700.0	6,779.9	7,759.3	6,820.8	32.5	33.0	-93.27		-669.3	-860.5	733.4	668.5	64.95	11.293	
7,800.0	6,779.0	7,859.3	6,820.2	35.0	35.4	-93.29		-669.3	-960.5	733.5	663.6	69.88	10.496	
7,900.0	6,778.1	7,959.3	6,819.5	37.5	38.0	-93.32		-669.3	-1,060.5	733.5	658.6	74.92	9.791	
8,000.0	6,777.2	8,059.3	6,818.9	40.0	40.5	-93.34		-669.3	-1,160.5	733.5	653.5	80.02	9.166	
8,100.0	6,776.4	8,159.3	6,818.3	42.6	43.1	-93.36		-669.3	-1,260.5	733.5	648.3	85.20	8.610	
8,200.0	6,775.5	8,259.3	6,817.7	45.2	45.7	-93.38		-669.3	-1,360.5	733.5	643.1	90.42	8.112	
8,300.0	6,774.6	8,359.3	6,817.1	47.9	48.3	-93.40		-669.3	-1,460.5	733.5	637.9	95.69	7.666	
8,400.0	6,773.7	8,459.3	6,816.5	50.5	51.0	-93.42		-669.3	-1,560.5	733.6	632.6	100.99	7.264	
8,500.0	6,772.8	8,559.3	6,815.9	53.2	53.6	-93.45		-669.3	-1,660.5	733.6	627.2	106.33	6.899	
8,600.0	6,771.9	8,659.3	6,815.3	55.9	56.3	-93.47		-669.3	-1,760.4	733.6	621.9	111.69	6.568	
8,700.0	6,771.0	8,759.3	6,814.7	58.6	59.0	-93.49		-669.3	-1,860.4	733.6	616.5	117.07	6.266	
8,800.0	6,770.1	8,859.3	6,814.0	61.3	61.7	-93.51		-669.3	-1,960.4	733.6	611.1	122.48	5.990	
8,900.0	6,769.2	8,959.3	6,813.4	64.0	64.4	-93.53		-669.3	-2,060.4	733.6	605.7	127.90	5.736	
9,000.0	6,768.3	9,059.3	6,812.8	66.7	67.1	-93.55		-669.3	-2,160.4	733.7	600.3	133.34	5.502	
9,100.0	6,767.5	9,159.3	6,812.2	69.5	69.9	-93.58		-669.3	-2,260.4	733.7	594.9	138.79	5.286	
9,200.0	6,766.6	9,259.3	6,811.6	72.2	72.6	-93.60		-669.3	-2,360.4	733.7	589.4	144.25	5.086	
9,300.0	6,765.7	9,359.3	6,811.0	74.9	75.3	-93.62		-669.3	-2,460.4	733.7	584.0	149.72	4.900	
9,400.0	6,764.8	9,459.3	6,810.4	77.7	78.1	-93.64		-669.3	-2,560.4	733.7	578.5	155.21	4.727	
9,500.0	6,763.9	9,559.3	6,809.8	80.4	80.8	-93.66		-669.3	-2,660.4	733.8	573.1	160.70	4.566	
9,600.0	6,763.0	9,659.3	6,809.2	83.2	83.6	-93.69		-669.3	-2,760.4	733.8	567.6	166.19	4.415	
9,700.0	6,762.1	9,759.3	6,808.6	85.9	86.3	-93.71		-669.3	-2,860.4	733.8	562.1	171.70	4.274	
9,800.0	6,761.2	9,859.3	6,807.9	88.7	89.1	-93.73		-669.3	-2,960.4	733.8	556.6	177.21	4.141	
9,900.0	6,760.3	9,959.3	6,807.3	91.5	91.8	-93.75		-669.3	-3,060.4	733.8	551.1	182.72	4.016	
10,000.0	6,759.4	10,059.3	6,806.7	94.2	94.6	-93.77		-669.3	-3,160.4	733.8	545.6	188.25	3.898	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-304 - Wellbore #1 - Plan #2 (4-13-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	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)				
10,100.0	6,758.5	10,159.3	6,806.1	97.0	97.4	-93.79	-669.3	-3,260.4	733.9	540.1	193.77	3.787		
10,200.0	6,757.7	10,259.3	6,805.5	99.8	100.1	-93.82	-669.3	-3,360.4	733.9	534.6	199.30	3.682		
10,300.0	6,756.8	10,359.3	6,804.9	102.6	102.9	-93.84	-669.3	-3,460.4	733.9	529.1	204.84	3.583		
10,400.0	6,755.9	10,459.3	6,804.3	105.3	105.7	-93.86	-669.3	-3,560.4	733.9	523.5	210.37	3.489		
10,500.0	6,755.0	10,559.3	6,803.7	108.1	108.5	-93.88	-669.3	-3,660.4	733.9	518.0	215.91	3.399		
10,600.0	6,754.1	10,659.3	6,803.1	110.9	111.2	-93.90	-669.3	-3,760.4	734.0	512.5	221.46	3.314		
10,700.0	6,753.2	10,759.3	6,802.4	113.7	114.0	-93.92	-669.3	-3,860.4	734.0	507.0	227.00	3.233		
10,800.0	6,752.3	10,859.3	6,801.8	116.5	116.8	-93.95	-669.3	-3,960.4	734.0	501.4	232.55	3.156		
10,900.0	6,751.4	10,959.3	6,801.2	119.2	119.6	-93.97	-669.3	-4,060.4	734.0	495.9	238.10	3.083		
11,000.0	6,750.5	11,059.3	6,800.6	122.0	122.4	-93.99	-669.3	-4,160.4	734.0	490.4	243.65	3.013		
11,100.0	6,749.6	11,159.3	6,800.0	124.8	125.1	-94.01	-669.3	-4,260.4	734.0	484.8	249.21	2.946		
11,200.0	6,748.8	11,259.3	6,799.4	127.6	127.9	-94.03	-669.3	-4,360.4	734.1	479.3	254.76	2.881		
11,300.0	6,747.9	11,359.3	6,798.8	130.4	130.7	-94.06	-669.3	-4,460.4	734.1	473.8	260.32	2.820		
11,400.0	6,747.0	11,459.3	6,798.2	133.2	133.5	-94.08	-669.3	-4,560.4	734.1	468.2	265.88	2.761		
11,500.0	6,746.1	11,559.3	6,797.6	136.0	136.3	-94.10	-669.3	-4,660.4	734.1	462.7	271.44	2.705		
11,600.0	6,745.2	11,659.3	6,796.9	138.8	139.1	-94.12	-669.3	-4,760.4	734.1	457.1	277.00	2.650		
11,700.0	6,744.3	11,759.3	6,796.3	141.5	141.9	-94.14	-669.3	-4,860.4	734.2	451.6	282.57	2.598		
11,800.0	6,743.4	11,859.3	6,795.7	144.3	144.7	-94.16	-669.3	-4,960.4	734.2	446.1	288.13	2.548		
11,900.0	6,742.5	11,959.3	6,795.1	147.1	147.4	-94.19	-669.3	-5,060.4	734.2	440.5	293.70	2.500		
12,000.0	6,741.6	12,059.3	6,794.5	149.9	150.2	-94.21	-669.3	-5,160.4	734.2	435.0	299.26	2.453		
12,100.0	6,740.7	12,159.3	6,793.9	152.7	153.0	-94.23	-669.3	-5,260.4	734.2	429.4	304.83	2.409		
12,200.0	6,739.9	12,259.3	6,793.3	155.5	155.8	-94.25	-669.3	-5,360.4	734.3	423.9	310.40	2.366		
12,300.0	6,739.0	12,359.3	6,792.7	158.3	158.6	-94.27	-669.3	-5,460.4	734.3	418.3	315.97	2.324		
12,400.0	6,738.1	12,459.3	6,792.1	161.1	161.4	-94.29	-669.3	-5,560.4	734.3	412.8	321.54	2.284		
12,500.0	6,737.2	12,559.3	6,791.4	163.9	164.2	-94.32	-669.3	-5,660.4	734.3	407.2	327.11	2.245		
12,600.0	6,736.3	12,659.3	6,790.8	166.7	167.0	-94.34	-669.3	-5,760.4	734.4	401.7	332.68	2.207		
12,700.0	6,735.4	12,759.3	6,790.2	169.5	169.8	-94.36	-669.3	-5,860.4	734.4	396.1	338.25	2.171		
12,800.0	6,734.5	12,859.3	6,789.6	172.3	172.6	-94.38	-669.3	-5,960.4	734.4	390.6	343.82	2.136		
12,900.0	6,733.6	12,959.3	6,789.0	175.1	175.4	-94.40	-669.3	-6,060.4	734.4	385.0	349.39	2.102		
13,000.0	6,732.7	13,059.3	6,788.4	177.9	178.2	-94.42	-669.3	-6,160.4	734.4	379.5	354.97	2.069		
13,100.0	6,731.8	13,159.3	6,787.8	180.7	181.0	-94.45	-669.3	-6,260.3	734.5	373.9	360.54	2.037		
13,200.0	6,731.0	13,259.3	6,787.2	183.5	183.8	-94.47	-669.3	-6,360.3	734.5	368.4	366.11	2.006		
13,300.0	6,730.1	13,359.3	6,786.6	186.3	186.6	-94.49	-669.3	-6,460.3	734.5	362.8	371.69	1.976		
13,400.0	6,729.2	13,459.3	6,786.0	189.1	189.4	-94.51	-669.3	-6,560.3	734.5	357.3	377.26	1.947		
13,500.0	6,728.3	13,559.3	6,785.3	191.9	192.2	-94.53	-669.3	-6,660.3	734.5	351.7	382.83	1.919		
13,600.0	6,727.4	13,659.3	6,784.7	194.7	195.0	-94.55	-669.3	-6,760.3	734.6	346.2	388.41	1.891		
13,700.0	6,726.5	13,759.3	6,784.1	197.5	197.8	-94.58	-669.3	-6,860.3	734.6	340.6	393.98	1.865		
13,800.0	6,725.6	13,859.3	6,783.5	200.3	200.6	-94.60	-669.3	-6,960.3	734.6	335.1	399.56	1.839		
13,869.2	6,725.0	13,928.4	6,783.1	201.5	202.5	-94.61	-669.3	-7,029.5	734.6	331.9	402.72	1.824 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	129.27	-18.2	22.3	28.8				
100.0	100.0	99.0	99.0	0.1	0.1	129.27	-18.2	22.3	28.8	28.5	0.22	128.636	
200.0	200.0	199.0	199.0	0.3	0.3	129.27	-18.2	22.3	28.8	28.1	0.67	42.808	
300.0	300.0	299.0	299.0	0.6	0.6	129.27	-18.2	22.3	28.8	27.6	1.12	25.650	
400.0	400.0	399.0	399.0	0.8	0.8	129.27	-18.2	22.3	28.8	27.2	1.57	18.311	
500.0	500.0	499.0	499.0	1.0	1.0	129.27	-18.2	22.3	28.8	26.7	2.02	14.237	
600.0	600.0	599.0	599.0	1.2	1.2	129.27	-18.2	22.3	28.8	26.3	2.47	11.646	
700.0	700.0	699.0	699.0	1.5	1.5	129.27	-18.2	22.3	28.8	25.8	2.92	9.853	
800.0	800.0	799.0	799.0	1.7	1.7	129.27	-18.2	22.3	28.8	25.4	3.37	8.539	
900.0	900.0	899.0	899.0	1.9	1.9	129.27	-18.2	22.3	28.8	25.0	3.82	7.534	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	129.27	-18.2	22.3	28.8	24.5	4.27	6.740	
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	129.27	-18.2	22.3	28.8	24.1	4.72	6.098	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	129.27	-18.2	22.3	28.8	23.6	5.17	5.567	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	129.27	-18.2	22.3	28.8	23.2	5.62	5.122	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	129.27	-18.2	22.3	28.8	22.7	6.07	4.742	
1,500.0	1,500.0	1,499.0	1,499.0	3.3	3.3	129.27	-18.2	22.3	28.8	22.3	6.52	4.415	
1,600.0	1,600.0	1,599.0	1,599.0	3.5	3.5	129.27	-18.2	22.3	28.8	21.8	6.97	4.130 CC	
1,700.0	1,700.0	1,698.5	1,698.5	3.7	3.7	129.20	-18.7	22.9	29.6	22.2	7.39	4.007	
1,800.0	1,800.0	1,797.9	1,797.9	3.9	3.9	129.00	-20.3	25.0	32.2	24.4	7.80	4.129	
1,900.0	1,900.0	1,897.2	1,897.1	4.2	4.1	128.73	-22.8	28.5	36.5	28.3	8.21	4.447	
2,000.0	2,000.0	1,996.4	1,996.1	4.4	4.3	128.44	-26.4	33.3	42.6	33.9	8.63	4.932	
2,100.0	2,100.0	2,095.3	2,094.7	4.6	4.5	128.18	-31.0	39.4	50.3	41.3	9.06	5.556	
2,200.0	2,200.0	2,193.9	2,192.8	4.8	4.7	127.94	-36.6	46.9	59.8	50.3	9.50	6.299	
2,300.0	2,300.0	2,292.1	2,290.4	5.1	4.9	127.75	-43.2	55.7	71.0	61.1	9.95	7.140	
2,400.0	2,400.0	2,391.1	2,388.7	5.3	5.1	127.59	-50.5	65.5	83.3	72.9	10.41	8.005	
2,500.0	2,500.0	2,490.4	2,487.2	5.5	5.4	127.48	-57.8	75.4	95.7	84.8	10.88	8.791	
2,600.0	2,600.0	2,589.7	2,585.7	5.7	5.6	47.54	-65.1	85.2	107.4	96.3	11.16	9.623	
2,700.0	2,700.0	2,689.1	2,684.4	5.9	5.9	48.30	-72.4	95.0	118.0	106.5	11.58	10.196	
2,800.0	2,799.9	2,788.6	2,783.1	6.1	6.2	49.52	-79.8	104.9	127.5	115.5	11.99	10.633	
2,900.0	2,899.7	2,888.2	2,881.9	6.3	6.5	51.13	-87.1	114.7	136.0	123.6	12.42	10.951	
3,000.0	2,999.4	2,987.8	2,980.8	6.6	6.7	53.11	-94.5	124.6	143.5	130.6	12.85	11.169	
3,100.0	3,098.9	3,087.4	3,079.6	6.8	7.0	55.44	-101.8	134.4	150.2	136.9	13.29	11.300	
3,200.0	3,198.3	3,186.9	3,178.4	7.0	7.3	58.10	-109.2	144.3	156.1	142.4	13.74	11.361	
3,300.0	3,297.4	3,286.4	3,277.1	7.3	7.6	61.07	-116.5	154.1	161.6	147.4	14.22	11.368	
3,400.0	3,396.5	3,385.9	3,375.9	7.5	7.9	63.99	-123.8	164.0	167.4	152.7	14.72	11.376	
3,500.0	3,495.6	3,485.4	3,474.6	7.8	8.2	66.71	-131.2	173.8	173.6	158.3	15.23	11.399	
3,600.0	3,594.7	3,584.9	3,573.3	8.0	8.5	69.24	-138.5	183.7	180.1	164.3	15.75	11.435	
3,700.0	3,693.9	3,684.3	3,672.0	8.3	8.8	71.59	-145.9	193.5	187.0	170.7	16.29	11.480	
3,800.0	3,793.0	3,783.8	3,770.7	8.6	9.1	73.77	-153.2	203.4	194.1	177.3	16.83	11.531	
3,900.0	3,892.1	3,883.3	3,869.5	8.9	9.4	75.79	-160.5	213.2	201.5	184.1	17.39	11.588	
4,000.0	3,991.2	3,982.8	3,968.2	9.1	9.7	77.67	-167.9	223.1	209.2	191.2	17.96	11.649	
4,100.0	4,090.3	4,082.3	4,066.9	9.4	10.0	79.41	-175.2	232.9	217.0	198.5	18.53	11.712	
4,200.0	4,189.4	4,181.7	4,165.6	9.7	10.3	81.03	-182.6	242.8	225.0	205.9	19.11	11.777	
4,300.0	4,288.5	4,281.2	4,264.3	10.0	10.6	82.54	-189.9	252.6	233.2	213.6	19.69	11.843	
4,400.0	4,387.6	4,380.7	4,363.1	10.3	10.9	83.95	-197.2	262.5	241.6	221.3	20.29	11.910	
4,500.0	4,486.7	4,480.2	4,461.8	10.6	11.3	85.26	-204.6	272.3	250.1	229.2	20.88	11.976	
4,600.0	4,585.8	4,579.7	4,560.5	10.9	11.6	86.49	-211.9	282.2	258.7	237.2	21.48	12.043	
4,700.0	4,684.9	4,679.2	4,659.2	11.2	11.9	87.63	-219.3	292.0	267.4	245.3	22.09	12.108	
4,800.0	4,784.0	4,778.6	4,757.9	11.5	12.2	88.71	-226.6	301.9	276.3	253.6	22.69	12.173	
4,900.0	4,883.1	4,878.1	4,856.7	11.8	12.5	89.71	-233.9	311.7	285.2	261.9	23.30	12.237	
5,000.0	4,982.3	4,977.6	4,955.4	12.1	12.8	90.66	-241.3	321.6	294.2	270.2	23.91	12.300	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,081.4	5,077.1	5,054.1	12.4	13.1	91.55		-248.6	331.4	303.2	278.7	24.53	12.362	
5,200.0	5,180.5	5,177.1	5,153.3	12.7	13.5	92.39		-256.0	341.3	312.4	287.2	25.15	12.422	
5,300.0	5,279.6	5,284.8	5,260.4	13.0	13.7	93.54		-262.6	350.1	320.1	294.4	25.74	12.436	
5,400.0	5,378.7	5,392.4	5,367.8	13.4	13.9	95.17		-266.7	355.7	325.5	299.2	26.33	12.362	
5,500.0	5,477.9	5,499.7	5,475.1	13.7	14.1	97.18		-268.5	358.1	328.7	301.8	26.89	12.224	
5,600.0	5,577.4	5,601.0	5,576.4	13.9	14.3	98.86		-268.6	358.2	330.1	302.7	27.35	12.070	
5,700.0	5,677.2	5,700.8	5,676.2	14.1	14.5	99.91		-268.6	358.2	331.1	303.3	27.76	11.925	
5,800.0	5,777.2	5,800.8	5,776.2	14.3	14.6	100.35		-268.6	358.2	331.5	303.4	28.14	11.781	
5,900.0	5,877.2	5,900.8	5,876.2	14.4	14.8	-179.53		-268.6	358.2	331.5	305.1	26.40	12.559	
6,000.0	5,977.2	6,000.8	5,976.2	14.6	15.0	-179.53		-268.6	358.2	331.5	304.7	26.80	12.371	
6,100.0	6,077.1	6,100.7	6,076.1	14.8	15.2	-89.90		-268.6	358.2	331.5	302.3	29.22	11.346	
6,107.4	6,084.5	6,108.1	6,083.5	14.8	15.2	-90.00		-268.6	358.2	331.5	302.3	29.24	11.339	
6,200.0	6,176.1	6,200.7	6,176.0	14.9	15.3	-91.71		-268.6	354.7	331.7	302.3	29.41	11.277	
6,300.0	6,272.4	6,302.2	6,276.1	14.9	15.4	-93.58		-268.6	338.3	332.2	302.7	29.46	11.274	
6,400.0	6,364.3	6,405.2	6,374.5	14.9	15.4	-95.39		-268.6	308.3	333.0	303.6	29.44	11.313	
6,500.0	6,450.4	6,509.7	6,469.3	14.9	15.4	-97.12		-268.6	264.7	334.1	304.7	29.42	11.357	
6,600.0	6,529.1	6,615.6	6,558.5	15.1	15.4	-98.72		-268.6	207.6	335.4	305.9	29.54	11.354	
6,700.0	6,599.1	6,723.1	6,640.0	15.4	15.5	-100.17		-268.6	137.7	336.8	306.9	29.98	11.235	
6,800.0	6,659.2	6,831.8	6,711.7	16.0	15.7	-101.43		-268.6	56.0	338.3	307.3	30.92	10.941	
6,900.0	6,708.3	6,941.8	6,771.6	16.9	16.4	-102.48		-268.6	-36.1	339.6	307.1	32.50	10.447	
7,000.0	6,745.7	7,052.7	6,818.1	18.1	17.5	-103.30		-268.6	-136.7	340.7	305.8	34.82	9.783	
7,100.0	6,770.6	7,164.4	6,849.6	19.6	19.2	-103.87		-268.6	-243.7	341.5	303.6	37.85	9.022	
7,200.0	6,782.8	7,276.5	6,865.3	21.4	21.2	-104.18		-268.6	-354.6	341.9	300.5	41.45	8.249	
7,300.0	6,783.5	7,383.1	6,866.5	23.4	23.3	-104.22		-268.6	-461.2	342.0	296.6	45.38	7.536	
7,400.0	6,782.6	7,483.1	6,865.3	25.5	25.4	-104.18		-268.6	-561.2	341.9	292.4	49.50	6.908	
7,500.0	6,781.7	7,583.1	6,864.2	27.7	27.7	-104.14		-268.6	-661.2	341.9	288.0	53.86	6.347	
7,600.0	6,780.8	7,683.1	6,863.1	30.1	30.0	-104.11		-268.6	-761.1	341.8	283.4	58.41	5.852	
7,700.0	6,779.9	7,783.1	6,862.0	32.5	32.5	-104.07		-268.6	-861.1	341.8	278.7	63.11	5.416	
7,800.0	6,779.0	7,883.1	6,860.9	35.0	34.9	-104.03		-268.6	-961.1	341.7	273.8	67.92	5.031	
7,900.0	6,778.1	7,983.1	6,859.8	37.5	37.5	-104.00		-268.6	-1,061.1	341.7	268.8	72.83	4.691	
8,000.0	6,777.2	8,083.1	6,858.6	40.0	40.0	-103.96		-268.6	-1,161.1	341.6	263.8	77.82	4.390	
8,100.0	6,776.4	8,183.1	6,857.5	42.6	42.6	-103.92		-268.6	-1,261.1	341.6	258.7	82.87	4.121	
8,200.0	6,775.5	8,283.1	6,856.4	45.2	45.2	-103.89		-268.6	-1,361.1	341.5	253.5	87.97	3.882	
8,300.0	6,774.6	8,383.1	6,855.3	47.9	47.9	-103.85		-268.6	-1,461.1	341.4	248.3	93.12	3.667	
8,400.0	6,773.7	8,483.1	6,854.2	50.5	50.5	-103.81		-268.6	-1,561.1	341.4	243.1	98.31	3.473	
8,500.0	6,772.8	8,583.1	6,853.1	53.2	53.2	-103.77		-268.6	-1,661.1	341.3	237.8	103.53	3.297	
8,600.0	6,771.9	8,683.1	6,851.9	55.9	55.9	-103.74		-268.6	-1,761.1	341.3	232.5	108.77	3.138	
8,700.0	6,771.0	8,783.1	6,850.8	58.6	58.6	-103.70		-268.6	-1,861.1	341.2	227.2	114.04	2.992	
8,800.0	6,770.1	8,883.1	6,849.7	61.3	61.3	-103.66		-268.6	-1,961.1	341.2	221.8	119.33	2.859	
8,900.0	6,769.2	8,983.1	6,848.6	64.0	64.0	-103.63		-268.6	-2,061.1	341.1	216.5	124.64	2.737	
9,000.0	6,768.3	9,083.1	6,847.5	66.7	66.7	-103.59		-268.6	-2,161.1	341.1	211.1	129.97	2.624	
9,100.0	6,767.5	9,183.1	6,846.4	69.5	69.5	-103.55		-268.6	-2,261.1	341.0	205.7	135.31	2.520	
9,200.0	6,766.6	9,283.1	6,845.2	72.2	72.2	-103.52		-268.6	-2,361.0	341.0	200.3	140.67	2.424	
9,300.0	6,765.7	9,383.1	6,844.1	74.9	74.9	-103.48		-268.6	-2,461.0	340.9	194.9	146.03	2.334	
9,400.0	6,764.8	9,483.1	6,843.0	77.7	77.7	-103.44		-268.6	-2,561.0	340.9	189.4	151.41	2.251	
9,500.0	6,763.9	9,583.1	6,841.9	80.4	80.4	-103.40		-268.6	-2,661.0	340.8	184.0	156.80	2.173	
9,600.0	6,763.0	9,683.1	6,840.8	83.2	83.2	-103.37		-268.6	-2,761.0	340.7	178.6	162.19	2.101	
9,700.0	6,762.1	9,783.1	6,839.7	85.9	86.0	-103.33		-268.6	-2,861.0	340.7	173.1	167.60	2.033	
9,800.0	6,761.2	9,883.1	6,838.5	88.7	88.7	-103.29		-268.6	-2,961.0	340.6	167.6	173.01	1.969	
9,900.0	6,760.3	9,983.1	6,837.4	91.5	91.5	-103.26		-268.6	-3,061.0	340.6	162.2	178.43	1.909	
10,000.0	6,759.4	10,083.1	6,836.3	94.2	94.3	-103.22		-268.6	-3,161.0	340.5	156.7	183.86	1.852	

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,758.5	10,183.1	6,835.2	97.0	97.0	-103.18	-268.6	-3,261.0	340.5	151.2	189.29	1.799		
10,200.0	6,757.7	10,283.1	6,834.1	99.8	99.8	-103.14	-268.6	-3,361.0	340.4	145.7	194.73	1.748		
10,300.0	6,756.8	10,383.1	6,833.0	102.6	102.6	-103.11	-268.6	-3,461.0	340.4	140.2	200.17	1.700		
10,400.0	6,755.9	10,483.1	6,831.8	105.3	105.3	-103.07	-268.6	-3,561.0	340.3	134.7	205.62	1.655		
10,500.0	6,755.0	10,583.1	6,830.7	108.1	108.1	-103.03	-268.6	-3,661.0	340.3	129.2	211.08	1.612		
10,600.0	6,754.1	10,683.1	6,829.6	110.9	110.9	-103.00	-268.6	-3,761.0	340.2	123.7	216.54	1.571		
10,700.0	6,753.2	10,783.1	6,828.5	113.7	113.7	-102.96	-268.6	-3,860.9	340.2	118.2	222.00	1.532		
10,800.0	6,752.3	10,883.1	6,827.4	116.5	116.5	-102.92	-268.6	-3,960.9	340.1	112.7	227.47	1.495	Level 3	
10,900.0	6,751.4	10,983.1	6,826.3	119.2	119.3	-102.88	-268.6	-4,060.9	340.1	107.1	232.94	1.460	Level 3	
11,000.0	6,750.5	11,083.1	6,825.1	122.0	122.0	-102.85	-268.6	-4,160.9	340.0	101.6	238.41	1.426	Level 3	
11,100.0	6,749.6	11,183.1	6,824.0	124.8	124.8	-102.81	-268.6	-4,260.9	340.0	96.1	243.89	1.394	Level 3	
11,200.0	6,748.8	11,283.1	6,822.9	127.6	127.6	-102.77	-268.6	-4,360.9	339.9	90.6	249.37	1.363	Level 3	
11,300.0	6,747.9	11,383.1	6,821.8	130.4	130.4	-102.73	-268.6	-4,460.9	339.9	85.0	254.86	1.334	Level 3	
11,400.0	6,747.0	11,483.1	6,820.7	133.2	133.2	-102.70	-268.6	-4,560.9	339.8	79.5	260.35	1.305	Level 3	
11,500.0	6,746.1	11,583.1	6,819.5	136.0	136.0	-102.66	-268.6	-4,660.9	339.8	73.9	265.84	1.278	Level 3	
11,600.0	6,745.2	11,683.1	6,818.4	138.8	138.8	-102.62	-268.6	-4,760.9	339.7	68.4	271.33	1.252	Level 3	
11,700.0	6,744.3	11,783.1	6,817.3	141.5	141.6	-102.58	-268.6	-4,860.9	339.7	62.9	276.83	1.227	Level 2	
11,800.0	6,743.4	11,883.1	6,816.2	144.3	144.4	-102.55	-268.6	-4,960.9	339.6	57.3	282.33	1.203	Level 2	
11,900.0	6,742.5	11,983.1	6,815.1	147.1	147.1	-102.51	-268.6	-5,060.9	339.6	51.7	287.83	1.180	Level 2	
12,000.0	6,741.6	12,083.1	6,814.0	149.9	149.9	-102.47	-268.6	-5,160.9	339.5	46.2	293.34	1.157	Level 2	
12,100.0	6,740.7	12,183.1	6,812.8	152.7	152.7	-102.44	-268.6	-5,260.9	339.5	40.6	298.84	1.136	Level 2	
12,200.0	6,739.9	12,283.1	6,811.7	155.5	155.5	-102.40	-268.6	-5,360.9	339.4	35.1	304.35	1.115	Level 2	
12,300.0	6,739.0	12,383.1	6,810.6	158.3	158.3	-102.36	-268.6	-5,460.8	339.4	29.5	309.87	1.095	Level 2	
12,400.0	6,738.1	12,483.1	6,809.5	161.1	161.1	-102.32	-268.6	-5,560.8	339.3	24.0	315.38	1.076	Level 2	
12,500.0	6,737.2	12,583.1	6,808.4	163.9	163.9	-102.29	-268.6	-5,660.8	339.3	18.4	320.90	1.057	Level 2	
12,600.0	6,736.3	12,683.1	6,807.3	166.7	166.7	-102.25	-268.6	-5,760.8	339.2	12.8	326.42	1.039	Level 2	
12,700.0	6,735.4	12,783.1	6,806.1	169.5	169.5	-102.21	-268.6	-5,860.8	339.2	7.3	331.94	1.022	Level 2	
12,800.0	6,734.5	12,883.1	6,805.0	172.3	172.3	-102.17	-268.6	-5,960.8	339.1	1.7	337.46	1.005	Level 2	
12,900.0	6,733.6	12,983.1	6,803.9	175.1	175.1	-102.14	-268.6	-6,060.8	339.1	-3.9	342.99	0.989	Level 1	
13,000.0	6,732.7	13,083.1	6,802.8	177.9	177.9	-102.10	-268.6	-6,160.8	339.0	-9.5	348.52	0.973	Level 1	
13,100.0	6,731.8	13,183.1	6,801.7	180.7	180.7	-102.06	-268.6	-6,260.8	339.0	-15.0	354.04	0.958	Level 1	
13,200.0	6,731.0	13,283.1	6,800.6	183.5	183.5	-102.02	-268.6	-6,360.8	339.0	-20.6	359.58	0.943	Level 1	
13,300.0	6,730.1	13,383.1	6,799.4	186.3	186.3	-101.99	-268.6	-6,460.8	338.9	-26.2	365.11	0.928	Level 1	
13,400.0	6,729.2	13,483.1	6,798.3	189.1	189.1	-101.95	-268.6	-6,560.8	338.9	-31.8	370.65	0.914	Level 1	
13,500.0	6,728.3	13,583.1	6,797.2	191.9	191.9	-101.91	-268.6	-6,660.8	338.8	-37.4	376.18	0.901	Level 1	
13,600.0	6,727.4	13,683.1	6,796.1	194.7	194.7	-101.87	-268.6	-6,760.8	338.8	-43.0	381.72	0.887	Level 1	
13,700.0	6,726.5	13,783.1	6,795.0	197.5	197.5	-101.84	-268.6	-6,860.8	338.7	-48.5	387.26	0.875	Level 1	
13,800.0	6,725.6	13,883.1	6,793.9	200.3	200.3	-101.80	-268.6	-6,960.7	338.7	-54.1	392.81	0.862	Level 1	
13,869.2	6,725.0	13,952.2	6,793.1	201.5	202.2	-101.77	-268.6	-7,029.9	338.6	-57.3	395.96	0.855	Level 1, ES, SF	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS F01-28D Sec.36-T6N-R65W - LDS F01-28D - LDS F01-28D - LDS F01-28D													Offset Site Error:	0.0 ft
Survey Program: 612-Reference													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,200.0	6,775.5	6,970.5	6,793.5	45.2	26.9	92.48	574.4	-2,159.8	949.3	877.3	71.99	13.186		
8,300.0	6,774.6	6,967.3	6,790.2	47.9	26.9	92.12	574.4	-2,159.9	866.8	792.1	74.64	11.612		
8,400.0	6,773.7	6,964.1	6,787.0	50.5	26.9	91.76	574.4	-2,160.0	788.3	711.0	77.31	10.196		
8,500.0	6,772.8	6,960.9	6,783.9	53.2	26.9	91.41	574.4	-2,160.0	715.2	635.2	79.99	8.940		
8,600.0	6,771.9	6,957.8	6,780.8	55.9	26.9	91.06	574.3	-2,160.1	649.2	566.5	82.69	7.852		
8,700.0	6,771.0	6,954.8	6,777.8	58.6	26.9	90.72	574.3	-2,160.2	592.9	507.5	85.39	6.943		
8,800.0	6,770.1	6,951.8	6,774.8	61.3	26.9	90.38	574.3	-2,160.2	549.1	461.0	88.10	6.233		
8,900.0	6,769.2	6,948.8	6,771.8	64.0	26.9	90.05	574.3	-2,160.3	521.1	430.2	90.81	5.738		
9,000.0	6,768.3	6,945.9	6,768.9	66.7	26.9	89.73	574.3	-2,160.3	511.3	417.8	93.54	5.467		
9,000.2	6,768.3	6,945.9	6,768.9	66.7	26.9	89.73	574.3	-2,160.3	511.3	417.8	93.54	5.466 CC, ES		
9,100.0	6,767.5	6,943.1	6,766.1	69.5	26.9	89.41	574.3	-2,160.4	521.0	424.7	96.26	5.412 SF		
9,200.0	6,766.6	6,940.2	6,763.2	72.2	26.9	89.09	574.3	-2,160.5	549.0	450.0	98.99	5.546		
9,300.0	6,765.7	6,937.5	6,760.5	74.9	26.9	88.78	574.2	-2,160.5	592.7	491.0	101.72	5.827		
9,400.0	6,764.8	6,934.7	6,757.7	77.7	26.9	88.48	574.2	-2,160.6	649.0	544.5	104.45	6.213		
9,500.0	6,763.9	6,932.0	6,755.0	80.4	26.9	88.17	574.2	-2,160.6	714.9	607.7	107.19	6.669		
9,600.0	6,763.0	6,929.4	6,752.4	83.2	26.9	87.88	574.2	-2,160.7	788.0	678.1	109.92	7.169		
9,700.0	6,762.1	6,926.8	6,749.8	85.9	26.9	87.58	574.2	-2,160.7	866.5	753.8	112.66	7.691		
9,800.0	6,761.2	6,924.2	6,747.2	88.7	26.9	87.30	574.2	-2,160.8	949.0	833.6	115.39	8.224		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS F01-30D Sec.36-T6N-R65W - LDS F01-30D - LDS F01-30D - LDS F01-30D													Offset Site Error:	0.0 ft
Survey Program: 611-Reference													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis 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	
10,800.0	6,752.3	6,946.1	6,767.4	116.5	25.8	91.28	533.1	-4,797.2	960.1	827.6	132.52	7.245		
10,900.0	6,751.4	6,946.0	6,767.2	119.2	25.8	91.26	533.1	-4,797.2	874.3	739.0	135.31	6.462		
11,000.0	6,750.5	6,945.8	6,767.1	122.0	25.8	91.24	533.1	-4,797.2	791.8	653.7	138.09	5.734		
11,100.0	6,749.6	6,945.7	6,766.9	124.8	25.8	91.23	533.1	-4,797.2	713.8	573.0	140.88	5.067		
11,200.0	6,748.8	6,945.6	6,766.8	127.6	25.8	91.21	533.1	-4,797.2	642.0	498.3	143.66	4.469		
11,300.0	6,747.9	6,945.5	6,766.7	130.4	25.8	91.20	533.1	-4,797.2	578.6	432.1	146.45	3.951		
11,400.0	6,747.0	6,945.3	6,766.6	133.2	25.8	91.18	533.1	-4,797.2	526.6	377.4	149.24	3.529		
11,500.0	6,746.1	6,945.2	6,766.4	136.0	25.8	91.17	533.1	-4,797.2	489.8	337.8	152.03	3.222		
11,600.0	6,745.2	6,945.1	6,766.3	138.8	25.8	91.15	533.1	-4,797.2	471.7	316.9	154.82	3.047		
11,637.1	6,744.9	6,945.1	6,766.3	139.8	25.8	91.15	533.1	-4,797.2	470.2	314.4	155.85	3.017 CC, ES		
11,700.0	6,744.3	6,945.0	6,766.2	141.5	25.8	91.14	533.1	-4,797.2	474.4	316.8	157.61	3.010 SF		
11,800.0	6,743.4	6,944.9	6,766.1	144.3	25.8	91.12	533.1	-4,797.2	497.6	337.2	160.40	3.103		
11,900.0	6,742.5	6,944.8	6,766.0	147.1	25.8	91.11	533.1	-4,797.2	538.7	375.5	163.19	3.301		
12,000.0	6,741.6	6,944.6	6,765.9	149.9	25.8	91.10	533.1	-4,797.2	594.0	428.0	165.98	3.579		
12,100.0	6,740.7	6,944.5	6,765.8	152.7	25.8	91.09	533.1	-4,797.2	659.9	491.1	168.78	3.910		
12,200.0	6,739.9	6,944.4	6,765.7	155.5	25.8	91.07	533.1	-4,797.2	733.5	561.9	171.57	4.275		
12,300.0	6,739.0	6,944.3	6,765.6	158.3	25.8	91.06	533.1	-4,797.2	812.8	638.4	174.37	4.661		
12,400.0	6,738.1	6,944.2	6,765.5	161.1	25.8	91.05	533.1	-4,797.2	896.2	719.0	177.16	5.059		
12,500.0	6,737.2	6,944.1	6,765.4	163.9	25.8	91.04	533.1	-4,797.2	982.7	802.8	179.96	5.461		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 2RD - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 699-MWD												<b>Offset Well Error:</b>	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
12,100.0	6,740.7	6,930.7	6,794.8	152.7	22.3	98.42	429.1	-6,176.3	987.8	821.7	166.05	5.949	
12,200.0	6,739.9	6,923.3	6,787.5	155.5	22.3	97.30	428.8	-6,176.8	895.8	726.6	169.28	5.292	
12,300.0	6,739.0	6,916.0	6,780.2	158.3	22.3	96.18	428.6	-6,177.2	805.7	633.3	172.45	4.672	
12,400.0	6,738.1	6,908.8	6,773.0	161.1	22.3	95.07	428.4	-6,177.7	718.2	542.6	175.58	4.090	
12,500.0	6,737.2	6,901.6	6,765.9	163.9	22.3	93.96	428.2	-6,178.1	634.2	455.6	178.66	3.550	
12,600.0	6,736.3	6,894.6	6,758.8	166.7	22.3	92.86	428.0	-6,178.5	555.5	373.9	181.68	3.058	
12,700.0	6,735.4	6,887.6	6,751.8	169.5	22.3	91.77	427.8	-6,179.0	484.7	300.0	184.64	2.625	
12,800.0	6,734.5	6,880.7	6,744.9	172.3	22.3	90.69	427.6	-6,179.4	425.5	238.0	187.54	2.269	
12,900.0	6,733.6	6,873.8	6,738.1	175.1	22.3	89.62	427.4	-6,179.8	383.6	193.2	190.39	2.015	
13,000.0	6,732.7	6,867.1	6,731.4	177.9	22.2	88.55	427.2	-6,180.2	364.9	171.7	193.17	1.889	
13,020.4	6,732.6	6,865.7	6,730.0	178.5	22.2	88.34	427.1	-6,180.3	364.3	170.6	193.73	1.881	CC, ES, SF
13,100.0	6,731.8	6,860.4	6,724.7	180.7	22.2	87.50	427.0	-6,180.6	372.9	177.0	195.90	1.904	
13,200.0	6,731.0	6,853.8	6,718.1	183.5	22.2	86.47	426.8	-6,181.0	406.0	207.5	198.56	2.045	
13,300.0	6,730.1	6,849.0	6,713.3	186.3	22.2	85.72	426.7	-6,181.2	458.9	257.7	201.22	2.281	
13,400.0	6,729.2	6,841.3	6,705.7	189.1	22.2	84.52	426.4	-6,181.7	525.6	321.9	203.72	2.580	
13,500.0	6,728.3	6,835.5	6,699.8	191.9	22.2	83.60	426.3	-6,182.0	601.5	395.3	206.23	2.917	
13,600.0	6,727.4	6,829.7	6,694.0	194.7	22.2	82.70	426.1	-6,182.3	683.6	474.9	208.69	3.276	
13,700.0	6,726.5	6,823.9	6,688.3	197.5	22.2	81.82	426.0	-6,182.7	769.9	558.8	211.10	3.647	
13,800.0	6,725.6	6,818.3	6,682.7	200.3	22.2	80.95	425.9	-6,183.0	859.1	645.6	213.45	4.025	
13,869.2	6,725.0	6,814.5	6,678.9	201.5	22.2	80.35	425.8	-6,183.2	922.1	707.7	214.37	4.301	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 31-2D - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 700-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	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)			
12,800.0	6,734.5	6,874.0	6,767.0	172.3	21.2	-98.11	-165.5	-6,870.2	938.8	747.9	190.86	4.919	
12,900.0	6,733.6	6,869.3	6,762.3	175.1	21.2	-96.95	-165.4	-6,870.4	842.2	648.1	194.08	4.339	
13,000.0	6,732.7	6,864.7	6,757.7	177.9	21.2	-95.81	-165.2	-6,870.5	746.5	549.2	197.23	3.785	
13,100.0	6,731.8	6,860.1	6,753.1	180.7	21.2	-94.69	-165.1	-6,870.7	652.0	451.7	200.32	3.255	
13,200.0	6,731.0	6,855.7	6,748.7	183.5	21.2	-93.58	-165.0	-6,870.8	559.5	356.1	203.35	2.751	
13,300.0	6,730.1	6,851.3	6,744.3	186.3	21.2	-92.49	-164.9	-6,871.0	469.9	263.6	206.31	2.278	
13,400.0	6,729.2	6,847.0	6,740.0	189.1	21.2	-91.41	-164.7	-6,871.1	385.5	176.3	209.20	1.843	
13,500.0	6,728.3	6,842.8	6,735.8	191.9	21.2	-90.35	-164.6	-6,871.2	310.5	98.5	212.03	1.464 Level 3	
13,600.0	6,727.4	6,838.7	6,731.7	194.7	21.2	-89.31	-164.5	-6,871.4	253.3	38.5	214.80	1.179 Level 2	
13,700.0	6,726.5	6,834.6	6,727.6	197.5	21.2	-88.29	-164.3	-6,871.5	227.7	10.2	217.50	1.047 Level 2	
13,711.5	6,726.4	6,834.1	6,727.1	197.8	21.2	-88.17	-164.3	-6,871.5	227.4	9.6	217.80	1.044 Level 2, CC, ES, SF	
13,800.0	6,725.6	6,830.6	6,723.6	200.3	21.2	-87.28	-164.2	-6,871.6	243.9	23.8	220.13	1.108 Level 2	
13,869.2	6,725.0	6,827.9	6,720.9	201.5	21.2	-86.59	-164.1	-6,871.7	276.6	55.4	221.23	1.250 Level 3	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4652.0ft (RKB - 13')

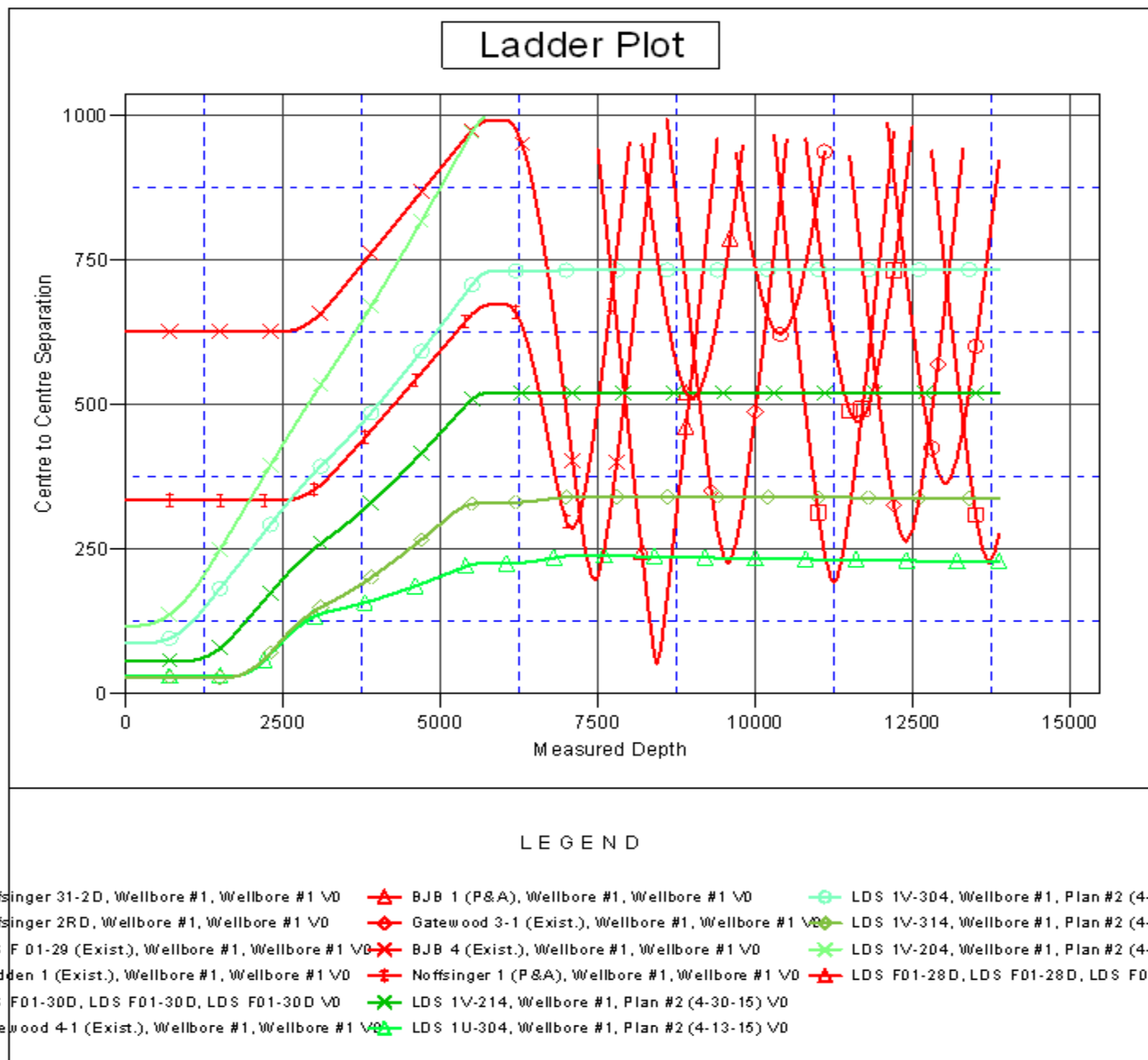
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1U-234

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 LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4652.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1U-234	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4652.0ft (RKB - 13')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1U-234

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

