

# 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

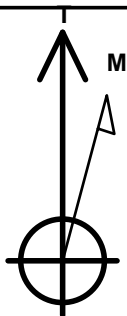
Ground Elevation: 4639.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1402146.95	3249639.19	40.433830	-104.603200	

Original Well Elev WELL @ 4654.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 467'FNL & 410'FEL, Sec.1	1.0	0.0	0.0	Point
BHL 303'FNL & 2145'FEL, Sec.2	6725.0	172.2	-7029.1	Point



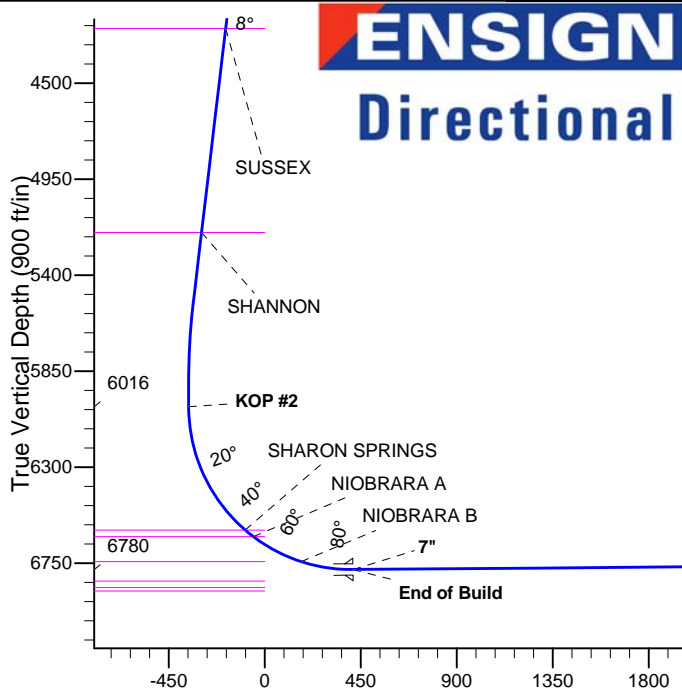
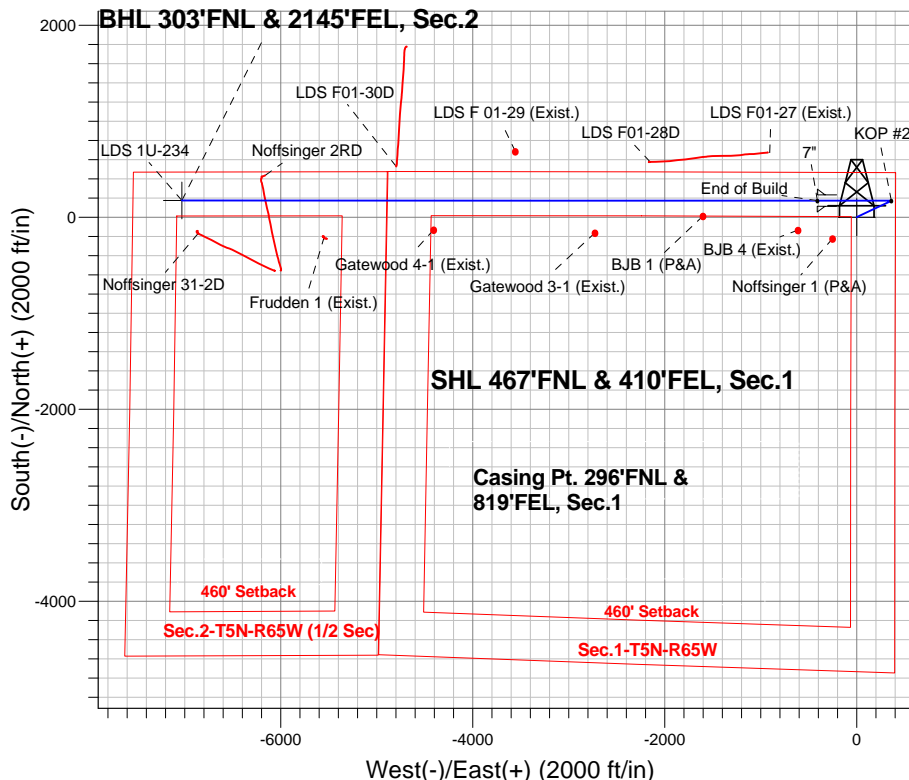
Azimuths to True North  
Magnetic North: 8.35°

Magnetic Field  
Strength: 52827.8srT  
Dip Angle: 66.99°  
Date: 9/4/2014  
Model: IGRF2010

LDS 5N65W1U Pad Sec.1-T5N-R65W  
LDS 1U-234  
Plan #1 (9-4-14)

## ANNOTATIONS

TVD	MD	Annotation
2500.0	2500.0	KOP #1
6016.5	6041.7	KOP #2
6780.5	7248.1	End of Build



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	
3	2876.4	7.53	64.62	2875.3	10.6	22.3	2.00	64.62	-22.0	
4	5548.8	7.53	64.62	5524.7	160.7	338.6	0.00	0.00	-334.6	
5	5925.2	0.00	0.00	5900.0	171.2	360.9	2.00	180.00	-356.6	
6	6041.7	0.00	0.00	6016.5	171.2	360.9	0.00	0.00	-356.6	
7	7248.1	90.48	270.01	6780.5	171.3	-409.4	7.50	270.01	413.5	
8	13868.0	90.48	270.01	6725.0	172.2	-7029.1	0.00	0.00	7031.2	BHL 303'FNL & 2145'FEL, Sec.2

**BHL 303'FNL & 2145'FEL, Sec.2**

Vertical Section at 271.40° (900 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.1-T5N-R65W**

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

**LDS 1U-234**

**Wellbore #1**

**Plan: Plan #1 (9-4-14)**

## **Standard Planning Report**

**18 September, 2014**

<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 @ 4654.0ft (Original Well Elev)
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)		

<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

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

<b>Well</b>	LDS 1U-234		
<b>Well Position</b>	<b>+N/-S</b>	83.8 ft	<b>Northing:</b>
	<b>+E/-W</b>	-83.5 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			40.433830
			<b>Longitude:</b>
			-104.603200
			<b>Ground Level:</b>
			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	9/4/2014	8.35	66.99	52,828

<b>Design</b>	Plan #1 (9-4-14)			
<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	271.40

<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	
2,876.4	7.53	64.62	2,875.3	10.6	22.3	2.00	2.00	0.00	64.62	
5,548.8	7.53	64.62	5,524.7	160.7	338.6	0.00	0.00	0.00	0.00	
5,925.2	0.00	0.00	5,900.0	171.2	360.9	2.00	-2.00	0.00	180.00	
6,041.7	0.00	0.00	6,016.5	171.2	360.9	0.00	0.00	0.00	0.00	
7,248.1	90.48	270.01	6,780.5	171.3	-409.4	7.50	7.50	0.00	270.01	
13,868.0	90.48	270.01	6,725.0	172.2	-7,029.1	0.00	0.00	0.00	0.00	BHL 303'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 @ 4654.0ft (Original Well Elev)
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)		

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	2.00	64.62	2,600.0	0.7	1.6	-1.6	2.00	2.00	0.00
2,700.0	4.00	64.62	2,699.8	3.0	6.3	-6.2	2.00	2.00	0.00
2,800.0	6.00	64.62	2,799.5	6.7	14.2	-14.0	2.00	2.00	0.00
2,876.4	7.53	64.62	2,875.3	10.6	22.3	-22.0	2.00	2.00	0.00
2,900.0	7.53	64.62	2,898.7	11.9	25.1	-24.8	0.00	0.00	0.00
3,000.0	7.53	64.62	2,997.9	17.5	36.9	-36.5	0.00	0.00	0.00
3,100.0	7.53	64.62	3,097.0	23.1	48.8	-48.2	0.00	0.00	0.00
3,200.0	7.53	64.62	3,196.1	28.8	60.6	-59.9	0.00	0.00	0.00
3,300.0	7.53	64.62	3,295.3	34.4	72.4	-71.6	0.00	0.00	0.00
3,400.0	7.53	64.62	3,394.4	40.0	84.3	-83.3	0.00	0.00	0.00
3,492.4	7.53	64.62	3,486.0	45.2	95.2	-94.1	0.00	0.00	0.00
<b>PARKMAN</b>									
3,500.0	7.53	64.62	3,493.5	45.6	96.1	-95.0	0.00	0.00	0.00
3,600.0	7.53	64.62	3,592.7	51.2	107.9	-106.7	0.00	0.00	0.00
3,700.0	7.53	64.62	3,691.8	56.8	119.8	-118.4	0.00	0.00	0.00
3,800.0	7.53	64.62	3,791.0	62.4	131.6	-130.0	0.00	0.00	0.00
3,900.0	7.53	64.62	3,890.1	68.1	143.5	-141.7	0.00	0.00	0.00
4,000.0	7.53	64.62	3,989.2	73.7	155.3	-153.4	0.00	0.00	0.00
4,100.0	7.53	64.62	4,088.4	79.3	167.1	-165.1	0.00	0.00	0.00
4,200.0	7.53	64.62	4,187.5	84.9	179.0	-176.8	0.00	0.00	0.00
4,257.0	7.53	64.62	4,244.0	88.1	185.7	-183.5	0.00	0.00	0.00
<b>SUSSEX</b>									
4,300.0	7.53	64.62	4,286.7	90.5	190.8	-188.5	0.00	0.00	0.00
4,400.0	7.53	64.62	4,385.8	96.1	202.6	-200.2	0.00	0.00	0.00
4,500.0	7.53	64.62	4,484.9	101.8	214.5	-211.9	0.00	0.00	0.00
4,600.0	7.53	64.62	4,584.1	107.4	226.3	-223.6	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 @ 4654.0ft (Original Well Elev)
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)		

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	7.53	64.62	4,683.2	113.0	238.1	-235.3	0.00	0.00	0.00
4,800.0	7.53	64.62	4,782.3	118.6	250.0	-247.0	0.00	0.00	0.00
4,900.0	7.53	64.62	4,881.5	124.2	261.8	-258.7	0.00	0.00	0.00
5,000.0	7.53	64.62	4,980.6	129.8	273.6	-270.4	0.00	0.00	0.00
5,100.0	7.53	64.62	5,079.8	135.4	285.5	-282.1	0.00	0.00	0.00
5,200.0	7.53	64.62	5,178.9	141.1	297.3	-293.8	0.00	0.00	0.00
5,221.3	7.53	64.62	5,200.0	142.3	299.8	-296.3	0.00	0.00	0.00
<b>SHANNON</b>									
5,300.0	7.53	64.62	5,278.0	146.7	309.1	-305.5	0.00	0.00	0.00
5,400.0	7.53	64.62	5,377.2	152.3	321.0	-317.2	0.00	0.00	0.00
5,500.0	7.53	64.62	5,476.3	157.9	332.8	-328.8	0.00	0.00	0.00
5,548.8	7.53	64.62	5,524.7	160.7	338.6	-334.6	0.00	0.00	0.00
5,600.0	6.50	64.62	5,575.5	163.3	344.2	-340.1	2.00	-2.00	0.00
5,700.0	4.50	64.62	5,675.0	167.4	352.9	-348.7	2.00	-2.00	0.00
5,800.0	2.50	64.62	5,774.8	170.1	358.4	-354.2	2.00	-2.00	0.00
5,900.0	0.50	64.62	5,874.8	171.2	360.8	-356.5	2.00	-2.00	0.00
5,925.2	0.00	0.00	5,900.0	171.2	360.9	-356.6	2.00	-2.00	0.00
6,000.0	0.00	0.00	5,974.8	171.2	360.9	-356.6	0.00	0.00	0.00
6,041.7	0.00	0.00	6,016.5	171.2	360.9	-356.6	0.00	0.00	0.00
<b>KOP #2</b>									
6,100.0	4.37	270.01	6,074.8	171.2	358.7	-354.4	7.50	7.50	0.00
6,200.0	11.87	270.01	6,173.7	171.2	344.6	-340.3	7.50	7.50	0.00
6,300.0	19.37	270.01	6,269.9	171.2	317.7	-313.4	7.50	7.50	0.00
6,400.0	26.87	270.01	6,361.8	171.2	278.4	-274.1	7.50	7.50	0.00
6,500.0	34.37	270.01	6,447.8	171.3	227.5	-223.3	7.50	7.50	0.00
6,600.0	41.87	270.01	6,526.4	171.3	165.8	-161.6	7.50	7.50	0.00
6,698.0	49.22	270.01	6,595.0	171.3	95.9	-91.7	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
6,700.0	49.37	270.01	6,596.3	171.3	94.4	-90.2	7.50	7.50	0.00
6,747.3	52.92	270.01	6,626.0	171.3	57.6	-53.4	7.50	7.50	0.00
<b>NIORARA A</b>									
6,800.0	56.87	270.01	6,656.3	171.3	14.5	-10.3	7.50	7.50	0.00
6,900.0	64.37	270.01	6,705.3	171.3	-72.6	76.8	7.50	7.50	0.00
7,000.0	71.87	270.01	6,742.6	171.3	-165.3	169.5	7.50	7.50	0.00
7,001.4	71.98	270.01	6,743.0	171.3	-166.7	170.8	7.50	7.50	0.00
<b>NIORARA B</b>									
7,100.0	79.37	270.01	6,767.4	171.3	-262.1	266.2	7.50	7.50	0.00
7,200.0	86.87	270.01	6,779.3	171.3	-361.3	365.4	7.50	7.50	0.00
7,248.1	90.48	270.01	6,780.5	171.3	-409.4	413.5	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,300.0	90.48	270.01	6,780.0	171.3	-461.3	465.4	0.01	0.01	0.00
7,400.0	90.48	270.01	6,779.2	171.4	-561.3	565.3	0.00	0.00	0.00
7,500.0	90.48	270.01	6,778.3	171.4	-661.3	665.3	0.00	0.00	0.00
7,600.0	90.48	270.01	6,777.5	171.4	-761.3	765.3	0.00	0.00	0.00
7,700.0	90.48	270.01	6,776.7	171.4	-861.3	865.2	0.00	0.00	0.00
7,800.0	90.48	270.01	6,775.8	171.4	-961.3	965.2	0.00	0.00	0.00
7,900.0	90.48	270.01	6,775.0	171.4	-1,061.3	1,065.2	0.00	0.00	0.00
8,000.0	90.48	270.01	6,774.2	171.4	-1,161.3	1,165.1	0.00	0.00	0.00
8,100.0	90.48	270.01	6,773.3	171.5	-1,261.3	1,265.1	0.00	0.00	0.00
8,200.0	90.48	270.01	6,772.5	171.5	-1,361.3	1,365.1	0.00	0.00	0.00
8,300.0	90.48	270.01	6,771.6	171.5	-1,461.3	1,465.0	0.00	0.00	0.00
8,400.0	90.48	270.01	6,770.8	171.5	-1,561.3	1,565.0	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 @ 4654.0ft (Original Well Elev)
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)		

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	90.48	270.01	6,770.0	171.5	-1,661.3	1,665.0	0.00	0.00	0.00
8,600.0	90.48	270.01	6,769.1	171.5	-1,761.3	1,764.9	0.00	0.00	0.00
8,700.0	90.48	270.01	6,768.3	171.5	-1,861.3	1,864.9	0.00	0.00	0.00
8,800.0	90.48	270.01	6,767.5	171.5	-1,961.3	1,964.9	0.00	0.00	0.00
8,900.0	90.48	270.01	6,766.6	171.6	-2,061.3	2,064.8	0.00	0.00	0.00
9,000.0	90.48	270.01	6,765.8	171.6	-2,161.2	2,164.8	0.00	0.00	0.00
9,100.0	90.48	270.01	6,764.9	171.6	-2,261.2	2,264.8	0.00	0.00	0.00
9,200.0	90.48	270.01	6,764.1	171.6	-2,361.2	2,364.7	0.00	0.00	0.00
9,300.0	90.48	270.01	6,763.3	171.6	-2,461.2	2,464.7	0.00	0.00	0.00
9,400.0	90.48	270.01	6,762.4	171.6	-2,561.2	2,564.7	0.00	0.00	0.00
9,500.0	90.48	270.01	6,761.6	171.6	-2,661.2	2,664.6	0.00	0.00	0.00
9,600.0	90.48	270.01	6,760.8	171.7	-2,761.2	2,764.6	0.00	0.00	0.00
9,700.0	90.48	270.01	6,759.9	171.7	-2,861.2	2,864.6	0.00	0.00	0.00
9,800.0	90.48	270.01	6,759.1	171.7	-2,961.2	2,964.5	0.00	0.00	0.00
9,900.0	90.48	270.01	6,758.2	171.7	-3,061.2	3,064.5	0.00	0.00	0.00
10,000.0	90.48	270.01	6,757.4	171.7	-3,161.2	3,164.5	0.00	0.00	0.00
10,100.0	90.48	270.01	6,756.6	171.7	-3,261.2	3,264.4	0.00	0.00	0.00
10,200.0	90.48	270.01	6,755.7	171.7	-3,361.2	3,364.4	0.00	0.00	0.00
10,300.0	90.48	270.01	6,754.9	171.8	-3,461.2	3,464.4	0.00	0.00	0.00
10,400.0	90.48	270.01	6,754.1	171.8	-3,561.2	3,564.3	0.00	0.00	0.00
10,500.0	90.48	270.01	6,753.2	171.8	-3,661.2	3,664.3	0.00	0.00	0.00
10,600.0	90.48	270.01	6,752.4	171.8	-3,761.2	3,764.3	0.00	0.00	0.00
10,700.0	90.48	270.01	6,751.5	171.8	-3,861.2	3,864.2	0.00	0.00	0.00
10,800.0	90.48	270.01	6,750.7	171.8	-3,961.2	3,964.2	0.00	0.00	0.00
10,900.0	90.48	270.01	6,749.9	171.8	-4,061.2	4,064.2	0.00	0.00	0.00
11,000.0	90.48	270.01	6,749.0	171.8	-4,161.2	4,164.1	0.00	0.00	0.00
11,100.0	90.48	270.01	6,748.2	171.9	-4,261.2	4,264.1	0.00	0.00	0.00
11,200.0	90.48	270.01	6,747.4	171.9	-4,361.2	4,364.1	0.00	0.00	0.00
11,300.0	90.48	270.01	6,746.5	171.9	-4,461.2	4,464.0	0.00	0.00	0.00
11,400.0	90.48	270.01	6,745.7	171.9	-4,561.2	4,564.0	0.00	0.00	0.00
11,500.0	90.48	270.01	6,744.8	171.9	-4,661.2	4,664.0	0.00	0.00	0.00
11,600.0	90.48	270.01	6,744.0	171.9	-4,761.2	4,763.9	0.00	0.00	0.00
11,700.0	90.48	270.01	6,743.2	171.9	-4,861.2	4,863.9	0.00	0.00	0.00
11,800.0	90.48	270.01	6,742.3	172.0	-4,961.2	4,963.9	0.00	0.00	0.00
11,900.0	90.48	270.01	6,741.5	172.0	-5,061.1	5,063.8	0.00	0.00	0.00
12,000.0	90.48	270.01	6,740.6	172.0	-5,161.1	5,163.8	0.00	0.00	0.00
12,100.0	90.48	270.01	6,739.8	172.0	-5,261.1	5,263.8	0.00	0.00	0.00
12,200.0	90.48	270.01	6,739.0	172.0	-5,361.1	5,363.7	0.00	0.00	0.00
12,300.0	90.48	270.01	6,738.1	172.0	-5,461.1	5,463.7	0.00	0.00	0.00
12,400.0	90.48	270.01	6,737.3	172.0	-5,561.1	5,563.7	0.00	0.00	0.00
12,500.0	90.48	270.01	6,736.5	172.0	-5,661.1	5,663.6	0.00	0.00	0.00
12,600.0	90.48	270.01	6,735.6	172.1	-5,761.1	5,763.6	0.00	0.00	0.00
12,700.0	90.48	270.01	6,734.8	172.1	-5,861.1	5,863.6	0.00	0.00	0.00
12,800.0	90.48	270.01	6,733.9	172.1	-5,961.1	5,963.5	0.00	0.00	0.00
12,900.0	90.48	270.01	6,733.1	172.1	-6,061.1	6,063.5	0.00	0.00	0.00
13,000.0	90.48	270.01	6,732.3	172.1	-6,161.1	6,163.5	0.00	0.00	0.00
13,100.0	90.48	270.01	6,731.4	172.1	-6,261.1	6,263.4	0.00	0.00	0.00
13,200.0	90.48	270.01	6,730.6	172.1	-6,361.1	6,363.4	0.00	0.00	0.00
13,300.0	90.48	270.01	6,729.8	172.2	-6,461.1	6,463.4	0.00	0.00	0.00
13,400.0	90.48	270.01	6,728.9	172.2	-6,561.1	6,563.3	0.00	0.00	0.00
13,500.0	90.48	270.01	6,728.1	172.2	-6,661.1	6,663.3	0.00	0.00	0.00
13,600.0	90.48	270.01	6,727.2	172.2	-6,761.1	6,763.3	0.00	0.00	0.00
13,700.0	90.48	270.01	6,726.4	172.2	-6,861.1	6,863.2	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 @ 4654.0ft (Original Well Elev)
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)		

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	90.48	270.01	6,725.6	172.2	-6,961.1	6,963.2	0.00	0.00	0.00
13,868.0	90.48	270.01	6,725.0	172.2	-7,029.1	7,031.2	0.00	0.00	0.00

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
SHL 467'FNL & 410'F - plan hits target - Point	0.00	0.00	1.0	0.0	0.0	1,402,146.96	3,249,639.19	40.433830	-104.603200
BHL 303'FNL & 2145' - plan hits target - Point	0.00	0.00	6,725.0	172.2	-7,029.1	1,402,248.08	3,242,608.98	40.434300	-104.628450

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,248.1	6,780.5	7"	7	7-1/2	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,492.4	3,486.0	PARKMAN		0.00		
4,257.0	4,244.0	SUSSEX		0.00		
5,221.3	5,200.0	SHANNON		0.00		
6,698.0	6,595.0	SHARON SPRINGS		0.00		
6,747.3	6,626.0	NIOBRARA A		0.00		
7,001.4	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)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,500.0	2,500.0	0.0	0.0	KOP #1	
6,041.7	6,016.5	171.2	360.9	KOP #2	
7,248.1	6,780.5	171.3	-409.4	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 #1 (9-4-14)**

## **Anticollision Report**

**18 September, 2014**





<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (9-4-14)
<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	9/18/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	13,868.0	Plan #1 (9-4-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
<b>Existing Wells Sec.1-T5N-R65W</b>						
BJB 1 (P&A) - Wellbore #1 - Wellbore #1	8,439.4	6,755.5	160.5	-26.2	0.860	Level 1, CC, ES, SF
BJB 4 (Exist.) - Wellbore #1 - Wellbore #1	7,451.1	6,761.8	306.2	144.3	1.891	CC, ES, SF
Gatewood 3-1 (Exist.) - Wellbore #1 - Wellbore #1	9,566.9	6,742.0	335.4	118.4	1.545	CC, ES, SF
Gatewood 4-1 (Exist.) - Wellbore #1 - Wellbore #1	11,245.6	6,734.0	302.6	39.1	1.148	Level 2, CC, ES, SF
Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1	2,500.0	2,530.0	334.9	278.8	5.969	CC
Noffsinger 1 (P&A) - Wellbore #1 - Wellbore #1	7,100.0	6,797.4	393.7	238.1	2.530	ES, SF
<b>Existing Wells Sec.2-T5N-R65W</b>						
Frudden 1 (Exist.) - Wellbore #1 - Wellbore #1	12,392.6	6,725.0	371.9	67.3	1.221	Level 2, CC
Frudden 1 (Exist.) - Wellbore #1 - Wellbore #1	12,400.0	6,724.7	371.9	67.1	1.220	Level 2, ES, SF
<b>Existing Wells Sec.36-T6N-R36W</b>						
LDS F 01-29 (Exist.) - Wellbore #1 - Wellbore #1	10,396.5	6,745.1	513.4	273.3	2.138	CC
LDS F 01-29 (Exist.) - Wellbore #1 - Wellbore #1	10,400.0	6,745.1	513.4	273.2	2.137	ES, SF
<b>LDS 5N65W1U Pad Sec.1-T5N-R65W</b>						
LDS 1U-304 - Wellbore #1 - Plan #1 (9-4-14)	1,497.1	1,498.1	31.2	24.7	4.792	CC
LDS 1U-304 - Wellbore #1 - Plan #1 (9-4-14)	12,850.0	12,944.0	202.3	-141.2	0.589	Level 1, ES, SF
LDS 1V-204 - Wellbore #1 - Plan #1 (9-4-14)	400.0	399.0	89.1	87.5	56.699	CC, ES
LDS 1V-204 - Wellbore #1 - Plan #1 (9-4-14)	13,868.9	13,886.5	801.5	396.9	1.981	SF
LDS 1V-304 - Wellbore #1 - Plan #1 (9-4-14)	200.0	198.0	118.3	117.6	176.621	CC, ES
LDS 1V-304 - Wellbore #1 - Plan #1 (9-4-14)	2,500.0	2,442.1	481.5	467.4	34.139	SF
LDS 1V-314 - Wellbore #1 - Plan #1 (9-4-14)	1,600.0	1,599.0	28.8	21.8	4.131	CC, ES
LDS 1V-314 - Wellbore #1 - Plan #1 (9-4-14)	13,868.9	13,958.8	561.7	160.1	1.399	Level 3, SF
LDS 1V-414 - Wellbore #1 - Plan #1 (9-4-14)	1,000.0	999.0	57.9	53.6	13.560	CC, ES
LDS 1V-414 - Wellbore #1 - Plan #1 (9-4-14)	12,800.0	12,834.6	705.7	370.9	2.108	SF
<b>LDS F01-28D Sec.36-T6N-R65W</b>						
LDS F01-28D - LDS F01-28D - LDS F01-28D	8,999.2	6,941.9	402.7	309.2	4.307	CC
LDS F01-28D - LDS F01-28D - LDS F01-28D	9,000.0	6,941.9	402.7	309.2	4.306	ES, SF
<b>LDS F01-30D Sec.36-T6N-R65W</b>						
LDS F01-30D - LDS F01-30D - LDS F01-30D	11,636.0	6,939.6	361.3	205.6	2.320	CC, ES, SF
LDS F01-30D - LDS F01-30D - Noble LDS F01-30D Plan	11,640.7	6,928.3	378.6	222.3	2.422	CC, 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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offet Well - Wellbore - Design						
Noffsinger Pad Sec.2-T5N-R65W						
Noffsinger 2RD - Wellbore #1 - Plan#1 (6-14-10)	13,040.3	6,858.6	229.5	34.1	1.175	Level 2, CC, ES, SF
Noffsinger 2RD - Wellbore #1 - Wellbore #1	13,019.2	6,866.4	255.1	61.5	1.317	Level 3, CC, ES, SF
Noffsinger 31-2D - Wellbore #1 - Plan #2 (6-15-10)	13,711.7	6,833.5	325.5	106.3	1.485	Level 3, CC, ES, SF
Noffsinger 31-2D - Wellbore #1 - Wellbore #1	13,710.6	6,828.3	336.5	118.8	1.546	CC, ES, SF

<b>Offset Design</b> Existing Wells Sec.1-T5N-R65W - BJB 1 (P&A) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 7040-UNKNOWN												<b>Offset Well Error:</b>	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,500.0	6,778.3	6,763.3	6,763.3	27.8	135.3	-92.81	11.0	-1,600.7	953.0	790.1	162.86	5.852	
7,600.0	6,777.5	6,762.5	6,762.5	30.1	135.3	-92.51	11.0	-1,600.7	854.6	689.4	165.20	5.173	
7,700.0	6,776.7	6,761.7	6,761.7	32.5	135.2	-92.21	11.0	-1,600.7	756.6	589.0	167.62	4.514	
7,800.0	6,775.8	6,760.8	6,760.8	35.0	135.2	-91.91	11.0	-1,600.7	659.2	489.1	170.10	3.876	
7,900.0	6,775.0	6,760.0	6,760.0	37.5	135.2	-91.61	11.0	-1,600.7	562.8	390.1	172.62	3.260	
8,000.0	6,774.2	6,759.2	6,759.2	40.0	135.2	-91.31	11.0	-1,600.7	467.8	292.6	175.18	2.670	
8,100.0	6,773.3	6,758.3	6,758.3	42.6	135.2	-91.01	11.0	-1,600.7	375.4	197.7	177.76	2.112	
8,200.0	6,772.5	6,757.5	6,757.5	45.2	135.1	-90.72	11.0	-1,600.7	288.2	107.9	180.37	1.598	
8,300.0	6,771.6	6,756.6	6,756.6	47.9	135.1	-90.42	11.0	-1,600.7	212.6	29.6	182.99	1.162	Level 2
8,400.0	6,770.8	6,755.8	6,755.8	50.5	135.1	-90.12	11.0	-1,600.7	165.3	-20.3	185.63	0.890	Level 1
8,439.4	6,770.5	6,755.5	6,755.5	51.6	135.1	-90.00	11.0	-1,600.7	160.5	-26.2	186.67	0.860	Level 1, CC, ES, SF
8,500.0	6,770.0	6,755.0	6,755.0	53.2	135.1	-89.82	11.0	-1,600.7	171.6	-16.7	188.28	0.911	Level 1
8,600.0	6,769.1	6,754.1	6,754.1	55.9	135.1	-89.52	11.0	-1,600.7	227.1	36.1	190.94	1.189	Level 2
8,700.0	6,768.3	6,753.3	6,753.3	58.6	135.1	-89.22	11.0	-1,600.7	306.1	112.5	193.60	1.581	
8,800.0	6,767.5	6,752.5	6,752.5	61.3	135.0	-88.92	11.0	-1,600.7	394.7	198.4	196.27	2.011	
8,900.0	6,766.6	6,751.6	6,751.6	64.0	135.0	-88.62	11.0	-1,600.7	487.7	288.8	198.95	2.452	
9,000.0	6,765.8	6,750.8	6,750.8	66.7	135.0	-88.32	11.0	-1,600.7	583.1	381.5	201.62	2.892	
9,100.0	6,764.9	6,749.9	6,749.9	69.4	135.0	-88.03	11.0	-1,600.7	679.8	475.5	204.30	3.327	
9,200.0	6,764.1	6,749.1	6,749.1	72.2	135.0	-87.73	11.0	-1,600.7	777.3	570.3	206.97	3.756	
9,300.0	6,763.3	6,748.3	6,748.3	74.9	135.0	-87.43	11.0	-1,600.7	875.4	665.8	209.65	4.176	
9,400.0	6,762.4	6,747.4	6,747.4	77.7	134.9	-87.13	11.0	-1,600.7	973.9	761.6	212.32	4.587	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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)	+E/-W (ft)	Distance Between Centres (ft)	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	83.0	83.0	0.1	1.7	-102.41	-102.41	-134.8	-612.4	627.1	625.3	1.77	353.779	
200.0	200.0	183.0	183.0	0.3	3.7	-102.41	-102.41	-134.8	-612.4	627.1	623.1	4.00	156.880	
300.0	300.0	283.0	283.0	0.6	5.7	-102.41	-102.41	-134.8	-612.4	627.1	620.9	6.22	100.786	
400.0	400.0	383.0	383.0	0.8	7.7	-102.41	-102.41	-134.8	-612.4	627.1	618.7	8.45	74.241	
500.0	500.0	483.0	483.0	1.0	9.7	-102.41	-102.41	-134.8	-612.4	627.1	616.4	10.67	58.763	
600.0	600.0	583.0	583.0	1.2	11.7	-102.41	-102.41	-134.8	-612.4	627.1	614.2	12.90	48.626	
700.0	700.0	683.0	683.0	1.5	13.7	-102.41	-102.41	-134.8	-612.4	627.1	612.0	15.12	41.472	
800.0	800.0	783.0	783.0	1.7	15.7	-102.41	-102.41	-134.8	-612.4	627.1	609.8	17.35	36.153	
900.0	900.0	883.0	883.0	1.9	17.7	-102.41	-102.41	-134.8	-612.4	627.1	607.5	19.57	32.043	
1,000.0	1,000.0	983.0	983.0	2.1	19.7	-102.41	-102.41	-134.8	-612.4	627.1	605.3	21.80	28.772	
1,100.0	1,100.0	1,083.0	1,083.0	2.4	21.7	-102.41	-102.41	-134.8	-612.4	627.1	603.1	24.02	26.107	
1,200.0	1,200.0	1,183.0	1,183.0	2.6	23.7	-102.41	-102.41	-134.8	-612.4	627.1	600.9	26.24	23.894	
1,300.0	1,300.0	1,283.0	1,283.0	2.8	25.7	-102.41	-102.41	-134.8	-612.4	627.1	598.6	28.47	22.027	
1,400.0	1,400.0	1,383.0	1,383.0	3.0	27.7	-102.41	-102.41	-134.8	-612.4	627.1	596.4	30.69	20.430	
1,500.0	1,500.0	1,483.0	1,483.0	3.3	29.7	-102.41	-102.41	-134.8	-612.4	627.1	594.2	32.92	19.050	
1,600.0	1,600.0	1,583.0	1,583.0	3.5	31.7	-102.41	-102.41	-134.8	-612.4	627.1	592.0	35.14	17.844	
1,700.0	1,700.0	1,683.0	1,683.0	3.7	33.7	-102.41	-102.41	-134.8	-612.4	627.1	589.7	37.37	16.781	
1,800.0	1,800.0	1,783.0	1,783.0	3.9	35.7	-102.41	-102.41	-134.8	-612.4	627.1	587.5	39.59	15.838	
1,900.0	1,900.0	1,883.0	1,883.0	4.2	37.7	-102.41	-102.41	-134.8	-612.4	627.1	585.3	41.82	14.996	
2,000.0	2,000.0	1,983.0	1,983.0	4.4	39.7	-102.41	-102.41	-134.8	-612.4	627.1	583.1	44.04	14.238	
2,100.0	2,100.0	2,083.0	2,083.0	4.6	41.7	-102.41	-102.41	-134.8	-612.4	627.1	580.8	46.27	13.554	
2,200.0	2,200.0	2,183.0	2,183.0	4.8	43.7	-102.41	-102.41	-134.8	-612.4	627.1	578.6	48.49	12.932	
2,300.0	2,300.0	2,283.0	2,283.0	5.1	45.7	-102.41	-102.41	-134.8	-612.4	627.1	576.4	50.72	12.365	
2,400.0	2,400.0	2,383.0	2,383.0	5.3	47.7	-102.41	-102.41	-134.8	-612.4	627.1	574.2	52.94	11.845	
2,500.0	2,500.0	2,483.0	2,483.0	5.5	49.7	-102.41	-102.41	-134.8	-612.4	627.1	571.9	55.17	11.367	
2,600.0	2,600.0	2,583.0	2,583.0	5.7	51.7	-167.06	-167.06	-134.8	-612.4	628.8	571.5	57.35	10.964	
2,700.0	2,699.8	2,682.8	2,682.8	5.9	53.7	-167.14	-167.14	-134.8	-612.4	633.9	574.5	59.45	10.662	
2,800.0	2,799.5	2,782.5	2,782.5	6.2	55.6	-167.28	-167.28	-134.8	-612.4	642.4	580.9	61.47	10.450	
2,900.0	2,898.7	2,881.7	2,881.7	6.4	57.6	-167.47	-167.47	-134.8	-612.4	654.2	590.7	63.47	10.307	
3,000.0	2,997.9	2,980.9	2,980.9	6.6	59.6	-167.71	-167.71	-134.8	-612.4	667.0	601.4	65.65	10.160	
3,100.0	3,097.0	3,080.0	3,080.0	6.9	61.6	-167.95	-167.95	-134.8	-612.4	679.8	612.0	67.83	10.022	
3,200.0	3,196.1	3,179.1	3,179.1	7.1	63.6	-168.18	-168.18	-134.8	-612.4	692.6	622.6	70.01	9.893	
3,300.0	3,295.3	3,278.3	3,278.3	7.4	65.6	-168.39	-168.39	-134.8	-612.4	705.5	633.3	72.20	9.771	
3,400.0	3,394.4	3,377.4	3,377.4	7.6	67.5	-168.60	-168.60	-134.8	-612.4	718.3	643.9	74.38	9.657	
3,500.0	3,493.5	3,476.5	3,476.5	7.9	69.5	-168.81	-168.81	-134.8	-612.4	731.2	654.6	76.57	9.549	
3,600.0	3,592.7	3,575.7	3,575.7	8.2	71.5	-169.00	-169.00	-134.8	-612.4	744.0	665.3	78.76	9.446	
3,700.0	3,691.8	3,674.8	3,674.8	8.5	73.5	-169.19	-169.19	-134.8	-612.4	756.9	675.9	80.95	9.350	
3,800.0	3,791.0	3,774.0	3,774.0	8.7	75.5	-169.37	-169.37	-134.8	-612.4	769.8	686.6	83.14	9.258	
3,900.0	3,890.1	3,873.1	3,873.1	9.0	77.5	-169.55	-169.55	-134.8	-612.4	782.6	697.3	85.34	9.171	
4,000.0	3,989.2	3,972.2	3,972.2	9.3	79.4	-169.72	-169.72	-134.8	-612.4	795.5	708.0	87.53	9.089	
4,100.0	4,088.4	4,071.4	4,071.4	9.6	81.4	-169.89	-169.89	-134.8	-612.4	808.4	718.7	89.72	9.010	
4,200.0	4,187.5	4,170.5	4,170.5	9.9	83.4	-170.05	-170.05	-134.8	-612.4	821.3	729.4	91.92	8.935	
4,300.0	4,286.7	4,269.7	4,269.7	10.2	85.4	-170.20	-170.20	-134.8	-612.4	834.2	740.1	94.11	8.864	
4,400.0	4,385.8	4,368.8	4,368.8	10.5	87.4	-170.35	-170.35	-134.8	-612.4	847.2	750.8	96.31	8.796	
4,500.0	4,484.9	4,467.9	4,467.9	10.8	89.4	-170.50	-170.50	-134.8	-612.4	860.1	761.6	98.51	8.731	
4,600.0	4,584.1	4,567.1	4,567.1	11.1	91.3	-170.64	-170.64	-134.8	-612.4	873.0	772.3	100.71	8.669	
4,700.0	4,683.2	4,666.2	4,666.2	11.4	93.3	-170.78	-170.78	-134.8	-612.4	885.9	783.0	102.90	8.609	
4,800.0	4,782.3	4,765.3	4,765.3	11.7	95.3	-170.91	-170.91	-134.8	-612.4	898.9	793.8	105.10	8.552	
4,900.0	4,881.5	4,864.5	4,864.5	12.0	97.3	-171.04	-171.04	-134.8	-612.4	911.8	804.5	107.30	8.498	
5,000.0	4,980.6	4,963.6	4,963.6	12.3	99.3	-171.17	-171.17	-134.8	-612.4	924.8	815.3	109.50	8.445	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,079.8	5,062.8	5,062.8	12.6	101.3	-171.29		-134.8	-612.4	937.7	826.0	111.70	8.395	
5,200.0	5,178.9	5,161.9	5,161.9	12.9	103.2	-171.41		-134.8	-612.4	950.7	836.8	113.90	8.346	
5,300.0	5,278.0	5,261.0	5,261.0	13.3	105.2	-171.53		-134.8	-612.4	963.6	847.5	116.10	8.300	
5,400.0	5,377.2	5,360.2	5,360.2	13.6	107.2	-171.64		-134.8	-612.4	976.6	858.3	118.30	8.255	
5,500.0	5,476.3	5,459.3	5,459.3	13.9	109.2	-171.75		-134.8	-612.4	989.5	869.0	120.50	8.212	
6,300.0	6,269.9	6,252.9	6,252.9	15.2	125.1	-19.24		-134.8	-612.4	979.2	847.4	131.72	7.433	
6,400.0	6,361.8	6,344.8	6,344.8	15.2	126.9	-21.07		-134.8	-612.4	942.0	814.3	127.62	7.381	
6,500.0	6,447.8	6,430.8	6,430.8	15.2	128.6	-23.83		-134.8	-612.4	894.0	771.7	122.25	7.313	
6,600.0	6,526.4	6,509.4	6,509.4	15.3	130.2	-27.85		-134.8	-612.4	836.3	719.4	116.86	7.156	
6,700.0	6,596.3	6,579.3	6,579.3	15.5	131.6	-33.63		-134.8	-612.4	770.3	656.5	113.74	6.772	
6,800.0	6,656.3	6,639.3	6,639.3	16.0	132.8	-41.78		-134.8	-612.4	697.7	581.5	116.19	6.005	
6,900.0	6,705.3	6,688.3	6,688.3	16.9	133.8	-52.67		-134.8	-612.4	620.6	494.4	126.19	4.918	
7,000.0	6,742.6	6,725.6	6,725.6	18.1	134.5	-65.56		-134.8	-612.4	541.9	401.5	140.35	3.861	
7,100.0	6,767.4	6,750.4	6,750.4	19.7	135.0	-78.08		-134.8	-612.4	465.2	313.8	151.42	3.072	
7,200.0	6,779.3	6,762.3	6,762.3	21.5	135.2	-87.44		-134.8	-612.4	395.9	239.4	156.52	2.530	
7,300.0	6,780.0	6,763.0	6,763.0	23.4	135.3	-90.24		-134.8	-612.4	341.4	182.7	158.67	2.152	
7,400.0	6,779.2	6,762.2	6,762.2	25.5	135.2	-90.08		-134.8	-612.4	310.4	149.6	160.76	1.931	
7,451.1	6,778.8	6,761.8	6,761.8	26.7	135.2	-90.00		-134.8	-612.4	306.2	144.3	161.90	1.891	CC, ES, SF
7,500.0	6,778.3	6,761.3	6,761.3	27.8	135.2	-89.92		-134.8	-612.4	310.0	147.1	162.98	1.902	
7,600.0	6,777.5	6,760.5	6,760.5	30.1	135.2	-89.77		-134.8	-612.4	340.4	175.2	165.29	2.060	
7,700.0	6,776.7	6,759.7	6,759.7	32.5	135.2	-89.61		-134.8	-612.4	394.6	226.9	167.67	2.353	
7,800.0	6,775.8	6,758.8	6,758.8	35.0	135.2	-89.45		-134.8	-612.4	464.2	294.1	170.12	2.728	
7,900.0	6,775.0	6,758.0	6,758.0	37.5	135.2	-89.30		-134.8	-612.4	543.3	370.7	172.61	3.148	
8,000.0	6,774.2	6,757.2	6,757.2	40.0	135.1	-89.14		-134.8	-612.4	628.5	453.4	175.14	3.589	
8,100.0	6,773.3	6,756.3	6,756.3	42.6	135.1	-88.98		-134.8	-612.4	717.5	539.8	177.70	4.038	
8,200.0	6,772.5	6,755.5	6,755.5	45.2	135.1	-88.83		-134.8	-612.4	809.0	628.8	180.28	4.488	
8,300.0	6,771.6	6,754.6	6,754.6	47.9	135.1	-88.67		-134.8	-612.4	902.4	719.5	182.89	4.934	
8,400.0	6,770.8	6,753.8	6,753.8	50.5	135.1	-88.51		-134.8	-612.4	997.0	811.5	185.51	5.374	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,700.0	6,768.3	6,749.3	6,749.3	58.6	135.0	-91.24	-163.8	-2,728.2	929.5	736.0	193.52	4.803		
8,800.0	6,767.5	6,748.5	6,748.5	61.3	135.0	-91.10	-163.8	-2,728.2	837.0	640.8	196.21	4.266		
8,900.0	6,766.6	6,747.6	6,747.6	64.0	135.0	-90.95	-163.8	-2,728.2	746.5	547.6	198.92	3.753		
9,000.0	6,765.8	6,746.8	6,746.8	66.7	134.9	-90.81	-163.8	-2,728.2	658.7	457.1	201.63	3.267		
9,100.0	6,764.9	6,745.9	6,745.9	69.4	134.9	-90.67	-163.8	-2,728.2	574.9	370.5	204.35	2.813		
9,200.0	6,764.1	6,745.1	6,745.1	72.2	134.9	-90.52	-163.8	-2,728.2	497.1	290.0	207.07	2.401		
9,300.0	6,763.3	6,744.3	6,744.3	74.9	134.9	-90.38	-163.8	-2,728.2	428.7	218.9	209.80	2.043		
9,400.0	6,762.4	6,743.4	6,743.4	77.7	134.9	-90.24	-163.8	-2,728.2	374.7	162.1	212.53	1.763		
9,500.0	6,761.6	6,742.6	6,742.6	80.4	134.9	-90.10	-163.8	-2,728.2	342.0	126.8	215.26	1.589		
9,566.9	6,761.0	6,742.0	6,742.0	82.3	134.8	-90.00	-163.8	-2,728.2	335.4	118.4	217.09	1.545 CC, ES, SF		
9,600.0	6,760.8	6,741.8	6,741.8	83.2	134.8	-89.95	-163.8	-2,728.2	337.1	119.1	218.00	1.546		
9,700.0	6,759.9	6,740.9	6,740.9	85.9	134.8	-89.81	-163.8	-2,728.2	360.9	140.1	220.74	1.635		
9,800.0	6,759.1	6,740.1	6,740.1	88.7	134.8	-89.67	-163.8	-2,728.2	408.5	185.0	223.48	1.828		
9,900.0	6,758.2	6,739.2	6,739.2	91.5	134.8	-89.52	-163.8	-2,728.2	472.7	246.5	226.22	2.090		
10,000.0	6,757.4	6,738.4	6,738.4	94.2	134.8	-89.38	-163.8	-2,728.2	547.8	318.8	228.96	2.393		
10,100.0	6,756.6	6,737.6	6,737.6	97.0	134.8	-89.24	-163.8	-2,728.2	629.8	398.1	231.71	2.718		
10,200.0	6,755.7	6,736.7	6,736.7	99.8	134.7	-89.09	-163.8	-2,728.2	716.5	482.0	234.45	3.056		
10,300.0	6,754.9	6,735.9	6,735.9	102.5	134.7	-88.95	-163.8	-2,728.2	806.2	569.0	237.20	3.399		
10,400.0	6,754.1	6,735.1	6,735.1	105.3	134.7	-88.81	-163.8	-2,728.2	898.1	658.1	239.94	3.743		
10,500.0	6,753.2	6,734.2	6,734.2	108.1	134.7	-88.67	-163.8	-2,728.2	991.5	748.9	242.69	4.086		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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
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	
10,300.0	6,754.9	6,741.9	6,741.9	102.5	134.8	-91.50	-130.8	-4,406.8	992.8	755.5	237.30	4.184		
10,400.0	6,754.1	6,741.1	6,741.1	105.3	134.8	-91.34	-130.8	-4,406.8	898.1	658.0	240.07	3.741		
10,500.0	6,753.2	6,740.2	6,740.2	108.1	134.8	-91.18	-130.8	-4,406.8	804.7	561.8	242.85	3.313		
10,600.0	6,752.4	6,739.4	6,739.4	110.9	134.8	-91.02	-130.8	-4,406.8	713.0	467.4	245.62	2.903		
10,700.0	6,751.5	6,738.5	6,738.5	113.6	134.8	-90.87	-130.8	-4,406.8	623.9	375.5	248.39	2.512		
10,800.0	6,750.7	6,737.7	6,737.7	116.4	134.8	-90.71	-130.8	-4,406.8	538.6	287.5	251.16	2.145		
10,900.0	6,749.9	6,736.9	6,736.9	119.2	134.7	-90.55	-130.8	-4,406.8	459.4	205.4	253.94	1.809		
11,000.0	6,749.0	6,736.0	6,736.0	122.0	134.7	-90.39	-130.8	-4,406.8	389.8	133.0	256.71	1.518		
11,100.0	6,748.2	6,735.2	6,735.2	124.8	134.7	-90.23	-130.8	-4,406.8	335.8	76.4	259.48	1.294 Level 3		
11,200.0	6,747.4	6,734.4	6,734.4	127.6	134.7	-90.07	-130.8	-4,406.8	306.1	43.8	262.25	1.167 Level 2		
11,245.6	6,747.0	6,734.0	6,734.0	128.8	134.7	-90.00	-130.8	-4,406.8	302.6	39.1	263.51	1.148 Level 2, CC, ES, SF		
11,300.0	6,746.5	6,733.5	6,733.5	130.4	134.7	-89.91	-130.8	-4,406.8	307.5	42.5	265.02	1.160 Level 2		
11,400.0	6,745.7	6,732.7	6,732.7	133.1	134.7	-89.76	-130.8	-4,406.8	339.7	72.0	267.78	1.269 Level 3		
11,500.0	6,744.8	6,731.8	6,731.8	135.9	134.6	-89.60	-130.8	-4,406.8	395.3	124.8	270.55	1.461 Level 3		
11,600.0	6,744.0	6,731.0	6,731.0	138.7	134.6	-89.44	-130.8	-4,406.8	466.0	192.7	273.32	1.705		
11,700.0	6,743.2	6,730.2	6,730.2	141.5	134.6	-89.28	-130.8	-4,406.8	545.9	269.9	276.08	1.977		
11,800.0	6,742.3	6,729.3	6,729.3	144.3	134.6	-89.12	-130.8	-4,406.8	631.6	352.8	278.84	2.265		
11,900.0	6,741.5	6,728.5	6,728.5	147.1	134.6	-88.96	-130.8	-4,406.8	721.0	439.4	281.60	2.560		
12,000.0	6,740.6	6,727.6	6,727.6	149.9	134.6	-88.80	-130.8	-4,406.8	812.8	528.4	284.36	2.858		
12,100.0	6,739.8	6,726.8	6,726.8	152.7	134.5	-88.65	-130.8	-4,406.8	906.4	619.3	287.12	3.157		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	30.0	30.0	0.0	0.6	-131.57	-131.57	-222.2	-250.5	334.9	334.3	0.60	557.991	
100.0	100.0	130.0	130.0	0.1	2.6	-131.57	-131.57	-222.2	-250.5	334.9	332.2	2.71	123.464	
200.0	200.0	230.0	230.0	0.3	4.6	-131.57	-131.57	-222.2	-250.5	334.9	330.0	4.94	67.831	
300.0	300.0	330.0	330.0	0.6	6.6	-131.57	-131.57	-222.2	-250.5	334.9	327.7	7.16	46.761	
400.0	400.0	430.0	430.0	0.8	8.6	-131.57	-131.57	-222.2	-250.5	334.9	325.5	9.39	35.678	
500.0	500.0	530.0	530.0	1.0	10.6	-131.57	-131.57	-222.2	-250.5	334.9	323.3	11.61	28.842	
600.0	600.0	630.0	630.0	1.2	12.6	-131.57	-131.57	-222.2	-250.5	334.9	321.1	13.84	24.205	
700.0	700.0	730.0	730.0	1.5	14.6	-131.57	-131.57	-222.2	-250.5	334.9	318.8	16.06	20.852	
800.0	800.0	830.0	830.0	1.7	16.6	-131.57	-131.57	-222.2	-250.5	334.9	316.6	18.29	18.315	
900.0	900.0	930.0	930.0	1.9	18.6	-131.57	-131.57	-222.2	-250.5	334.9	314.4	20.51	16.328	
1,000.0	1,000.0	1,030.0	1,030.0	2.1	20.6	-131.57	-131.57	-222.2	-250.5	334.9	312.2	22.74	14.731	
1,100.0	1,100.0	1,130.0	1,130.0	2.4	22.6	-131.57	-131.57	-222.2	-250.5	334.9	309.9	24.96	13.418	
1,200.0	1,200.0	1,230.0	1,230.0	2.6	24.6	-131.57	-131.57	-222.2	-250.5	334.9	307.7	27.18	12.320	
1,300.0	1,300.0	1,330.0	1,330.0	2.8	26.6	-131.57	-131.57	-222.2	-250.5	334.9	305.5	29.41	11.388	
1,400.0	1,400.0	1,430.0	1,430.0	3.0	28.6	-131.57	-131.57	-222.2	-250.5	334.9	303.3	31.63	10.587	
1,500.0	1,500.0	1,530.0	1,530.0	3.3	30.6	-131.57	-131.57	-222.2	-250.5	334.9	301.0	33.86	9.891	
1,600.0	1,600.0	1,630.0	1,630.0	3.5	32.6	-131.57	-131.57	-222.2	-250.5	334.9	298.8	36.08	9.281	
1,700.0	1,700.0	1,730.0	1,730.0	3.7	34.6	-131.57	-131.57	-222.2	-250.5	334.9	296.6	38.31	8.742	
1,800.0	1,800.0	1,830.0	1,830.0	3.9	36.6	-131.57	-131.57	-222.2	-250.5	334.9	294.4	40.53	8.262	
1,900.0	1,900.0	1,930.0	1,930.0	4.2	38.6	-131.57	-131.57	-222.2	-250.5	334.9	292.1	42.76	7.833	
2,000.0	2,000.0	2,030.0	2,030.0	4.4	40.6	-131.57	-131.57	-222.2	-250.5	334.9	289.9	44.98	7.445	
2,074.0	2,074.0	2,104.0	2,104.0	4.5	42.1	-131.57	-131.57	-222.2	-250.5	334.9	288.3	46.63	7.182	
2,100.0	2,100.0	2,130.0	2,130.0	4.6	42.6	-131.57	-131.57	-222.2	-250.5	334.9	287.7	47.21	7.094	
2,200.0	2,200.0	2,230.0	2,230.0	4.8	44.6	-131.57	-131.57	-222.2	-250.5	334.9	285.5	49.43	6.775	
2,300.0	2,300.0	2,330.0	2,330.0	5.1	46.6	-131.57	-131.57	-222.2	-250.5	334.9	283.2	51.66	6.483	
2,400.0	2,400.0	2,430.0	2,430.0	5.3	48.6	-131.57	-131.57	-222.2	-250.5	334.9	281.0	53.88	6.216	
2,500.0	2,500.0	2,530.0	2,530.0	5.5	50.6	-131.57	-131.57	-222.2	-250.5	334.9	278.8	56.11	5.969 CC	
2,600.0	2,600.0	2,630.0	2,630.0	5.7	52.6	163.88	-131.57	-222.2	-250.5	336.6	278.3	58.29	5.774	
2,700.0	2,699.8	2,729.8	2,729.8	5.9	54.6	164.10	-131.57	-222.2	-250.5	341.6	281.2	60.40	5.656	
2,800.0	2,799.5	2,829.5	2,829.5	6.2	56.6	164.45	-131.57	-222.2	-250.5	350.0	287.6	62.42	5.607	
2,900.0	2,898.7	2,928.7	2,928.7	6.4	58.6	164.91	-131.57	-222.2	-250.5	361.7	297.2	64.42	5.614	
3,000.0	2,997.9	3,027.9	3,027.9	6.6	60.6	165.43	-131.57	-222.2	-250.5	374.3	307.7	66.60	5.620	
3,100.0	3,097.0	3,127.0	3,127.0	6.9	62.5	165.92	-131.57	-222.2	-250.5	387.0	318.3	68.79	5.627	
3,200.0	3,196.1	3,226.1	3,226.1	7.1	64.5	166.38	-131.57	-222.2	-250.5	399.8	328.8	70.97	5.633	
3,300.0	3,295.3	3,325.3	3,325.3	7.4	66.5	166.81	-131.57	-222.2	-250.5	412.5	339.4	73.16	5.639	
3,400.0	3,394.4	3,424.4	3,424.4	7.6	68.5	167.21	-131.57	-222.2	-250.5	425.3	349.9	75.35	5.644	
3,500.0	3,493.5	3,523.5	3,523.5	7.9	70.5	167.59	-131.57	-222.2	-250.5	438.1	360.5	77.54	5.650	
3,600.0	3,592.7	3,622.7	3,622.7	8.2	72.5	167.95	-131.57	-222.2	-250.5	450.9	371.2	79.73	5.655	
3,700.0	3,691.8	3,721.8	3,721.8	8.5	74.4	168.28	-131.57	-222.2	-250.5	463.7	381.8	81.92	5.660	
3,800.0	3,791.0	3,821.0	3,821.0	8.7	76.4	168.60	-131.57	-222.2	-250.5	476.5	392.4	84.11	5.665	
3,900.0	3,890.1	3,920.1	3,920.1	9.0	78.4	168.91	-131.57	-222.2	-250.5	489.4	403.1	86.31	5.670	
4,000.0	3,989.2	4,019.2	4,019.2	9.3	80.4	169.19	-131.57	-222.2	-250.5	502.3	413.8	88.50	5.675	
4,100.0	4,088.4	4,118.4	4,118.4	9.6	82.4	169.47	-131.57	-222.2	-250.5	515.1	424.4	90.70	5.680	
4,200.0	4,187.5	4,217.5	4,217.5	9.9	84.4	169.73	-131.57	-222.2	-250.5	528.0	435.1	92.90	5.684	
4,300.0	4,286.7	4,316.7	4,316.7	10.2	86.3	169.97	-131.57	-222.2	-250.5	540.9	445.8	95.09	5.688	
4,400.0	4,385.8	4,415.8	4,415.8	10.5	88.3	170.21	-131.57	-222.2	-250.5	553.8	456.5	97.29	5.693	
4,500.0	4,484.9	4,514.9	4,514.9	10.8	90.3	170.44	-131.57	-222.2	-250.5	566.8	467.3	99.49	5.697	
4,600.0	4,584.1	4,614.1	4,614.1	11.1	92.3	170.65	-131.57	-222.2	-250.5	579.7	478.0	101.69	5.701	
4,700.0	4,683.2	4,713.2	4,713.2	11.4	94.3	170.86	-131.57	-222.2	-250.5	592.6	488.7	103.89	5.704	
4,800.0	4,782.3	4,812.3	4,812.3	11.7	96.2	171.05	-131.57	-222.2	-250.5	605.5	499.5	106.08	5.708	
4,900.0	4,881.5	4,911.5	4,911.5	12.0	98.2	171.24	-131.57	-222.2	-250.5	618.5	510.2	108.28	5.712	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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
5,000.0	4,980.6	5,010.6	5,010.6	12.3	100.2	171.42		-222.2	-250.5	631.4	521.0	110.48	5.715	
5,100.0	5,079.8	5,109.8	5,109.8	12.6	102.2	171.60		-222.2	-250.5	644.4	531.7	112.68	5.719	
5,200.0	5,178.9	5,208.9	5,208.9	12.9	104.2	171.76		-222.2	-250.5	657.4	542.5	114.89	5.722	
5,300.0	5,278.0	5,308.0	5,308.0	13.3	106.2	171.92		-222.2	-250.5	670.3	553.3	117.09	5.725	
5,400.0	5,377.2	5,407.2	5,407.2	13.6	108.1	172.08		-222.2	-250.5	683.3	564.0	119.29	5.728	
5,500.0	5,476.3	5,506.3	5,506.3	13.9	110.1	172.23		-222.2	-250.5	696.3	574.8	121.49	5.731	
5,600.0	5,575.5	5,605.5	5,605.5	14.2	112.1	172.38		-222.2	-250.5	708.8	584.9	123.93	5.720	
5,700.0	5,675.0	5,705.0	5,705.0	14.4	114.1	172.51		-222.2	-250.5	718.3	591.9	126.48	5.679	
5,800.0	5,774.8	5,804.8	5,804.8	14.6	116.1	172.59		-222.2	-250.5	724.4	595.5	128.89	5.620	
5,900.0	5,874.8	5,904.8	5,904.8	14.8	118.1	172.62		-222.2	-250.5	727.0	595.8	131.16	5.543	
6,000.0	5,974.8	6,004.8	6,004.8	15.0	120.1	-122.76		-222.2	-250.5	727.1	592.1	135.00	5.386	
6,100.0	6,074.8	6,104.8	6,104.8	15.1	122.1	-32.94		-222.2	-250.5	725.2	590.0	135.23	5.363	
6,200.0	6,173.7	6,203.7	6,203.7	15.2	124.1	-34.05		-222.2	-250.5	713.4	577.8	135.61	5.261	
6,300.0	6,269.9	6,299.9	6,299.9	15.2	126.0	-36.29		-222.2	-250.5	691.1	556.5	134.64	5.133	
6,400.0	6,361.8	6,391.8	6,391.8	15.2	127.8	-39.83		-222.2	-250.5	659.3	526.3	132.98	4.958	
6,500.0	6,447.8	6,477.8	6,477.8	15.2	129.6	-44.93		-222.2	-250.5	619.2	487.4	131.83	4.697	
6,600.0	6,526.4	6,556.4	6,556.4	15.3	131.1	-51.77		-222.2	-250.5	572.9	440.1	132.77	4.315	
6,700.0	6,596.3	6,626.3	6,626.3	15.5	132.5	-60.29		-222.2	-250.5	523.3	386.4	136.86	3.824	
6,800.0	6,656.3	6,686.3	6,686.3	16.0	133.7	-69.80		-222.2	-250.5	474.4	331.2	143.22	3.313	
6,900.0	6,705.3	6,735.3	6,735.3	16.9	134.7	-78.94		-222.2	-250.5	431.9	282.6	149.27	2.893	
7,000.0	6,742.6	6,772.6	6,772.6	18.1	135.5	-86.15		-222.2	-250.5	402.7	249.4	153.26	2.627	
7,088.1	6,765.1	6,795.1	6,795.1	19.5	135.9	-90.00		-222.2	-250.5	393.6	238.2	155.40	2.533	
7,100.0	6,767.4	6,797.4	6,797.4	19.7	135.9	-90.31		-222.2	-250.5	393.7	238.1	155.63	2.530 ES, SF	
7,200.0	6,779.3	6,809.3	6,809.3	21.5	136.2	-90.88		-222.2	-250.5	408.9	251.2	157.63	2.594	
7,300.0	6,780.0	6,810.0	6,810.0	23.4	136.2	-89.74		-222.2	-250.5	446.5	286.9	159.61	2.797	
7,400.0	6,779.2	6,809.2	6,809.2	25.5	136.2	-89.62		-222.2	-250.5	501.5	339.8	161.69	3.101	
7,500.0	6,778.3	6,808.3	6,808.3	27.8	136.2	-89.50		-222.2	-250.5	568.9	405.0	163.91	3.471	
7,600.0	6,777.5	6,807.5	6,807.5	30.1	136.2	-89.38		-222.2	-250.5	644.8	478.6	166.22	3.879	
7,700.0	6,776.7	6,806.7	6,806.7	32.5	136.1	-89.26		-222.2	-250.5	726.6	558.0	168.60	4.310	
7,800.0	6,775.8	6,805.8	6,805.8	35.0	136.1	-89.13		-222.2	-250.5	812.5	641.4	171.04	4.750	
7,900.0	6,775.0	6,805.0	6,805.0	37.5	136.1	-89.01		-222.2	-250.5	901.3	727.7	173.54	5.194	
8,000.0	6,774.2	6,804.2	6,804.2	40.0	136.1	-88.89		-222.2	-250.5	992.2	816.1	176.06	5.635	



<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
11,500.0	6,744.8	6,754.6	6,754.0	135.9	142.7	-93.63	-200.2	-5,553.0	966.5	688.3	278.16	3.475		
11,600.0	6,744.0	6,751.2	6,750.6	138.7	142.8	-93.12	-200.2	-5,553.1	875.1	593.9	281.21	3.112		
11,700.0	6,743.2	6,747.9	6,747.3	141.5	142.9	-92.60	-200.1	-5,553.1	785.8	501.5	284.23	2.765		
11,800.0	6,742.3	6,744.5	6,743.9	144.3	143.1	-92.09	-200.1	-5,553.2	699.3	412.1	287.23	2.435		
11,900.0	6,741.5	6,741.2	6,740.6	147.1	143.2	-91.58	-200.0	-5,553.3	617.0	326.7	290.22	2.126		
12,000.0	6,740.6	6,737.9	6,737.3	149.9	143.3	-91.07	-200.0	-5,553.4	540.6	247.4	293.18	1.844		
12,100.0	6,739.8	6,734.6	6,734.0	152.7	143.5	-90.56	-199.9	-5,553.5	473.1	176.9	296.12	1.598		
12,200.0	6,739.0	6,731.3	6,730.7	155.5	143.6	-90.05	-199.9	-5,553.6	418.7	119.7	299.04	1.400	Level 3	
12,300.0	6,738.1	6,728.0	6,727.4	158.3	143.7	-89.55	-199.8	-5,553.6	383.2	81.3	301.94	1.269	Level 3	
12,392.6	6,737.4	6,725.0	6,724.4	160.9	143.8	-89.08	-199.8	-5,553.7	371.9	67.3	304.60	1.221	Level 2, CC	
12,400.0	6,737.3	6,724.7	6,724.1	161.1	143.9	-89.04	-199.8	-5,553.7	371.9	67.1	304.81	1.220	Level 2, ES, SF	
12,500.0	6,736.5	6,721.4	6,720.9	163.9	144.0	-88.54	-199.7	-5,553.8	387.0	79.4	307.66	1.258	Level 3	
12,600.0	6,735.6	6,718.2	6,717.6	166.7	144.1	-88.04	-199.7	-5,553.9	425.7	115.3	310.49	1.371	Level 3	
12,700.0	6,734.8	6,714.9	6,714.4	169.5	144.2	-87.54	-199.6	-5,553.9	482.4	169.1	313.29	1.540		
12,800.0	6,733.9	6,711.7	6,711.2	172.3	144.4	-87.04	-199.6	-5,554.0	551.5	235.4	316.07	1.745		
12,900.0	6,733.1	6,708.5	6,707.9	175.1	144.5	-86.55	-199.5	-5,554.1	628.9	310.1	318.83	1.972		
13,000.0	6,732.3	6,705.3	6,704.7	177.8	144.6	-86.05	-199.5	-5,554.2	711.9	390.4	321.56	2.214		
13,100.0	6,731.4	6,702.1	6,701.5	180.6	144.8	-85.56	-199.4	-5,554.3	798.9	474.6	324.26	2.464		
13,200.0	6,730.6	6,700.0	6,699.4	183.4	144.8	-85.24	-199.4	-5,554.3	888.6	561.6	326.98	2.717		
13,300.0	6,729.8	6,695.8	6,695.2	186.2	145.0	-84.60	-199.3	-5,554.4	980.2	650.6	329.59	2.974		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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	
9,600.0	6,760.8	6,751.8	6,751.8	83.2	135.0	90.74	685.2	-3,557.6	947.6	729.4	218.17	4.343		
9,700.0	6,759.9	6,750.9	6,750.9	85.9	135.0	90.65	685.2	-3,557.6	865.3	644.3	220.92	3.917		
9,800.0	6,759.1	6,750.1	6,750.1	88.7	135.0	90.56	685.2	-3,557.6	787.0	563.3	223.67	3.519		
9,900.0	6,758.2	6,749.2	6,749.2	91.5	135.0	90.46	685.2	-3,557.6	714.2	487.8	226.42	3.154		
10,000.0	6,757.4	6,748.4	6,748.4	94.2	135.0	90.37	685.2	-3,557.6	648.7	419.5	229.17	2.831		
10,100.0	6,756.6	6,747.6	6,747.6	97.0	135.0	90.28	685.2	-3,557.6	592.9	360.9	231.93	2.556		
10,200.0	6,755.7	6,746.7	6,746.7	99.8	134.9	90.18	685.2	-3,557.6	549.7	315.0	234.68	2.342		
10,300.0	6,754.9	6,745.9	6,745.9	102.5	134.9	90.09	685.2	-3,557.6	522.4	284.9	237.44	2.200		
10,396.5	6,754.1	6,745.1	6,745.1	105.2	134.9	90.00	685.2	-3,557.6	513.4	273.3	240.11	2.138 CC		
10,400.0	6,754.1	6,745.1	6,745.1	105.3	134.9	90.00	685.2	-3,557.6	513.4	273.2	240.20	2.137 ES, SF		
10,500.0	6,753.2	6,744.2	6,744.2	108.1	134.9	89.90	685.2	-3,557.6	523.7	280.8	242.96	2.156		
10,600.0	6,752.4	6,743.4	6,743.4	110.9	134.9	89.81	685.2	-3,557.6	552.3	306.5	245.73	2.247		
10,700.0	6,751.5	6,742.5	6,742.5	113.6	134.9	89.72	685.2	-3,557.6	596.4	347.9	248.49	2.400		
10,800.0	6,750.7	6,741.7	6,741.7	116.4	134.8	89.62	685.2	-3,557.6	653.0	401.7	251.25	2.599		
10,900.0	6,749.9	6,740.9	6,740.9	119.2	134.8	89.53	685.2	-3,557.6	719.1	465.1	254.02	2.831		
11,000.0	6,749.0	6,740.0	6,740.0	122.0	134.8	89.44	685.2	-3,557.6	792.3	535.5	256.78	3.086		
11,100.0	6,748.2	6,739.2	6,739.2	124.8	134.8	89.34	685.2	-3,557.6	870.9	611.3	259.55	3.355		
11,200.0	6,747.4	6,738.4	6,738.4	127.6	134.8	89.25	685.2	-3,557.6	953.5	691.2	262.31	3.635		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #1 (9-4-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	1.0	1.0	0.0	0.0	-45.53	21.9	-22.3	31.2	31.2	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	-45.53	21.9	-22.3	31.2	31.0	0.23	137.461		
200.0	200.0	201.0	201.0	0.3	0.3	-45.53	21.9	-22.3	31.2	30.5	0.68	46.125		
300.0	300.0	301.0	301.0	0.6	0.6	-45.53	21.9	-22.3	31.2	30.1	1.13	27.712		
400.0	400.0	401.0	401.0	0.8	0.8	-45.53	21.9	-22.3	31.2	29.6	1.58	19.805		
500.0	500.0	501.0	501.0	1.0	1.0	-45.53	21.9	-22.3	31.2	29.2	2.03	15.409		
600.0	600.0	601.0	601.0	1.2	1.2	-45.53	21.9	-22.3	31.2	28.7	2.47	12.610		
700.0	700.0	701.0	701.0	1.5	1.5	-45.53	21.9	-22.3	31.2	28.3	2.92	10.671		
800.0	800.0	801.0	801.0	1.7	1.7	-45.53	21.9	-22.3	31.2	27.8	3.37	9.250		
900.0	900.0	901.0	901.0	1.9	1.9	-45.53	21.9	-22.3	31.2	27.4	3.82	8.162		
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-45.53	21.9	-22.3	31.2	26.9	4.27	7.303		
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	-45.53	21.9	-22.3	31.2	26.5	4.72	6.608		
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	-45.53	21.9	-22.3	31.2	26.0	5.17	6.034		
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	-45.53	21.9	-22.3	31.2	25.6	5.62	5.551		
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	-45.53	21.9	-22.3	31.2	25.1	6.07	5.140		
1,497.1	1,497.1	1,498.1	1,498.1	3.3	3.3	-42.45	23.0	-21.0	31.2	24.7	6.50	4.792 CC		
1,500.0	1,500.0	1,501.0	1,501.0	3.3	3.3	-42.26	23.1	-21.0	31.2	24.6	6.52	4.782		
1,600.0	1,600.0	1,600.8	1,600.6	3.5	3.5	-32.70	26.6	-17.1	31.6	24.7	6.96	4.545		
1,700.0	1,700.0	1,700.0	1,699.5	3.7	3.7	-18.23	32.5	-10.7	34.2	26.8	7.40	4.622		
1,800.0	1,800.0	1,799.0	1,797.8	3.9	3.9	-2.86	40.4	-2.0	40.6	32.7	7.86	5.162		
1,900.0	1,900.0	1,898.2	1,896.2	4.2	4.2	8.28	48.7	7.1	49.5	41.1	8.33	5.937		
2,000.0	2,000.0	1,997.5	1,994.7	4.4	4.4	15.85	57.0	16.2	59.6	50.8	8.82	6.764		
2,100.0	2,100.0	2,096.7	2,093.1	4.6	4.7	21.16	65.4	25.3	70.5	61.2	9.31	7.578		
2,200.0	2,200.0	2,195.9	2,191.6	4.8	5.0	25.03	73.7	34.4	81.9	72.1	9.81	8.350		
2,300.0	2,300.0	2,295.1	2,290.0	5.1	5.3	27.95	82.0	43.5	93.5	83.2	10.31	9.071		
2,400.0	2,400.0	2,394.4	2,388.5	5.3	5.5	30.22	90.4	52.6	105.3	94.5	10.81	9.739		
2,500.0	2,500.0	2,493.6	2,486.9	5.5	5.8	32.03	98.7	61.7	117.3	105.9	11.32	10.357		
2,600.0	2,600.0	2,593.0	2,585.6	5.7	6.1	-31.41	107.0	70.9	127.8	116.3	11.48	11.137		
2,700.0	2,699.8	2,692.7	2,684.5	5.9	6.4	-31.18	115.4	80.0	135.4	123.5	11.91	11.365		
2,800.0	2,799.5	2,792.6	2,783.6	6.2	6.7	-31.73	123.8	89.2	140.0	127.7	12.36	11.335		
2,900.0	2,898.7	2,892.5	2,882.8	6.4	7.0	-33.01	132.2	98.4	141.8	129.0	12.81	11.075		
3,000.0	2,997.9	2,992.4	2,981.9	6.6	7.3	-34.50	140.6	107.5	142.9	129.6	13.29	10.751		
3,100.0	3,097.0	3,092.4	3,081.1	6.9	7.6	-35.97	149.0	116.7	144.0	130.2	13.78	10.451		
3,200.0	3,196.1	3,192.3	3,180.2	7.1	7.9	-37.41	157.3	125.9	145.2	130.9	14.28	10.171		
3,300.0	3,295.3	3,292.2	3,279.4	7.4	8.2	-38.83	165.7	135.0	146.5	131.7	14.78	9.910		
3,400.0	3,394.4	3,392.1	3,378.5	7.6	8.5	-40.23	174.1	144.2	147.9	132.6	15.30	9.667		
3,500.0	3,493.5	3,492.1	3,477.7	7.9	8.8	-41.59	182.5	153.4	149.4	133.5	15.82	9.441		
3,600.0	3,592.7	3,592.0	3,576.8	8.2	9.1	-42.93	190.9	162.6	150.9	134.6	16.35	9.229		
3,700.0	3,691.8	3,691.9	3,676.0	8.5	9.4	-44.25	199.3	171.7	152.6	135.7	16.89	9.031		
3,800.0	3,791.0	3,791.8	3,775.1	8.7	9.7	-45.53	207.7	180.9	154.3	136.8	17.44	8.845		
3,900.0	3,890.1	3,891.8	3,874.3	9.0	10.1	-46.78	216.1	190.1	156.1	138.1	18.00	8.672		
4,000.0	3,989.2	3,991.7	3,973.4	9.3	10.4	-48.01	224.5	199.2	158.0	139.4	18.56	8.509		
4,100.0	4,088.4	4,091.6	4,072.6	9.6	10.7	-49.21	232.9	208.4	159.9	140.8	19.13	8.357		
4,200.0	4,187.5	4,191.5	4,171.7	9.9	11.0	-50.37	241.2	217.6	161.9	142.2	19.71	8.214		
4,300.0	4,286.7	4,291.5	4,270.9	10.2	11.3	-51.51	249.6	226.8	164.0	143.7	20.30	8.080		
4,400.0	4,385.8	4,391.4	4,370.0	10.5	11.6	-52.62	258.0	235.9	166.1	145.2	20.89	7.954		
4,500.0	4,484.9	4,491.3	4,469.2	10.8	11.9	-53.70	266.4	245.1	168.3	146.8	21.48	7.835		
4,600.0	4,584.1	4,591.2	4,568.3	11.1	12.2	-54.75	274.8	254.3	170.6	148.5	22.08	7.724		
4,700.0	4,683.2	4,691.2	4,667.5	11.4	12.6	-55.78	283.2	263.5	172.9	150.2	22.69	7.620		
4,800.0	4,782.3	4,791.1	4,766.6	11.7	12.9	-56.78	291.6	272.6	175.3	152.0	23.30	7.522		
4,900.0	4,881.5	4,891.0	4,865.8	12.0	13.2	-57.75	300.0	281.8	177.7	153.8	23.91	7.429		

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #1 (9-4-14)													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
5,000.0	4,980.6	4,991.0	4,964.9	12.3	13.5	-58.69		308.4	291.0	180.1	155.6	24.53	7.342	
5,100.0	5,079.8	5,090.9	5,064.1	12.6	13.8	-59.61		316.7	300.1	182.7	157.5	25.16	7.260	
5,200.0	5,178.9	5,190.8	5,163.2	12.9	14.1	-60.50		325.1	309.3	185.2	159.4	25.78	7.183	
5,300.0	5,278.0	5,290.7	5,262.4	13.3	14.4	-61.37		333.5	318.5	187.8	161.4	26.41	7.111	
5,400.0	5,377.2	5,390.7	5,361.5	13.6	14.8	-62.22		341.9	327.7	190.5	163.4	27.05	7.042	
5,500.0	5,476.3	5,490.6	5,460.7	13.9	15.1	-63.04		350.3	336.8	193.1	165.5	27.68	6.977	
5,600.0	5,575.5	5,591.3	5,560.6	14.2	15.4	-63.76		358.7	346.0	196.0	167.8	28.29	6.930	
5,700.0	5,675.0	5,692.2	5,665.0	14.4	15.6	-64.20		365.8	353.8	198.7	169.9	28.75	6.912	
5,800.0	5,774.8	5,801.1	5,769.7	14.6	15.8	-64.48		370.3	358.7	200.4	171.2	29.15	6.875	
5,900.0	5,874.8	5,906.1	5,874.6	14.8	16.0	-64.60		372.3	360.8	201.1	171.6	29.49	6.818	
6,000.0	5,974.8	6,007.3	5,975.8	15.0	16.2	0.01		372.3	360.9	201.1	172.9	28.16	7.142	
6,047.4	6,022.2	6,054.7	6,023.2	15.0	16.3	90.24		372.3	360.9	201.1	171.1	29.98	6.707	
6,100.0	6,074.8	6,107.2	6,075.8	15.1	16.4	90.63		372.3	360.9	201.1	171.0	30.15	6.671	
6,200.0	6,173.7	6,207.5	6,175.9	15.2	16.5	93.65		372.3	357.4	201.5	171.3	30.18	6.678	
6,300.0	6,269.9	6,309.4	6,276.4	15.2	16.6	96.74		372.3	341.0	202.5	172.5	30.06	6.738	
6,400.0	6,361.8	6,412.8	6,375.2	15.2	16.5	99.71		372.3	310.8	204.0	174.2	29.86	6.834	
6,500.0	6,447.8	6,517.7	6,470.3	15.2	16.5	102.48		372.3	266.8	206.0	176.3	29.66	6.945	
6,600.0	6,526.4	6,624.2	6,559.8	15.3	16.4	105.00		372.3	209.2	208.2	178.6	29.59	7.038	
6,700.0	6,596.3	6,732.1	6,641.4	15.5	16.3	107.23		372.3	138.8	210.6	180.8	29.78	7.071	
6,800.0	6,656.3	6,841.3	6,713.1	16.0	16.4	109.13		372.3	56.5	212.9	182.4	30.42	6.999	
6,900.0	6,705.3	6,951.7	6,772.9	16.9	16.9	110.67		372.3	-36.1	214.9	183.3	31.64	6.792	
7,000.0	6,742.6	7,063.0	6,819.1	18.1	18.0	111.83		372.3	-137.3	216.6	183.0	33.56	6.453	
7,100.0	6,767.4	7,175.0	6,850.3	19.7	19.6	112.60		372.3	-244.8	217.7	181.6	36.18	6.019	
7,200.0	6,779.3	7,287.4	6,865.4	21.5	21.5	112.97		372.3	-356.1	218.3	178.9	39.39	5.542	
7,300.0	6,780.0	7,394.2	6,865.8	23.4	23.5	112.88		372.3	-462.9	218.2	175.1	43.05	5.067	
7,400.0	6,779.2	7,494.2	6,864.0	25.5	25.6	112.64		372.3	-562.9	217.8	170.8	46.99	4.634	
7,500.0	6,778.3	7,594.2	6,862.1	27.8	27.8	112.39		372.3	-662.8	217.4	166.2	51.19	4.246	
7,600.0	6,777.5	7,694.2	6,860.3	30.1	30.1	112.15		372.3	-762.8	217.0	161.4	55.58	3.904	
7,700.0	6,776.7	7,794.2	6,858.4	32.5	32.5	111.90		372.3	-862.8	216.6	156.4	60.13	3.602	
7,800.0	6,775.8	7,894.2	6,856.6	35.0	34.9	111.65		372.3	-962.8	216.2	151.4	64.81	3.335	
7,900.0	6,775.0	7,994.2	6,854.7	37.5	37.4	111.41		372.3	-1,062.7	215.8	146.2	69.61	3.100	
8,000.0	6,774.2	8,094.2	6,852.9	40.0	40.0	111.16		372.3	-1,162.7	215.4	140.9	74.49	2.892	
8,100.0	6,773.3	8,194.2	6,851.0	42.6	42.5	110.91		372.3	-1,262.7	215.0	135.6	79.45	2.707	
8,200.0	6,772.5	8,294.2	6,849.2	45.2	45.1	110.66		372.3	-1,362.7	214.7	130.2	84.47	2.541	
8,300.0	6,771.6	8,394.2	6,847.3	47.9	47.8	110.40		372.3	-1,462.7	214.3	124.7	89.55	2.393	
8,400.0	6,770.8	8,494.2	6,845.5	50.5	50.4	110.15		372.3	-1,562.6	213.9	119.3	94.69	2.259	
8,500.0	6,770.0	8,594.2	6,843.6	53.2	53.1	109.90		372.3	-1,662.6	213.6	113.7	99.86	2.139	
8,600.0	6,769.1	8,694.2	6,841.8	55.9	55.7	109.64		372.3	-1,762.6	213.2	108.1	105.08	2.029	
8,700.0	6,768.3	8,794.2	6,839.9	58.6	58.4	109.39		372.3	-1,862.6	212.9	102.5	110.34	1.929	
8,800.0	6,767.5	8,894.2	6,838.1	61.3	61.1	109.13		372.3	-1,962.5	212.5	96.9	115.63	1.838	
8,900.0	6,766.6	8,994.2	6,836.2	64.0	63.8	108.87		372.3	-2,062.5	212.2	91.2	120.95	1.754	
9,000.0	6,765.8	9,094.2	6,834.4	66.7	66.5	108.62		372.3	-2,162.5	211.8	85.6	126.29	1.677	
9,100.0	6,764.9	9,194.2	6,832.5	69.4	69.3	108.36		372.3	-2,262.5	211.5	79.8	131.67	1.606	
9,200.0	6,764.1	9,294.2	6,830.7	72.2	72.0	108.10		372.3	-2,362.5	211.2	74.1	137.07	1.541	
9,300.0	6,763.3	9,394.1	6,828.8	74.9	74.7	107.84		372.3	-2,462.4	210.9	68.4	142.49	1.480 Level 3	
9,400.0	6,762.4	9,494.1	6,827.0	77.7	77.5	107.58		372.3	-2,562.4	210.5	62.6	147.93	1.423 Level 3	
9,500.0	6,761.6	9,594.1	6,825.1	80.4	80.2	107.31		372.3	-2,662.4	210.2	56.8	153.40	1.370 Level 3	
9,600.0	6,760.8	9,694.1	6,823.3	83.2	83.0	107.05		372.3	-2,762.4	209.9	51.0	158.88	1.321 Level 3	
9,700.0	6,759.9	9,794.1	6,821.4	85.9	85.7	106.79		372.3	-2,862.3	209.6	45.2	164.38	1.275 Level 3	
9,800.0	6,759.1	9,894.1	6,819.6	88.7	88.5	106.52		372.3	-2,962.3	209.3	39.4	169.90	1.232 Level 2	
9,900.0	6,758.2	9,994.1	6,817.7	91.5	91.2	106.26		372.3	-3,062.3	209.0	33.6	175.44	1.191 Level 2	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1U-234
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #1 (9-4-14)													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	
10,000.0	6,757.4	10,094.1	6,815.9	94.2	94.0	105.99	372.3	-3,162.3	208.7	27.7	180.99	1.153	Level 2	
10,100.0	6,756.6	10,194.1	6,814.0	97.0	96.8	105.73	372.3	-3,262.3	208.4	21.9	186.56	1.117	Level 2	
10,200.0	6,755.7	10,294.1	6,812.2	99.8	99.5	105.46	372.3	-3,362.2	208.1	16.0	192.15	1.083	Level 2	
10,300.0	6,754.9	10,394.1	6,810.4	102.5	102.3	105.19	372.3	-3,462.2	207.9	10.1	197.74	1.051	Level 2	
10,400.0	6,754.1	10,494.1	6,808.5	105.3	105.1	104.92	372.3	-3,562.2	207.6	4.2	203.35	1.021	Level 2	
10,500.0	6,753.2	10,594.1	6,806.7	108.1	107.8	104.65	372.3	-3,662.2	207.3	-1.7	208.97	0.992	Level 1	
10,600.0	6,752.4	10,694.1	6,804.8	110.9	110.6	104.38	372.3	-3,762.1	207.0	-7.6	214.61	0.965	Level 1	
10,700.0	6,751.5	10,794.1	6,803.0	113.6	113.4	104.11	372.3	-3,862.1	206.8	-13.5	220.25	0.939	Level 1	
10,800.0	6,750.7	10,894.1	6,801.1	116.4	116.2	103.84	372.3	-3,962.1	206.5	-19.4	225.91	0.914	Level 1	
10,900.0	6,749.9	10,994.1	6,799.3	119.2	119.0	103.57	372.3	-4,062.1	206.3	-25.3	231.58	0.891	Level 1	
11,000.0	6,749.0	11,094.1	6,797.4	122.0	121.7	103.30	372.3	-4,162.1	206.0	-31.2	237.25	0.868	Level 1	
11,100.0	6,748.2	11,194.1	6,795.6	124.8	124.5	103.02	372.3	-4,262.0	205.8	-37.2	242.94	0.847	Level 1	
11,200.0	6,747.4	11,294.0	6,793.7	127.6	127.3	102.75	372.3	-4,362.0	205.5	-43.1	248.63	0.827	Level 1	
11,300.0	6,746.5	11,394.0	6,791.9	130.4	130.1	102.47	372.3	-4,462.0	205.3	-49.0	254.34	0.807	Level 1	
11,400.0	6,745.7	11,494.0	6,790.0	133.1	132.9	102.20	372.3	-4,562.0	205.1	-55.0	260.05	0.789	Level 1	
11,500.0	6,744.8	11,594.0	6,788.2	135.9	135.7	101.92	372.3	-4,661.9	204.8	-60.9	265.77	0.771	Level 1	
11,600.0	6,744.0	11,694.0	6,786.3	138.7	138.4	101.65	372.3	-4,761.9	204.6	-66.9	271.49	0.754	Level 1	
11,700.0	6,743.2	11,794.0	6,784.5	141.5	141.2	101.37	372.3	-4,861.9	204.4	-72.8	277.23	0.737	Level 1	
11,800.0	6,742.3	11,894.0	6,782.6	144.3	144.0	101.09	372.3	-4,961.9	204.2	-78.8	282.96	0.722	Level 1	
11,900.0	6,741.5	11,994.0	6,780.8	147.1	146.8	100.81	372.3	-5,061.9	204.0	-84.7	288.71	0.707	Level 1	
12,000.0	6,740.6	12,094.0	6,778.9	149.9	149.6	100.53	372.3	-5,161.8	203.8	-90.7	294.46	0.692	Level 1	
12,100.0	6,739.8	12,194.0	6,777.1	152.7	152.4	100.25	372.3	-5,261.8	203.6	-96.6	300.21	0.678	Level 1	
12,200.0	6,739.0	12,294.0	6,775.2	155.5	155.2	99.98	372.3	-5,361.8	203.4	-102.6	305.97	0.665	Level 1	
12,300.0	6,738.1	12,394.0	6,773.4	158.3	158.0	99.69	372.3	-5,461.8	203.2	-108.5	311.73	0.652	Level 1	
12,400.0	6,737.3	12,494.0	6,771.5	161.1	160.8	99.41	372.3	-5,561.7	203.0	-114.5	317.49	0.640	Level 1	
12,500.0	6,736.5	12,594.0	6,769.7	163.9	163.6	99.13	372.3	-5,661.7	202.9	-120.4	323.26	0.628	Level 1	
12,600.0	6,735.6	12,694.0	6,767.8	166.7	166.4	98.85	372.3	-5,761.7	202.7	-126.3	329.03	0.616	Level 1	
12,700.0	6,734.8	12,794.0	6,766.0	169.5	169.2	98.57	372.3	-5,861.7	202.5	-132.3	334.80	0.605	Level 1	
12,800.0	6,733.9	12,894.0	6,764.1	172.3	172.0	98.29	372.3	-5,961.7	202.4	-138.2	340.57	0.594	Level 1	
12,850.0	6,733.5	12,944.0	6,763.2	173.7	173.4	98.14	372.3	-6,011.7	202.3	-141.2	343.46	0.589	Level 1, ES, SF	
12,900.0	6,733.1	12,953.6	6,763.0	175.1	173.6	98.12	372.3	-6,021.3	206.2	-139.0	345.14	0.597	Level 1	
13,000.0	6,732.3	12,953.6	6,763.0	177.8	173.6	98.12	372.3	-6,021.3	246.0	-101.9	347.91	0.707	Level 1	
13,100.0	6,731.4	12,953.6	6,763.0	180.6	173.6	98.12	372.3	-6,021.3	313.9	-36.8	350.68	0.895	Level 1	
13,200.0	6,730.6	12,953.6	6,763.0	183.4	173.6	98.12	372.3	-6,021.3	395.6	42.2	353.45	1.119	Level 2	
13,300.0	6,729.8	12,953.6	6,763.0	186.2	173.6	98.12	372.3	-6,021.3	484.3	128.0	356.22	1.359	Level 3	
13,400.0	6,728.9	12,953.6	6,763.0	189.0	173.6	98.12	372.3	-6,021.3	576.6	217.6	359.00	1.606		
13,500.0	6,728.1	12,953.6	6,763.0	191.8	173.6	98.12	372.3	-6,021.3	671.2	309.4	361.77	1.855		
13,600.0	6,727.2	12,953.6	6,763.0	194.6	173.6	98.12	372.3	-6,021.3	767.1	402.6	364.54	2.104		
13,700.0	6,726.4	12,953.6	6,763.0	197.4	173.6	98.12	372.3	-6,021.3	864.0	496.7	367.32	2.352		
13,800.0	6,725.6	12,953.6	6,763.0	200.2	173.6	98.12	372.3	-6,021.3	961.5	591.4	370.09	2.598		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #1 (9-4-14)													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	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(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	398.314		
200.0	200.0	199.0	199.0	0.3	0.3	134.05	-61.9	64.0	89.1	88.4	0.67	132.550		
300.0	300.0	299.0	299.0	0.6	0.6	134.05	-61.9	64.0	89.1	88.0	1.12	79.424		
400.0	400.0	399.0	399.0	0.8	0.8	134.05	-61.9	64.0	89.1	87.5	1.57	56.699 CC, ES		
500.0	500.0	496.1	496.1	1.0	1.0	134.37	-63.4	64.8	90.7	88.7	1.99	45.555		
600.0	600.0	593.0	592.9	1.2	1.2	135.29	-67.7	67.0	95.5	93.1	2.40	39.731		
700.0	700.0	689.4	689.0	1.5	1.4	136.63	-74.9	70.8	103.5	100.7	2.84	36.450		
800.0	800.0	786.0	784.9	1.7	1.6	138.20	-85.0	76.0	114.9	111.6	3.31	34.702		
900.0	900.0	884.3	882.2	1.9	1.9	139.69	-96.7	82.1	127.9	124.1	3.82	33.524		
1,000.0	1,000.0	983.4	980.4	2.1	2.2	140.90	-108.5	88.2	141.1	136.7	4.34	32.521		
1,100.0	1,100.0	1,082.5	1,078.6	2.4	2.5	141.92	-120.3	94.3	154.2	149.4	4.87	31.683		
1,200.0	1,200.0	1,181.6	1,176.8	2.6	2.8	142.77	-132.2	100.4	167.5	162.1	5.41	30.984		
1,300.0	1,300.0	1,280.7	1,275.0	2.8	3.2	143.49	-144.0	106.6	180.7	174.8	5.95	30.396		
1,400.0	1,400.0	1,379.8	1,373.2	3.0	3.5	144.12	-155.8	112.7	194.0	187.5	6.49	29.896		
1,500.0	1,500.0	1,478.9	1,471.4	3.3	3.8	144.67	-167.6	118.8	207.3	200.3	7.03	29.469		
1,600.0	1,600.0	1,578.0	1,569.6	3.5	4.2	145.15	-179.4	124.9	220.6	213.0	7.58	29.099		
1,700.0	1,700.0	1,677.0	1,667.8	3.7	4.5	145.58	-191.3	131.1	234.0	225.8	8.13	28.777		
1,800.0	1,800.0	1,776.1	1,766.0	3.9	4.8	145.96	-203.1	137.2	247.3	238.6	8.68	28.495		
1,900.0	1,900.0	1,875.2	1,864.2	4.2	5.2	146.30	-214.9	143.3	260.6	251.4	9.23	28.245		
2,000.0	2,000.0	1,974.3	1,962.4	4.4	5.5	146.61	-226.7	149.5	274.0	264.2	9.78	28.022		
2,100.0	2,100.0	2,073.4	2,060.6	4.6	5.8	146.89	-238.5	155.6	287.4	277.0	10.33	27.823		
2,200.0	2,200.0	2,172.5	2,158.8	4.8	6.2	147.14	-250.4	161.7	300.7	289.9	10.88	27.644		
2,300.0	2,300.0	2,271.6	2,257.0	5.1	6.5	147.37	-262.2	167.8	314.1	302.7	11.43	27.482		
2,400.0	2,400.0	2,370.7	2,355.2	5.3	6.9	147.59	-274.0	174.0	327.5	315.5	11.98	27.334		
2,500.0	2,500.0	2,469.8	2,453.4	5.5	7.2	147.78	-285.8	180.1	340.9	328.4	12.53	27.200		
2,600.0	2,600.0	2,568.9	2,551.5	5.7	7.5	83.37	-297.6	186.2	354.1	342.6	11.50	30.798		
2,700.0	2,699.8	2,667.9	2,649.6	5.9	7.9	84.09	-309.4	192.3	366.9	355.0	11.94	30.722		
2,800.0	2,799.5	2,766.6	2,747.5	6.2	8.2	85.26	-321.2	198.4	379.6	367.2	12.39	30.631		
2,900.0	2,898.7	2,865.0	2,845.0	6.4	8.6	86.90	-332.9	204.5	392.3	379.4	12.85	30.530		
3,000.0	2,997.9	2,963.3	2,942.4	6.6	8.9	88.75	-344.7	210.6	405.4	392.0	13.32	30.436		
3,100.0	3,097.0	3,061.6	3,039.8	6.9	9.2	90.49	-356.4	216.7	418.8	405.0	13.80	30.348		
3,200.0	3,196.1	3,159.9	3,137.2	7.1	9.6	92.12	-368.1	222.8	432.6	418.3	14.29	30.266		
3,300.0	3,295.3	3,258.2	3,234.7	7.4	9.9	93.65	-379.8	228.8	446.8	432.0	14.80	30.190		
3,400.0	3,394.4	3,356.5	3,332.1	7.6	10.2	95.08	-391.6	234.9	461.2	445.9	15.31	30.120		
3,500.0	3,493.5	3,454.8	3,429.5	7.9	10.6	96.43	-403.3	241.0	475.9	460.1	15.83	30.055		
3,600.0	3,592.7	3,553.1	3,526.9	8.2	10.9	97.70	-415.0	247.1	490.8	474.5	16.36	29.996		
3,700.0	3,691.8	3,651.4	3,624.3	8.5	11.3	98.90	-426.7	253.2	506.0	489.1	16.90	29.942		
3,800.0	3,791.0	3,749.7	3,721.7	8.7	11.6	100.02	-438.5	259.2	521.4	504.0	17.44	29.892		
3,900.0	3,890.1	3,848.0	3,819.1	9.0	11.9	101.08	-450.2	265.3	537.0	519.0	17.99	29.848		
4,000.0	3,989.2	3,946.3	3,916.5	9.3	12.3	102.08	-461.9	271.4	552.7	534.2	18.54	29.808		
4,100.0	4,088.4	4,044.6	4,013.9	9.6	12.6	103.03	-473.6	277.5	568.6	549.5	19.10	29.772		
4,200.0	4,187.5	4,142.9	4,111.3	9.9	13.0	103.92	-485.4	283.5	584.6	565.0	19.66	29.740		
4,300.0	4,286.7	4,241.2	4,208.8	10.2	13.3	104.77	-497.1	289.6	600.8	580.6	20.22	29.712		
4,400.0	4,385.8	4,339.5	4,306.2	10.5	13.6	105.57	-508.8	295.7	617.1	596.3	20.79	29.687		
4,500.0	4,484.9	4,437.9	4,403.6	10.8	14.0	106.33	-520.5	301.8	633.5	612.1	21.35	29.666		
4,600.0	4,584.1	4,536.2	4,501.0	11.1	14.3	107.06	-532.3	307.9	650.0	628.1	21.92	29.647		
4,700.0	4,683.2	4,634.5	4,598.4	11.4	14.7	107.74	-544.0	313.9	666.6	644.1	22.50	29.631		
4,800.0	4,782.3	4,732.8	4,695.8	11.7	15.0	108.40	-555.7	320.0	683.3	660.2	23.07	29.618		
4,900.0	4,881.5	4,831.1	4,793.2	12.0	15.3	109.02	-567.4	326.1	700.1	676.4	23.65	29.606		
5,000.0	4,980.6	4,929.4	4,890.6	12.3	15.7	109.62	-579.2	332.2	716.9	692.7	24.22	29.597		

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #1 (9-4-14)													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
5,100.0	5,079.8	5,027.7	4,988.0	12.6	16.0	110.18		-590.9	338.2	733.9	709.1	24.80	29.590	
5,200.0	5,178.9	5,126.0	5,085.5	12.9	16.3	110.72		-602.6	344.3	750.9	725.5	25.38	29.584	
5,300.0	5,278.0	5,246.4	5,205.0	13.3	16.7	111.40		-615.7	351.1	766.9	741.0	25.98	29.518	
5,400.0	5,377.2	5,377.4	5,335.6	13.6	16.9	112.27		-625.0	356.0	779.2	752.6	26.57	29.326	
5,500.0	5,476.3	5,509.1	5,467.2	13.9	17.1	113.29		-629.1	358.0	787.4	760.3	27.14	29.009	
5,600.0	5,575.5	5,616.5	5,574.5	14.2	17.3	114.24		-629.2	358.1	792.7	765.0	27.67	28.646	
5,700.0	5,675.0	5,716.0	5,674.0	14.4	17.4	114.94		-629.2	358.1	796.7	768.6	28.11	28.347	
5,800.0	5,774.8	5,815.8	5,773.8	14.6	17.5	115.38		-629.2	358.1	799.3	770.8	28.50	28.042	
5,900.0	5,874.8	5,915.8	5,873.8	14.8	17.7	115.57		-629.2	358.1	800.4	771.6	28.87	27.729	
6,000.0	5,974.8	6,015.8	5,973.8	15.0	17.8	-179.80		-629.2	358.1	800.5	770.0	30.49	26.258	
6,100.0	6,074.8	6,115.6	6,073.6	15.1	17.9	-89.83		-629.2	356.3	800.5	770.9	29.53	27.110	
6,140.3	6,114.8	6,155.7	6,113.5	15.2	18.0	-89.85		-629.2	352.4	800.5	770.9	29.61	27.037	
6,200.0	6,173.7	6,215.3	6,172.3	15.2	18.0	-89.88		-629.2	342.8	800.5	770.8	29.70	26.951	
6,300.0	6,269.9	6,315.1	6,268.6	15.2	18.0	-89.93		-629.2	316.6	800.5	770.7	29.76	26.896	
6,400.0	6,361.8	6,415.0	6,360.6	15.2	18.0	-89.98		-629.2	278.0	800.5	770.7	29.77	26.887	
6,500.0	6,447.8	6,515.0	6,447.0	15.2	18.0	-90.03		-629.2	227.7	800.5	770.6	29.84	26.829	
6,600.0	6,526.4	6,615.1	6,526.1	15.3	18.0	-90.07		-629.2	166.6	800.5	770.4	30.10	26.598	
6,700.0	6,596.3	6,715.2	6,596.6	15.5	17.9	-90.12		-629.2	95.5	800.5	769.8	30.72	26.059	
6,800.0	6,656.3	6,815.5	6,657.2	16.0	17.9	-90.17		-629.2	15.7	800.5	768.6	31.87	25.118	
6,900.0	6,705.3	6,915.8	6,706.9	16.9	17.9	-90.21		-629.2	-71.3	800.5	766.9	33.66	23.780	
7,000.0	6,742.6	7,016.2	6,744.8	18.1	18.4	-90.25		-629.2	-164.2	800.5	764.4	36.14	22.154	
7,100.0	6,767.4	7,116.7	6,770.3	19.7	19.8	-90.29		-629.2	-261.4	800.6	761.3	39.23	20.405	
7,200.0	6,779.3	7,217.3	6,782.7	21.5	21.7	-90.32		-629.2	-361.1	800.6	757.7	42.83	18.692	
7,300.0	6,780.0	7,317.6	6,783.6	23.4	23.7	-90.33		-629.2	-461.3	800.6	753.8	46.79	17.112	
7,400.0	6,779.2	7,417.6	6,782.7	25.5	25.8	-90.32		-629.2	-561.3	800.6	749.6	51.04	15.687	
7,500.0	6,778.3	7,517.6	6,781.8	27.8	28.1	-90.32		-629.2	-661.3	800.6	745.1	55.53	14.418	
7,600.0	6,777.5	7,617.6	6,780.9	30.1	30.4	-90.32		-629.2	-761.3	800.6	740.4	60.21	13.296	
7,700.0	6,776.7	7,717.6	6,780.0	32.5	32.9	-90.31		-629.2	-861.3	800.6	735.6	65.05	12.309	
7,800.0	6,775.8	7,817.6	6,779.1	35.0	35.3	-90.31		-629.2	-961.3	800.7	730.7	70.00	11.439	
7,900.0	6,775.0	7,917.6	6,778.2	37.5	37.9	-90.30		-629.2	-1,061.3	800.7	725.6	75.04	10.670	
8,000.0	6,774.2	8,017.6	6,777.4	40.0	40.4	-90.30		-629.2	-1,161.3	800.7	720.5	80.16	9.988	
8,100.0	6,773.3	8,117.6	6,776.5	42.6	43.0	-90.30		-629.2	-1,261.3	800.7	715.4	85.34	9.382	
8,200.0	6,772.5	8,217.6	6,775.6	45.2	45.6	-90.29		-629.2	-1,361.3	800.7	710.1	90.58	8.840	
8,300.0	6,771.6	8,317.6	6,774.7	47.9	48.3	-90.29		-629.2	-1,461.3	800.7	704.9	95.86	8.353	
8,400.0	6,770.8	8,417.6	6,773.8	50.5	50.9	-90.29		-629.2	-1,561.3	800.7	699.6	101.17	7.914	
8,500.0	6,770.0	8,517.6	6,772.9	53.2	53.6	-90.28		-629.2	-1,661.3	800.8	694.2	106.52	7.517	
8,600.0	6,769.1	8,617.6	6,772.0	55.9	56.3	-90.28		-629.2	-1,761.3	800.8	688.9	111.90	7.156	
8,700.0	6,768.3	8,717.6	6,771.1	58.6	58.9	-90.27		-629.2	-1,861.3	800.8	683.5	117.29	6.827	
8,800.0	6,767.5	8,817.6	6,770.2	61.3	61.7	-90.27		-629.2	-1,961.3	800.8	678.1	122.71	6.526	
8,900.0	6,766.6	8,917.6	6,769.3	64.0	64.4	-90.27		-629.2	-2,061.3	800.8	672.7	128.14	6.249	
9,000.0	6,765.8	9,017.6	6,768.5	66.7	67.1	-90.26		-629.2	-2,161.3	800.8	667.2	133.59	5.995	
9,100.0	6,764.9	9,117.6	6,767.6	69.4	69.8	-90.26		-629.2	-2,261.3	800.8	661.8	139.05	5.759	
9,200.0	6,764.1	9,217.6	6,766.7	72.2	72.5	-90.26		-629.2	-2,361.3	800.8	656.3	144.53	5.541	
9,300.0	6,763.3	9,317.6	6,765.8	74.9	75.3	-90.25		-629.2	-2,461.3	800.9	650.8	150.02	5.338	
9,400.0	6,762.4	9,417.6	6,764.9	77.7	78.0	-90.25		-629.2	-2,561.3	800.9	645.4	155.51	5.150	
9,500.0	6,761.6	9,517.6	6,764.0	80.4	80.8	-90.24		-629.2	-2,661.3	800.9	639.9	161.01	4.974	
9,600.0	6,760.8	9,617.6	6,763.1	83.2	83.5	-90.24		-629.2	-2,761.3	800.9	634.4	166.53	4.809	
9,700.0	6,759.9	9,717.6	6,762.2	85.9	86.3	-90.24		-629.2	-2,861.3	800.9	628.9	172.04	4.655	
9,800.0	6,759.1	9,817.6	6,761.3	88.7	89.0	-90.23		-629.2	-2,961.2	800.9	623.4	177.57	4.510	
9,900.0	6,758.2	9,917.6	6,760.4	91.5	91.8	-90.23		-629.2	-3,061.2	800.9	617.8	183.10	4.374	
10,000.0	6,757.4	10,017.6	6,759.6	94.2	94.6	-90.23		-629.2	-3,161.2	800.9	612.3	188.64	4.246	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #1 (9-4-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (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
10,100.0	6,756.6	10,117.6	6,758.7	97.0	97.3	-90.22	-629.2	-3,261.2	801.0	606.8	194.18	4.125		
10,200.0	6,755.7	10,217.6	6,757.8	99.8	100.1	-90.22	-629.2	-3,361.2	801.0	601.3	199.72	4.010		
10,300.0	6,754.9	10,317.6	6,756.9	102.5	102.9	-90.21	-629.2	-3,461.2	801.0	595.7	205.27	3.902		
10,400.0	6,754.1	10,417.6	6,756.0	105.3	105.7	-90.21	-629.2	-3,561.2	801.0	590.2	210.82	3.799		
10,500.0	6,753.2	10,517.6	6,755.1	108.1	108.4	-90.21	-629.2	-3,661.2	801.0	584.6	216.38	3.702		
10,600.0	6,752.4	10,617.6	6,754.2	110.9	111.2	-90.20	-629.2	-3,761.2	801.0	579.1	221.94	3.609		
10,700.0	6,751.5	10,717.6	6,753.3	113.6	114.0	-90.20	-629.2	-3,861.2	801.0	573.5	227.50	3.521		
10,800.0	6,750.7	10,817.6	6,752.4	116.4	116.8	-90.20	-629.2	-3,961.2	801.1	568.0	233.07	3.437		
10,900.0	6,749.9	10,917.6	6,751.5	119.2	119.6	-90.19	-629.2	-4,061.2	801.1	562.4	238.63	3.357		
11,000.0	6,749.0	11,017.6	6,750.7	122.0	122.3	-90.19	-629.2	-4,161.2	801.1	556.9	244.20	3.280		
11,100.0	6,748.2	11,117.6	6,749.8	124.8	125.1	-90.18	-629.2	-4,261.2	801.1	551.3	249.77	3.207		
11,200.0	6,747.4	11,217.6	6,748.9	127.6	127.9	-90.18	-629.2	-4,361.2	801.1	545.8	255.35	3.137		
11,300.0	6,746.5	11,317.6	6,748.0	130.4	130.7	-90.18	-629.2	-4,461.2	801.1	540.2	260.92	3.070		
11,400.0	6,745.7	11,417.6	6,747.1	133.1	133.5	-90.17	-629.2	-4,561.2	801.1	534.6	266.50	3.006		
11,500.0	6,744.8	11,517.6	6,746.2	135.9	136.3	-90.17	-629.2	-4,661.2	801.1	529.1	272.08	2.945		
11,600.0	6,744.0	11,617.6	6,745.3	138.7	139.1	-90.17	-629.2	-4,761.2	801.2	523.5	277.66	2.885		
11,700.0	6,743.2	11,717.6	6,744.4	141.5	141.8	-90.16	-629.2	-4,861.2	801.2	517.9	283.25	2.829		
11,800.0	6,742.3	11,817.6	6,743.5	144.3	144.6	-90.16	-629.2	-4,961.2	801.2	512.4	288.83	2.774		
11,900.0	6,741.5	11,917.6	6,742.6	147.1	147.4	-90.15	-629.2	-5,061.2	801.2	506.8	294.42	2.721		
12,000.0	6,740.6	12,017.6	6,741.8	149.9	150.2	-90.15	-629.2	-5,161.2	801.2	501.2	300.00	2.671		
12,100.0	6,739.8	12,117.6	6,740.9	152.7	153.0	-90.15	-629.2	-5,261.2	801.2	495.6	305.59	2.622		
12,200.0	6,739.0	12,217.6	6,740.0	155.5	155.8	-90.14	-629.2	-5,361.2	801.2	490.1	311.18	2.575		
12,300.0	6,738.1	12,317.6	6,739.1	158.3	158.6	-90.14	-629.2	-5,461.1	801.3	484.5	316.77	2.529		
12,400.0	6,737.3	12,417.6	6,738.2	161.1	161.4	-90.14	-629.2	-5,561.1	801.3	478.9	322.36	2.486		
12,500.0	6,736.5	12,517.6	6,737.3	163.9	164.2	-90.13	-629.2	-5,661.1	801.3	473.3	327.95	2.443		
12,600.0	6,735.6	12,617.6	6,736.4	166.7	167.0	-90.13	-629.2	-5,761.1	801.3	467.7	333.55	2.402		
12,700.0	6,734.8	12,717.6	6,735.5	169.5	169.8	-90.12	-629.2	-5,861.1	801.3	462.2	339.14	2.363		
12,800.0	6,733.9	12,817.6	6,734.6	172.3	172.6	-90.12	-629.2	-5,961.1	801.3	456.6	344.73	2.324		
12,900.0	6,733.1	12,917.6	6,733.7	175.1	175.4	-90.12	-629.2	-6,061.1	801.3	451.0	350.33	2.287		
13,000.0	6,732.3	13,017.6	6,732.9	177.8	178.2	-90.11	-629.2	-6,161.1	801.3	445.4	355.93	2.251		
13,100.0	6,731.4	13,117.6	6,732.0	180.6	181.0	-90.11	-629.2	-6,261.1	801.4	439.8	361.52	2.217		
13,200.0	6,730.6	13,217.6	6,731.1	183.4	183.8	-90.11	-629.2	-6,361.1	801.4	434.3	367.12	2.183		
13,300.0	6,729.8	13,317.6	6,730.2	186.2	186.6	-90.10	-629.2	-6,461.1	801.4	428.7	372.72	2.150		
13,400.0	6,728.9	13,417.6	6,729.3	189.0	189.4	-90.10	-629.2	-6,561.1	801.4	423.1	378.32	2.118		
13,500.0	6,728.1	13,517.6	6,728.4	191.8	192.2	-90.09	-629.2	-6,661.1	801.4	417.5	383.92	2.087		
13,600.0	6,727.2	13,617.6	6,727.5	194.6	195.0	-90.09	-629.2	-6,761.1	801.4	411.9	389.52	2.057		
13,700.0	6,726.4	13,717.6	6,726.6	197.4	197.8	-90.09	-629.2	-6,861.1	801.4	406.3	395.12	2.028		
13,800.0	6,725.6	13,817.6	6,725.7	200.2	200.6	-90.08	-629.2	-6,961.1	801.5	400.7	400.72	2.000		
13,868.9	6,725.0	13,886.5	6,725.1	202.2	202.5	-90.08	-629.2	-7,030.0	801.5	396.9	404.57	1.981 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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-304 - Wellbore #1 - Plan #1 (9-4-14)													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	135.09		-83.8	83.5	118.3				
100.0	100.0	98.0	98.0	0.1	0.1	135.09		-83.8	83.5	118.3	118.1	0.22	531.638	
200.0	200.0	198.0	198.0	0.3	0.3	135.09		-83.8	83.5	118.3	117.6	0.67	176.621 CC, ES	
300.0	300.0	294.5	294.5	0.6	0.5	135.45		-85.3	84.0	119.7	118.6	1.09	109.885	
400.0	400.0	390.8	390.6	0.8	0.7	136.48		-89.9	85.3	124.2	122.6	1.51	81.994	
500.0	500.0	486.6	486.1	1.0	1.0	138.05		-97.5	87.6	131.6	129.7	1.97	66.822	
600.0	600.0	581.7	580.6	1.2	1.2	139.97		-108.1	90.8	142.3	139.8	2.46	57.766	
700.0	700.0	676.1	673.9	1.5	1.5	142.03		-121.6	94.9	156.1	153.1	3.00	52.111	
800.0	800.0	771.4	767.7	1.7	1.9	144.12		-137.9	99.8	172.9	169.4	3.57	48.437	
900.0	900.0	869.7	864.3	1.9	2.3	145.94		-155.4	105.0	190.5	186.4	4.18	45.601	
1,000.0	1,000.0	968.0	960.9	2.1	2.7	147.45		-172.8	110.3	208.3	203.5	4.79	43.462	
1,100.0	1,100.0	1,066.3	1,057.4	2.4	3.1	148.73		-190.2	115.5	226.2	220.8	5.41	41.802	
1,200.0	1,200.0	1,164.5	1,154.0	2.6	3.5	149.82		-207.6	120.7	244.2	238.1	6.03	40.485	
1,300.0	1,300.0	1,262.8	1,250.6	2.8	3.9	150.76		-225.0	126.0	262.2	255.6	6.65	39.419	
1,400.0	1,400.0	1,361.1	1,347.2	3.0	4.3	151.58		-242.4	131.2	280.3	273.0	7.27	38.541	
1,500.0	1,500.0	1,459.4	1,443.7	3.3	4.7	152.30		-259.9	136.4	298.5	290.6	7.89	37.806	
1,600.0	1,600.0	1,557.6	1,540.3	3.5	5.1	152.93		-277.3	141.7	316.7	308.2	8.52	37.184	
1,700.0	1,700.0	1,655.9	1,636.9	3.7	5.5	153.50		-294.7	146.9	334.9	325.8	9.14	36.650	
1,800.0	1,800.0	1,754.2	1,733.5	3.9	5.9	154.01		-312.1	152.2	353.2	343.4	9.76	36.187	
1,900.0	1,900.0	1,852.5	1,830.0	4.2	6.4	154.47		-329.5	157.4	371.4	361.1	10.38	35.783	
2,000.0	2,000.0	1,950.7	1,926.6	4.4	6.8	154.88		-346.9	162.6	389.7	378.7	11.00	35.427	
2,100.0	2,100.0	2,049.0	2,023.2	4.6	7.2	155.26		-364.3	167.9	408.1	396.4	11.62	35.110	
2,200.0	2,200.0	2,147.3	2,119.8	4.8	7.6	155.61		-381.8	173.1	426.4	414.2	12.24	34.828	
2,300.0	2,300.0	2,245.5	2,216.4	5.1	8.0	155.93		-399.2	178.3	444.8	431.9	12.86	34.575	
2,400.0	2,400.0	2,343.8	2,312.9	5.3	8.4	156.22		-416.6	183.6	463.1	449.6	13.48	34.346	
2,500.0	2,500.0	2,442.1	2,409.5	5.5	8.8	156.49		-434.0	188.8	481.5	467.4	14.10	34.139 SF	
2,600.0	2,600.0	2,540.3	2,506.0	5.7	9.3	91.95		-451.4	194.0	499.9	488.1	11.85	42.204	
2,700.0	2,699.8	2,638.3	2,602.3	5.9	9.7	92.38		-468.8	199.3	518.6	506.3	12.30	42.154	
2,800.0	2,799.5	2,735.9	2,698.3	6.2	10.1	93.12		-486.1	204.5	537.5	524.7	12.76	42.136	
2,900.0	2,898.7	2,833.1	2,793.8	6.4	10.5	94.22		-503.3	209.6	556.9	543.6	13.21	42.144	
3,000.0	2,997.9	2,930.2	2,889.2	6.6	10.9	95.62		-520.5	214.8	576.6	562.9	13.68	42.156	
3,100.0	3,097.0	3,027.3	2,984.6	6.9	11.3	96.93		-537.7	220.0	596.7	582.5	14.16	42.151	
3,200.0	3,196.1	3,124.3	3,080.0	7.1	11.7	98.16		-554.9	225.1	617.1	602.4	14.65	42.132	
3,300.0	3,295.3	3,221.4	3,175.3	7.4	12.1	99.31		-572.1	230.3	637.7	622.5	15.15	42.103	
3,400.0	3,394.4	3,318.5	3,270.7	7.6	12.5	100.38		-589.3	235.5	658.5	642.9	15.66	42.065	
3,500.0	3,493.5	3,415.5	3,366.1	7.9	13.0	101.39		-606.5	240.7	679.6	663.4	16.17	42.020	
3,600.0	3,592.7	3,512.6	3,461.5	8.2	13.4	102.35		-623.7	245.8	700.9	684.2	16.70	41.971	
3,700.0	3,691.8	3,609.6	3,556.9	8.5	13.8	103.24		-640.9	251.0	722.3	705.1	17.23	41.919	
3,800.0	3,791.0	3,706.7	3,652.3	8.7	14.2	104.09		-658.1	256.2	743.9	726.1	17.77	41.864	
3,900.0	3,890.1	3,803.8	3,747.7	9.0	14.6	104.88		-675.3	261.3	765.7	747.3	18.31	41.809	
4,000.0	3,989.2	3,900.8	3,843.0	9.3	15.0	105.64		-692.5	266.5	787.5	768.7	18.86	41.753	
4,100.0	4,088.4	3,997.9	3,938.4	9.6	15.4	106.35		-709.7	271.7	809.5	790.1	19.41	41.696	
4,200.0	4,187.5	4,094.9	4,033.8	9.9	15.8	107.03		-726.9	276.9	831.7	811.7	19.97	41.641	
4,300.0	4,286.7	4,192.0	4,129.2	10.2	16.2	107.67		-744.1	282.0	853.9	833.3	20.53	41.586	
4,400.0	4,385.8	4,289.1	4,224.6	10.5	16.7	108.27		-761.3	287.2	876.2	855.1	21.10	41.533	
4,500.0	4,484.9	4,386.1	4,320.0	10.8	17.1	108.85		-778.5	292.4	898.6	876.9	21.66	41.481	
4,600.0	4,584.1	4,483.2	4,415.4	11.1	17.5	109.40		-795.7	297.5	921.1	898.9	22.23	41.430	
4,700.0	4,683.2	4,580.3	4,510.7	11.4	17.9	109.93		-812.9	302.7	943.7	920.9	22.80	41.381	
4,800.0	4,782.3	4,677.3	4,606.1	11.7	18.3	110.43		-830.1	307.9	966.3	942.9	23.38	41.334	
4,900.0	4,881.5	4,774.4	4,701.5	12.0	18.7	110.90		-847.3	313.1	989.0	965.1	23.95	41.289	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #1 (9-4-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(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	129.28	-18.2	22.3	28.8					
100.0	100.0	99.0	99.0	0.1	0.1	129.28	-18.2	22.3	28.8	28.5	0.22	128.648		
200.0	200.0	199.0	199.0	0.3	0.3	129.28	-18.2	22.3	28.8	28.1	0.67	42.811		
300.0	300.0	299.0	299.0	0.6	0.6	129.28	-18.2	22.3	28.8	27.6	1.12	25.652		
400.0	400.0	399.0	399.0	0.8	0.8	129.28	-18.2	22.3	28.8	27.2	1.57	18.313		
500.0	500.0	499.0	499.0	1.0	1.0	129.28	-18.2	22.3	28.8	26.8	2.02	14.239		
600.0	600.0	599.0	599.0	1.2	1.2	129.28	-18.2	22.3	28.8	26.3	2.47	11.647		
700.0	700.0	699.0	699.0	1.5	1.5	129.28	-18.2	22.3	28.8	25.9	2.92	9.854		
800.0	800.0	799.0	799.0	1.7	1.7	129.28	-18.2	22.3	28.8	25.4	3.37	8.539		
900.0	900.0	899.0	899.0	1.9	1.9	129.28	-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	129.28	-18.2	22.3	28.8	24.5	4.27	6.741		
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	129.28	-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	129.28	-18.2	22.3	28.8	23.6	5.17	5.568		
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	129.28	-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	129.28	-18.2	22.3	28.8	22.7	6.07	4.743		
1,500.0	1,500.0	1,499.0	1,499.0	3.3	3.3	129.28	-18.2	22.3	28.8	22.3	6.52	4.416		
1,600.0	1,600.0	1,599.0	1,599.0	3.5	3.5	129.28	-18.2	22.3	28.8	21.8	6.97	4.131 CC, ES		
1,700.0	1,700.0	1,698.0	1,698.0	3.7	3.7	129.73	-19.5	23.4	30.4	23.1	7.39	4.121		
1,800.0	1,800.0	1,796.7	1,796.6	3.9	3.9	130.85	-23.2	26.8	35.5	27.8	7.79	4.563		
1,900.0	1,900.0	1,895.0	1,894.5	4.2	4.0	132.13	-29.4	32.5	44.1	35.9	8.20	5.374		
2,000.0	2,000.0	1,993.2	1,992.0	4.4	4.3	133.25	-37.9	40.3	55.8	47.2	8.63	6.470		
2,100.0	2,100.0	2,092.4	2,090.5	4.6	4.5	134.04	-47.1	48.7	68.3	59.2	9.07	7.533		
2,200.0	2,200.0	2,191.7	2,188.9	4.8	4.7	134.58	-56.3	57.1	80.8	71.3	9.52	8.489		
2,300.0	2,300.0	2,290.9	2,287.3	5.1	5.0	134.97	-65.5	65.5	93.3	83.4	9.98	9.350		
2,400.0	2,400.0	2,390.1	2,385.7	5.3	5.2	135.28	-74.6	73.9	105.9	95.4	10.45	10.126		
2,500.0	2,500.0	2,489.3	2,484.2	5.5	5.5	135.51	-83.8	82.3	118.4	107.4	10.93	10.828		
2,600.0	2,600.0	2,588.6	2,582.7	5.7	5.7	71.59	-93.0	90.7	130.3	119.2	11.15	11.685		
2,700.0	2,699.8	2,687.8	2,681.1	5.9	6.0	73.50	-102.1	99.1	141.3	129.8	11.58	12.208		
2,800.0	2,799.5	2,787.0	2,779.5	6.2	6.3	76.39	-111.3	107.5	151.6	139.6	12.01	12.628		
2,900.0	2,898.7	2,885.9	2,877.7	6.4	6.6	80.10	-120.4	115.8	161.7	149.3	12.46	12.982		
3,000.0	2,997.9	2,984.7	2,975.7	6.6	6.9	83.83	-129.6	124.2	172.3	159.4	12.93	13.333		
3,100.0	3,097.0	3,083.6	3,073.8	6.9	7.2	87.11	-138.7	132.6	183.6	170.2	13.41	13.693		
3,200.0	3,196.1	3,182.4	3,171.8	7.1	7.5	90.02	-147.8	140.9	195.4	181.5	13.90	14.052		
3,300.0	3,295.3	3,281.3	3,269.9	7.4	7.8	92.59	-157.0	149.3	207.6	193.2	14.41	14.406		
3,400.0	3,394.4	3,380.1	3,368.0	7.6	8.1	94.87	-166.1	157.6	220.2	205.3	14.93	14.751		
3,500.0	3,493.5	3,478.9	3,466.0	7.9	8.4	96.90	-175.2	166.0	233.1	217.7	15.46	15.083		
3,600.0	3,592.7	3,577.8	3,564.1	8.2	8.7	98.72	-184.4	174.4	246.3	230.3	15.99	15.403		
3,700.0	3,691.8	3,676.6	3,662.1	8.5	9.0	100.35	-193.5	182.7	259.7	243.2	16.53	15.710		
3,800.0	3,791.0	3,775.4	3,760.2	8.7	9.3	101.83	-202.6	191.1	273.3	256.2	17.08	16.003		
3,900.0	3,890.1	3,874.3	3,858.3	9.0	9.6	103.16	-211.8	199.5	287.0	269.4	17.63	16.282		
4,000.0	3,989.2	3,973.1	3,956.3	9.3	9.9	104.37	-220.9	207.8	300.9	282.7	18.18	16.549		
4,100.0	4,088.4	4,072.0	4,054.4	9.6	10.2	105.48	-230.0	216.2	314.9	296.2	18.74	16.802		
4,200.0	4,187.5	4,170.8	4,152.4	9.9	10.5	106.49	-239.2	224.5	329.0	309.7	19.31	17.044		
4,300.0	4,286.7	4,269.6	4,250.5	10.2	10.8	107.42	-248.3	232.9	343.2	323.4	19.87	17.274		
4,400.0	4,385.8	4,368.5	4,348.6	10.5	11.1	108.27	-257.4	241.3	357.5	337.1	20.44	17.493		
4,500.0	4,484.9	4,467.3	4,446.6	10.8	11.5	109.06	-266.6	249.6	371.9	350.9	21.01	17.701		
4,600.0	4,584.1	4,566.2	4,544.7	11.1	11.8	109.79	-275.7	258.0	386.3	364.7	21.58	17.900		
4,700.0	4,683.2	4,665.0	4,642.7	11.4	12.1	110.46	-284.8	266.3	400.8	378.6	22.15	18.090		
4,800.0	4,782.3	4,763.8	4,740.8	11.7	12.4	111.09	-294.0	274.7	415.3	392.6	22.73	18.270		
4,900.0	4,881.5	4,862.7	4,838.9	12.0	12.7	111.68	-303.1	283.1	429.9	406.6	23.31	18.443		
5,000.0	4,980.6	4,961.5	4,936.9	12.3	13.0	112.23	-312.2	291.4	444.5	420.6	23.89	18.608		

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #1 (9-4-14)													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	5,079.8	5,060.4	5,035.0	12.6	13.4	112.74		-321.4	299.8	459.1	434.7	24.47	18.766	
5,200.0	5,178.9	5,159.2	5,133.0	12.9	13.7	113.23		-330.5	308.1	473.8	448.8	25.05	18.916	
5,300.0	5,278.0	5,258.0	5,231.1	13.3	14.0	113.68		-339.6	316.5	488.5	462.9	25.63	19.061	
5,400.0	5,377.2	5,356.9	5,329.2	13.6	14.3	114.11		-348.8	324.9	503.3	477.1	26.21	19.199	
5,500.0	5,476.3	5,455.7	5,427.2	13.9	14.6	114.51		-357.9	333.2	518.0	491.3	26.80	19.332	
5,600.0	5,575.5	5,554.6	5,525.3	14.2	15.0	114.98		-367.0	341.6	532.7	505.3	27.38	19.456	
5,700.0	5,675.0	5,667.3	5,637.3	14.4	15.3	115.34		-376.3	350.0	544.9	517.1	27.88	19.543	
5,800.0	5,774.8	5,783.3	5,753.0	14.6	15.5	115.57		-382.4	355.6	552.8	524.5	28.34	19.510	
5,900.0	5,874.8	5,899.8	5,869.5	14.8	15.7	115.66		-385.0	358.1	556.2	527.5	28.74	19.357	
6,000.0	5,974.8	6,004.1	5,973.8	15.0	15.9	-179.72		-385.2	358.2	556.4	528.2	28.15	19.764	
6,100.0	6,074.8	6,104.1	6,073.8	15.1	16.0	-89.96		-385.2	358.2	556.4	527.0	29.44	18.901	
6,105.4	6,080.2	6,109.5	6,079.2	15.1	16.0	-90.00		-385.2	358.2	556.4	526.9	29.45	18.893	
6,200.0	6,173.7	6,204.1	6,173.6	15.2	16.2	-91.07		-385.2	354.9	556.5	526.8	29.64	18.773	
6,300.0	6,269.9	6,305.6	6,273.8	15.2	16.2	-92.23		-385.2	338.9	556.8	527.1	29.71	18.739	
6,400.0	6,361.8	6,408.6	6,372.4	15.2	16.3	-93.36		-385.2	309.1	557.4	527.7	29.70	18.764	
6,500.0	6,447.8	6,513.3	6,467.5	15.2	16.2	-94.44		-385.2	265.7	558.1	528.4	29.70	18.788	
6,600.0	6,526.4	6,619.5	6,557.1	15.3	16.2	-95.45		-385.2	208.7	559.0	529.1	29.85	18.726	
6,700.0	6,596.3	6,727.3	6,638.9	15.5	16.2	-96.36		-385.2	138.7	559.9	529.6	30.31	18.469	
6,800.0	6,656.3	6,836.5	6,711.0	16.0	16.2	-97.16		-385.2	56.9	560.8	529.5	31.29	17.923	
6,900.0	6,705.3	6,946.8	6,771.3	16.9	16.5	-97.82		-385.2	-35.5	561.7	528.8	32.93	17.055	
7,000.0	6,742.6	7,058.3	6,818.0	18.1	17.5	-98.35		-385.2	-136.5	562.4	527.1	35.34	15.917	
7,100.0	6,767.4	7,170.5	6,849.7	19.7	19.2	-98.71		-385.2	-244.1	563.0	524.5	38.45	14.643	
7,200.0	6,779.3	7,283.2	6,865.4	21.5	21.2	-98.91		-385.2	-355.6	563.3	521.1	42.14	13.366	
7,300.0	6,780.0	7,389.9	6,866.5	23.4	23.3	-98.93		-385.2	-462.3	563.3	517.2	46.14	12.210	
7,400.0	6,779.2	7,489.9	6,865.3	25.5	25.5	-98.90		-385.2	-562.3	563.3	513.0	50.32	11.193	
7,500.0	6,778.3	7,589.9	6,864.2	27.8	27.7	-98.87		-385.2	-662.3	563.3	508.5	54.76	10.287	
7,600.0	6,777.5	7,689.9	6,863.1	30.1	30.1	-98.84		-385.2	-762.3	563.2	503.9	59.38	9.486	
7,700.0	6,776.7	7,789.9	6,862.0	32.5	32.5	-98.82		-385.2	-862.3	563.2	499.1	64.15	8.780	
7,800.0	6,775.8	7,889.9	6,860.9	35.0	34.9	-98.79		-385.2	-962.3	563.2	494.1	69.04	8.157	
7,900.0	6,775.0	7,989.9	6,859.7	37.5	37.5	-98.76		-385.2	-1,062.2	563.2	489.1	74.03	7.607	
8,000.0	6,774.2	8,089.9	6,858.6	40.0	40.0	-98.73		-385.2	-1,162.2	563.1	484.0	79.09	7.120	
8,100.0	6,773.3	8,189.9	6,857.5	42.6	42.6	-98.70		-385.2	-1,262.2	563.1	478.9	84.22	6.686	
8,200.0	6,772.5	8,289.9	6,856.4	45.2	45.2	-98.67		-385.2	-1,362.2	563.1	473.7	89.40	6.298	
8,300.0	6,771.6	8,389.9	6,855.3	47.9	47.9	-98.65		-385.2	-1,462.2	563.0	468.4	94.63	5.950	
8,400.0	6,770.8	8,489.9	6,854.2	50.5	50.5	-98.62		-385.2	-1,562.2	563.0	463.1	99.89	5.636	
8,500.0	6,770.0	8,589.9	6,853.0	53.2	53.2	-98.59		-385.2	-1,662.2	563.0	457.8	105.19	5.352	
8,600.0	6,769.1	8,689.9	6,851.9	55.9	55.9	-98.56		-385.2	-1,762.2	562.9	452.4	110.51	5.094	
8,700.0	6,768.3	8,789.9	6,850.8	58.6	58.6	-98.53		-385.2	-1,862.2	562.9	447.1	115.86	4.859	
8,800.0	6,767.5	8,889.9	6,849.7	61.3	61.3	-98.50		-385.2	-1,962.2	562.9	441.7	121.23	4.643	
8,900.0	6,766.6	8,989.9	6,848.6	64.0	64.0	-98.48		-385.2	-2,062.2	562.9	436.3	126.61	4.446	
9,000.0	6,765.8	9,089.9	6,847.5	66.7	66.7	-98.45		-385.2	-2,162.2	562.8	430.8	132.01	4.263	
9,100.0	6,764.9	9,189.9	6,846.3	69.4	69.5	-98.42		-385.2	-2,262.2	562.8	425.4	137.43	4.095	
9,200.0	6,764.1	9,289.9	6,845.2	72.2	72.2	-98.39		-385.2	-2,362.2	562.8	419.9	142.86	3.939	
9,300.0	6,763.3	9,389.9	6,844.1	74.9	74.9	-98.36		-385.2	-2,462.2	562.8	414.5	148.30	3.795	
9,400.0	6,762.4	9,489.9	6,843.0	77.7	77.7	-98.33		-385.2	-2,562.1	562.7	409.0	153.75	3.660	
9,500.0	6,761.6	9,589.9	6,841.9	80.4	80.4	-98.31		-385.2	-2,662.1	562.7	403.5	159.21	3.534	
9,600.0	6,760.8	9,689.9	6,840.8	83.2	83.2	-98.28		-385.2	-2,762.1	562.7	398.0	164.68	3.417	
9,700.0	6,759.9	9,789.9	6,839.6	85.9	85.9	-98.25		-385.2	-2,862.1	562.6	392.5	170.16	3.307	
9,800.0	6,759.1	9,889.9	6,838.5	88.7	88.7	-98.22		-385.2	-2,962.1	562.6	387.0	175.64	3.203	
9,900.0	6,758.2	9,989.9	6,837.4	91.5	91.5	-98.19		-385.2	-3,062.1	562.6	381.5	181.13	3.106	
10,000.0	6,757.4	10,089.9	6,836.3	94.2	94.2	-98.16		-385.2	-3,162.1	562.6	375.9	186.63	3.014	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #1 (9-4-14)													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	6,756.6	10,189.9	6,835.2	97.0	97.0	-98.14		-385.2	-3,262.1	562.5	370.4	192.13	2.928	
10,200.0	6,755.7	10,289.9	6,834.1	99.8	99.8	-98.11		-385.2	-3,362.1	562.5	364.9	197.63	2.846	
10,300.0	6,754.9	10,389.9	6,832.9	102.5	102.5	-98.08		-385.2	-3,462.1	562.5	359.3	203.15	2.769	
10,400.0	6,754.1	10,489.9	6,831.8	105.3	105.3	-98.05		-385.2	-3,562.1	562.5	353.8	208.66	2.696	
10,500.0	6,753.2	10,589.9	6,830.7	108.1	108.1	-98.02		-385.2	-3,662.1	562.4	348.3	214.18	2.626	
10,600.0	6,752.4	10,689.9	6,829.6	110.9	110.9	-97.99		-385.2	-3,762.1	562.4	342.7	219.70	2.560	
10,700.0	6,751.5	10,789.9	6,828.5	113.6	113.7	-97.97		-385.2	-3,862.1	562.4	337.2	225.23	2.497	
10,800.0	6,750.7	10,889.9	6,827.4	116.4	116.4	-97.94		-385.2	-3,962.1	562.4	331.6	230.76	2.437	
10,900.0	6,749.9	10,989.9	6,826.2	119.2	119.2	-97.91		-385.2	-4,062.0	562.3	326.0	236.30	2.380	
11,000.0	6,749.0	11,089.9	6,825.1	122.0	122.0	-97.88		-385.2	-4,162.0	562.3	320.5	241.83	2.325	
11,100.0	6,748.2	11,189.9	6,824.0	124.8	124.8	-97.85		-385.2	-4,262.0	562.3	314.9	247.37	2.273	
11,200.0	6,747.4	11,289.9	6,822.9	127.6	127.6	-97.82		-385.2	-4,362.0	562.3	309.3	252.91	2.223	
11,300.0	6,746.5	11,389.9	6,821.8	130.4	130.4	-97.80		-385.2	-4,462.0	562.2	303.8	258.46	2.175	
11,400.0	6,745.7	11,489.9	6,820.7	133.1	133.2	-97.77		-385.2	-4,562.0	562.2	298.2	264.01	2.130	
11,500.0	6,744.8	11,589.9	6,819.5	135.9	135.9	-97.74		-385.2	-4,662.0	562.2	292.6	269.56	2.086	
11,600.0	6,744.0	11,689.9	6,818.4	138.7	138.7	-97.71		-385.2	-4,762.0	562.2	287.1	275.11	2.043	
11,700.0	6,743.2	11,789.9	6,817.3	141.5	141.5	-97.68		-385.2	-4,862.0	562.1	281.5	280.66	2.003	
11,800.0	6,742.3	11,889.9	6,816.2	144.3	144.3	-97.65		-385.2	-4,962.0	562.1	275.9	286.22	1.964	
11,900.0	6,741.5	11,989.9	6,815.1	147.1	147.1	-97.63		-385.2	-5,062.0	562.1	270.3	291.78	1.926	
12,000.0	6,740.6	12,089.9	6,814.0	149.9	149.9	-97.60		-385.2	-5,162.0	562.1	264.7	297.34	1.890	
12,100.0	6,739.8	12,189.9	6,812.8	152.7	152.7	-97.57		-385.2	-5,262.0	562.0	259.1	302.90	1.856	
12,200.0	6,739.0	12,289.9	6,811.7	155.5	155.5	-97.54		-385.2	-5,362.0	562.0	253.6	308.46	1.822	
12,300.0	6,738.1	12,389.9	6,810.6	158.3	158.3	-97.51		-385.2	-5,462.0	562.0	248.0	314.03	1.790	
12,400.0	6,737.3	12,489.9	6,809.5	161.1	161.1	-97.48		-385.2	-5,561.9	562.0	242.4	319.59	1.758	
12,500.0	6,736.5	12,589.9	6,808.4	163.9	163.9	-97.45		-385.2	-5,661.9	562.0	236.8	325.16	1.728	
12,600.0	6,735.6	12,689.9	6,807.3	166.7	166.7	-97.43		-385.2	-5,761.9	561.9	231.2	330.73	1.699	
12,700.0	6,734.8	12,789.9	6,806.1	169.5	169.5	-97.40		-385.2	-5,861.9	561.9	225.6	336.30	1.671	
12,800.0	6,733.9	12,889.9	6,805.0	172.3	172.3	-97.37		-385.2	-5,961.9	561.9	220.0	341.87	1.644	
12,900.0	6,733.1	12,989.9	6,803.9	175.1	175.1	-97.34		-385.2	-6,061.9	561.9	214.4	347.45	1.617	
13,000.0	6,732.3	13,089.9	6,802.8	177.8	177.9	-97.31		-385.2	-6,161.9	561.8	208.8	353.02	1.592	
13,100.0	6,731.4	13,189.9	6,801.7	180.6	180.7	-97.28		-385.2	-6,261.9	561.8	203.2	358.60	1.567	
13,200.0	6,730.6	13,289.9	6,800.5	183.4	183.5	-97.26		-385.2	-6,361.9	561.8	197.6	364.18	1.543	
13,300.0	6,729.8	13,389.9	6,799.4	186.2	186.3	-97.23		-385.2	-6,461.9	561.8	192.0	369.76	1.519	
13,400.0	6,728.9	13,489.9	6,798.3	189.0	189.1	-97.20		-385.2	-6,561.9	561.8	186.4	375.34	1.497 Level 3	
13,500.0	6,728.1	13,589.9	6,797.2	191.8	191.9	-97.17		-385.2	-6,661.9	561.7	180.8	380.92	1.475 Level 3	
13,600.0	6,727.2	13,689.9	6,796.1	194.6	194.7	-97.14		-385.2	-6,761.9	561.7	175.2	386.50	1.453 Level 3	
13,700.0	6,726.4	13,789.9	6,795.0	197.4	197.5	-97.11		-385.2	-6,861.9	561.7	169.6	392.08	1.433 Level 3	
13,800.0	6,725.6	13,889.9	6,793.8	200.2	200.3	-97.09		-385.2	-6,961.9	561.7	164.0	397.67	1.412 Level 3	
13,868.9	6,725.0	13,958.8	6,793.1	202.2	202.2	-97.07		-385.2	-7,030.8	561.7	160.1	401.51	1.399 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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-414 - Wellbore #1 - Plan #1 (9-4-14)													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
0.0	0.0	0.0	0.0	0.0	0.0	133.82		-40.1	41.8	57.9				
100.0	100.0	99.0	99.0	0.1	0.1	133.82		-40.1	41.8	57.9	57.7	0.22	258.787	
200.0	200.0	199.0	199.0	0.3	0.3	133.82		-40.1	41.8	57.9	57.2	0.67	86.119	
300.0	300.0	299.0	299.0	0.6	0.6	133.82		-40.1	41.8	57.9	56.8	1.12	51.602	
400.0	400.0	399.0	399.0	0.8	0.8	133.82		-40.1	41.8	57.9	56.3	1.57	36.838	
500.0	500.0	499.0	499.0	1.0	1.0	133.82		-40.1	41.8	57.9	55.9	2.02	28.642	
600.0	600.0	599.0	599.0	1.2	1.2	133.82		-40.1	41.8	57.9	55.4	2.47	23.430	
700.0	700.0	699.0	699.0	1.5	1.5	133.82		-40.1	41.8	57.9	55.0	2.92	19.823	
800.0	800.0	799.0	799.0	1.7	1.7	133.82		-40.1	41.8	57.9	54.5	3.37	17.178	
900.0	900.0	899.0	899.0	1.9	1.9	133.82		-40.1	41.8	57.9	54.1	3.82	15.156	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	133.82		-40.1	41.8	57.9	53.6	4.27	13.560 CC, ES	
1,100.0	1,100.0	1,097.0	1,097.0	2.4	2.3	134.16		-41.4	42.7	59.5	54.8	4.69	12.695	
1,200.0	1,200.0	1,194.8	1,194.7	2.6	2.5	135.09		-45.6	45.4	64.5	59.4	5.09	12.672	
1,300.0	1,300.0	1,292.2	1,291.7	2.8	2.7	136.35		-52.4	50.0	72.9	67.4	5.51	13.232	
1,400.0	1,400.0	1,389.8	1,388.6	3.0	2.9	137.69		-61.9	56.4	84.4	78.4	5.94	14.201	
1,500.0	1,500.0	1,489.0	1,487.1	3.3	3.2	138.78		-72.2	63.2	96.7	90.3	6.40	15.107	
1,600.0	1,600.0	1,588.3	1,585.5	3.5	3.4	139.62		-82.4	70.1	109.0	102.2	6.87	15.865	
1,700.0	1,700.0	1,687.5	1,684.0	3.7	3.7	140.30		-92.7	77.0	121.4	114.0	7.36	16.504	
1,800.0	1,800.0	1,786.7	1,782.4	3.9	3.9	140.84		-102.9	83.8	133.8	125.9	7.85	17.046	
1,900.0	1,900.0	1,885.9	1,880.9	4.2	4.2	141.30		-113.2	90.7	146.1	137.8	8.35	17.512	
2,000.0	2,000.0	1,985.2	1,979.4	4.4	4.5	141.69		-123.4	97.5	158.5	149.7	8.85	17.914	
2,100.0	2,100.0	2,084.4	2,077.8	4.6	4.8	142.01		-133.7	104.4	170.9	161.6	9.36	18.264	
2,200.0	2,200.0	2,183.6	2,176.3	4.8	5.1	142.30		-143.9	111.2	183.3	173.4	9.87	18.572	
2,300.0	2,300.0	2,282.8	2,274.7	5.1	5.4	142.55		-154.2	118.1	195.7	185.3	10.39	18.844	
2,400.0	2,400.0	2,382.1	2,373.2	5.3	5.7	142.77		-164.4	125.0	208.1	197.2	10.90	19.085	
2,500.0	2,500.0	2,481.3	2,471.6	5.5	6.0	142.96		-174.7	131.8	220.5	209.1	11.43	19.301	
2,600.0	2,600.0	2,580.5	2,570.1	5.7	6.3	143.11		-184.9	138.7	232.6	221.4	11.20	20.771	
2,700.0	2,699.8	2,679.7	2,668.5	5.9	6.6	143.22		-195.2	145.5	244.1	232.4	11.64	20.975	
2,800.0	2,799.5	2,778.7	2,766.7	6.2	7.0	143.30		-205.4	152.4	255.1	243.1	12.08	21.121	
2,900.0	2,898.7	2,877.4	2,864.7	6.4	7.3	143.38		-215.6	159.2	266.1	253.6	12.54	21.230	
3,000.0	2,997.9	2,976.0	2,962.5	6.6	7.6	143.43		-225.8	166.0	277.5	264.5	13.01	21.339	
3,100.0	3,097.0	3,074.6	3,060.4	6.9	7.9	143.47		-236.0	172.8	289.5	276.0	13.49	21.456	
3,200.0	3,196.1	3,173.2	3,158.2	7.1	8.2	143.50		-246.1	179.6	301.8	287.8	13.99	21.578	
3,300.0	3,295.3	3,271.8	3,256.1	7.4	8.5	143.52		-256.3	186.4	314.6	300.1	14.50	21.702	
3,400.0	3,394.4	3,370.4	3,353.9	7.6	8.8	143.54		-266.5	193.3	327.7	312.7	15.01	21.827	
3,500.0	3,493.5	3,469.0	3,451.8	7.9	9.2	143.55		-276.7	200.1	341.1	325.6	15.54	21.952	
3,600.0	3,592.7	3,567.7	3,549.6	8.2	9.5	143.56		-286.9	206.9	354.8	338.7	16.07	22.075	
3,700.0	3,691.8	3,666.3	3,647.4	8.5	9.8	143.57		-297.1	213.7	368.7	352.1	16.61	22.197	
3,800.0	3,791.0	3,764.9	3,745.3	8.7	10.1	143.58		-307.3	220.5	382.9	365.7	17.16	22.316	
3,900.0	3,890.1	3,863.5	3,843.1	9.0	10.4	143.59		-317.4	227.3	397.2	379.5	17.71	22.433	
4,000.0	3,989.2	3,962.1	3,941.0	9.3	10.8	143.60		-327.6	234.2	411.7	393.4	18.26	22.546	
4,100.0	4,088.4	4,060.7	4,038.8	9.6	11.1	143.61		-337.8	241.0	426.4	407.6	18.82	22.657	
4,200.0	4,187.5	4,159.3	4,136.7	9.9	11.4	143.62		-348.0	247.8	441.2	421.8	19.38	22.765	
4,300.0	4,286.7	4,257.9	4,234.5	10.2	11.7	143.63		-358.2	254.6	456.1	436.2	19.94	22.871	
4,400.0	4,385.8	4,356.5	4,332.3	10.5	12.0	143.64		-368.4	261.4	471.1	450.6	20.51	22.973	
4,500.0	4,484.9	4,455.1	4,430.2	10.8	12.4	143.65		-378.6	268.2	486.3	465.2	21.08	23.072	
4,600.0	4,584.1	4,553.7	4,528.0	11.1	12.7	143.66		-388.7	275.0	501.5	479.9	21.65	23.168	
4,700.0	4,683.2	4,652.3	4,625.9	11.4	13.0	143.67		-398.9	281.9	516.9	494.6	22.22	23.262	
4,800.0	4,782.3	4,750.9	4,723.7	11.7	13.3	143.68		-409.1	288.7	532.3	509.5	22.79	23.352	
4,900.0	4,881.5	4,849.6	4,821.6	12.0	13.7	143.69		-419.3	295.5	547.7	524.4	23.37	23.440	
5,000.0	4,980.6	4,948.2	4,919.4	12.3	14.0	143.70		-429.5	302.3	563.3	539.3	23.94	23.526	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-414 - Wellbore #1 - Plan #1 (9-4-14)													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	5,079.8	5,046.8	5,017.2	12.6	14.3	112.11		-439.7	309.1	578.9	554.4	24.52	23.609	
5,200.0	5,178.9	5,145.4	5,115.1	12.9	14.6	112.66		-449.9	315.9	594.5	569.4	25.10	23.689	
5,300.0	5,278.0	5,244.0	5,212.9	13.3	15.0	113.18		-460.0	322.7	610.2	584.6	25.68	23.767	
5,400.0	5,377.2	5,342.6	5,310.8	13.6	15.3	113.68		-470.2	329.6	626.0	599.7	26.26	23.843	
5,500.0	5,476.3	5,441.2	5,408.6	13.9	15.6	114.16		-480.4	336.4	641.8	615.0	26.84	23.916	
5,600.0	5,575.5	5,539.9	5,506.5	14.2	15.9	114.72		-490.6	343.2	657.5	630.0	27.41	23.983	
5,700.0	5,675.0	5,653.6	5,619.5	14.4	16.2	115.19		-501.5	350.5	671.2	643.3	27.93	24.029	
5,800.0	5,774.8	5,777.4	5,742.9	14.6	16.5	115.48		-509.4	355.8	680.1	651.7	28.40	23.949	
5,900.0	5,874.8	5,901.9	5,867.3	14.8	16.7	115.61		-512.8	358.1	684.0	655.2	28.81	23.739	
6,000.0	5,974.8	6,008.4	5,973.8	15.0	16.9	-179.77		-513.0	358.2	684.2	654.8	29.35	23.309	
6,100.0	6,074.8	6,108.3	6,073.8	15.1	17.0	-89.96		-513.0	358.2	684.2	654.7	29.51	23.186	
6,105.4	6,080.1	6,113.7	6,079.1	15.1	17.0	-90.00		-513.0	358.2	684.2	654.7	29.52	23.177	
6,200.0	6,173.7	6,208.3	6,173.6	15.2	17.1	-90.87		-513.0	354.9	684.3	654.6	29.71	23.034	
6,300.0	6,269.9	6,309.8	6,273.8	15.2	17.2	-91.82		-513.0	338.9	684.5	654.8	29.78	22.988	
6,400.0	6,361.8	6,412.9	6,372.4	15.2	17.2	-92.74		-513.0	309.1	685.0	655.2	29.77	23.008	
6,500.0	6,447.8	6,517.5	6,467.5	15.2	17.2	-93.62		-513.0	265.6	685.6	655.8	29.78	23.023	
6,600.0	6,526.4	6,623.8	6,557.1	15.3	17.2	-94.43		-513.0	208.7	686.3	656.4	29.93	22.928	
6,700.0	6,596.3	6,731.5	6,638.9	15.5	17.1	-95.18		-513.0	138.7	687.1	656.6	30.41	22.593	
6,800.0	6,656.3	6,840.7	6,711.0	16.0	17.1	-95.83		-513.0	56.9	687.8	656.4	31.40	21.904	
6,900.0	6,705.3	6,951.1	6,771.3	16.9	17.0	-96.38		-513.0	-35.5	688.5	655.5	33.06	20.825	
7,000.0	6,742.6	7,062.5	6,818.0	18.1	17.6	-96.81		-513.0	-136.5	689.1	653.6	35.48	19.421	
7,100.0	6,767.4	7,174.7	6,849.7	19.7	19.3	-97.10		-513.0	-244.1	689.6	651.0	38.62	17.857	
7,200.0	6,779.3	7,287.5	6,865.4	21.5	21.4	-97.27		-513.0	-355.6	689.8	647.5	42.33	16.297	
7,300.0	6,780.0	7,392.8	6,867.3	23.4	23.5	-97.35		-513.0	-460.9	690.0	643.7	46.31	14.899	
7,400.0	6,779.2	7,492.8	6,867.8	25.5	25.6	-97.46		-513.0	-560.9	690.2	639.7	50.50	13.665	
7,500.0	6,778.3	7,592.8	6,868.2	27.8	27.9	-97.56		-513.0	-660.9	690.3	635.4	54.94	12.566	
7,600.0	6,777.5	7,692.8	6,868.7	30.1	30.2	-97.67		-513.0	-760.9	690.5	631.0	59.56	11.593	
7,700.0	6,776.7	7,792.8	6,869.1	32.5	32.6	-97.78		-513.0	-860.9	690.7	626.4	64.33	10.737	
7,800.0	6,775.8	7,892.8	6,869.6	35.0	35.1	-97.88		-513.0	-960.9	690.9	621.7	69.22	9.982	
7,900.0	6,775.0	7,992.7	6,870.0	37.5	37.6	-97.99		-513.0	-1,060.9	691.1	616.9	74.19	9.315	
8,000.0	6,774.2	8,092.7	6,870.5	40.0	40.2	-98.09		-513.0	-1,160.8	691.3	612.0	79.24	8.723	
8,100.0	6,773.3	8,192.7	6,870.9	42.6	42.8	-98.20		-513.0	-1,260.8	691.5	607.1	84.36	8.197	
8,200.0	6,772.5	8,292.7	6,871.4	45.2	45.4	-98.30		-513.0	-1,360.8	691.7	602.2	89.52	7.727	
8,300.0	6,771.6	8,392.7	6,871.8	47.9	48.0	-98.41		-513.0	-1,460.8	691.9	597.2	94.72	7.305	
8,400.0	6,770.8	8,492.7	6,872.3	50.5	50.7	-98.52		-513.0	-1,560.8	692.1	592.1	99.95	6.924	
8,500.0	6,770.0	8,592.7	6,872.8	53.2	53.3	-98.62		-513.0	-1,660.8	692.3	587.1	105.22	6.580	
8,600.0	6,769.1	8,692.7	6,873.2	55.9	56.0	-98.73		-513.0	-1,760.8	692.5	582.0	110.50	6.267	
8,700.0	6,768.3	8,792.7	6,873.7	58.6	58.7	-98.83		-513.0	-1,860.8	692.7	576.9	115.81	5.981	
8,800.0	6,767.5	8,892.7	6,874.1	61.3	61.4	-98.94		-513.0	-1,960.8	692.9	571.8	121.13	5.720	
8,900.0	6,766.6	8,992.7	6,874.6	64.0	64.1	-99.04		-513.0	-2,060.8	693.1	566.7	126.47	5.481	
9,000.0	6,765.8	9,092.7	6,875.0	66.7	66.9	-99.15		-513.0	-2,160.7	693.4	561.5	131.82	5.260	
9,100.0	6,764.9	9,192.6	6,875.5	69.4	69.6	-99.25		-513.0	-2,260.7	693.6	556.4	137.18	5.056	
9,200.0	6,764.1	9,292.6	6,875.9	72.2	72.3	-99.36		-513.0	-2,360.7	693.8	551.2	142.55	4.867	
9,300.0	6,763.3	9,392.6	6,876.4	74.9	75.1	-99.46		-513.0	-2,460.7	694.0	546.1	147.93	4.692	
9,400.0	6,762.4	9,492.6	6,876.8	77.7	77.8	-99.57		-513.0	-2,560.7	694.2	540.9	153.31	4.528	
9,500.0	6,761.6	9,592.6	6,877.3	80.4	80.6	-99.67		-513.0	-2,660.7	694.5	535.8	158.70	4.376	
9,600.0	6,760.8	9,692.6	6,877.7	83.2	83.3	-99.78		-513.0	-2,760.7	694.7	530.6	164.09	4.234	
9,700.0	6,759.9	9,792.6	6,878.2	85.9	86.1	-99.88		-513.0	-2,860.7	694.9	525.5	169.48	4.100	
9,800.0	6,759.1	9,892.6	6,878.7	88.7	88.8	-99.99		-513.0	-2,960.7	695.2	520.3	174.88	3.975	
9,900.0	6,758.2	9,992.6	6,879.1	91.5	91.6	-100.09		-513.0	-3,060.7	695.4	515.1	180.28	3.857	
10,000.0	6,757.4	10,092.6	6,879.6	94.2	94.4	-100.20		-513.0	-3,160.7	695.7	510.0	185.68	3.747	

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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-414 - Wellbore #1 - Plan #1 (9-4-14)													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	6,756.6	10,192.6	6,880.0	97.0	97.1	-100.30		-513.0	-3,260.6	695.9	504.8	191.08	3.642	
10,200.0	6,755.7	10,292.6	6,880.5	99.8	99.9	-100.41		-513.0	-3,360.6	696.1	499.7	196.48	3.543	
10,300.0	6,754.9	10,392.5	6,880.9	102.5	102.7	-100.51		-513.0	-3,460.6	696.4	494.5	201.88	3.449	
10,400.0	6,754.1	10,492.5	6,881.4	105.3	105.4	-100.61		-513.0	-3,560.6	696.6	489.4	207.29	3.361	
10,500.0	6,753.2	10,592.5	6,881.8	108.1	108.2	-100.72		-513.0	-3,660.6	696.9	484.2	212.69	3.277	
10,600.0	6,752.4	10,692.5	6,882.3	110.9	111.0	-100.82		-513.0	-3,760.6	697.2	479.1	218.09	3.197	
10,700.0	6,751.5	10,792.5	6,882.7	113.6	113.8	-100.93		-513.0	-3,860.6	697.4	473.9	223.49	3.121	
10,800.0	6,750.7	10,892.5	6,883.2	116.4	116.6	-101.03		-513.0	-3,960.6	697.7	468.8	228.88	3.048	
10,900.0	6,749.9	10,992.5	6,883.6	119.2	119.3	-101.13		-513.0	-4,060.6	697.9	463.6	234.28	2.979	
11,000.0	6,749.0	11,092.5	6,884.1	122.0	122.1	-101.24		-513.0	-4,160.6	698.2	458.5	239.67	2.913	
11,100.0	6,748.2	11,192.5	6,884.6	124.8	124.9	-101.34		-513.0	-4,260.6	698.5	453.4	245.07	2.850	
11,200.0	6,747.4	11,292.5	6,885.0	127.6	127.7	-101.44		-513.0	-4,360.5	698.7	448.3	250.46	2.790	
11,300.0	6,746.5	11,392.5	6,885.5	130.4	130.5	-101.55		-513.0	-4,460.5	699.0	443.2	255.84	2.732	
11,400.0	6,745.7	11,492.5	6,885.9	133.1	133.3	-101.65		-513.0	-4,560.5	699.3	438.0	261.23	2.677	
11,500.0	6,744.8	11,592.4	6,886.4	135.9	136.1	-101.76		-513.0	-4,660.5	699.5	432.9	266.61	2.624	
11,600.0	6,744.0	11,692.4	6,886.8	138.7	138.8	-101.86		-513.0	-4,760.5	699.8	427.8	271.99	2.573	
11,700.0	6,743.2	11,792.4	6,887.3	141.5	141.6	-101.96		-513.0	-4,860.5	700.1	422.7	277.36	2.524	
11,800.0	6,742.3	11,892.4	6,887.7	144.3	144.4	-102.06		-513.0	-4,960.5	700.4	417.6	282.74	2.477	
11,900.0	6,741.5	11,992.4	6,888.2	147.1	147.2	-102.17		-513.0	-5,060.5	700.7	412.6	288.11	2.432	
12,000.0	6,740.6	12,092.4	6,888.6	149.9	150.0	-102.27		-513.0	-5,160.5	701.0	407.5	293.47	2.388	
12,100.0	6,739.8	12,192.4	6,889.1	152.7	152.8	-102.37		-513.0	-5,260.5	701.2	402.4	298.84	2.347	
12,200.0	6,739.0	12,292.4	6,889.5	155.5	155.6	-102.48		-513.0	-5,360.4	701.5	397.3	304.19	2.306	
12,300.0	6,738.1	12,392.4	6,890.0	158.3	158.4	-102.58		-513.0	-5,460.4	701.8	392.3	309.55	2.267	
12,400.0	6,737.3	12,492.4	6,890.5	161.1	161.2	-102.68		-513.0	-5,560.4	702.1	387.2	314.90	2.230	
12,500.0	6,736.5	12,592.4	6,890.9	163.9	164.0	-102.78		-513.0	-5,660.4	702.4	382.2	320.25	2.193	
12,600.0	6,735.6	12,692.4	6,891.4	166.7	166.8	-102.89		-513.0	-5,760.4	702.7	377.1	325.59	2.158	
12,700.0	6,734.8	12,792.3	6,891.8	169.5	169.6	-102.99		-513.0	-5,860.4	703.0	372.1	330.93	2.124	
12,800.0	6,733.9	12,834.6	6,892.0	172.3	170.7	-103.03		-513.0	-5,902.6	705.7	370.9	334.75	2.108 SF	
12,900.0	6,733.1	12,834.6	6,892.0	175.1	170.7	-103.03		-513.0	-5,902.6	721.1	383.6	337.48	2.137	
13,000.0	6,732.3	12,834.6	6,892.0	177.8	170.7	-103.03		-513.0	-5,902.6	749.6	409.4	340.22	2.203	
13,100.0	6,731.4	12,834.6	6,892.0	180.6	170.7	-103.03		-513.0	-5,902.6	789.9	447.0	342.95	2.303	
13,200.0	6,730.6	12,834.6	6,892.0	183.4	170.7	-103.03		-513.0	-5,902.6	840.2	494.5	345.68	2.431	
13,300.0	6,729.8	12,834.6	6,892.0	186.2	170.7	-103.03		-513.0	-5,902.6	898.8	550.4	348.41	2.580	
13,400.0	6,728.9	12,834.6	6,892.0	189.0	170.7	-103.03		-513.0	-5,902.6	964.3	613.2	351.15	2.746	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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-															Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
8,100.0	6,773.3	6,968.9	6,791.9	42.6	26.9	93.57	574.4	-2,159.9	984.9	915.7	69.29	14.215					
8,200.0	6,772.5	6,965.7	6,788.7	45.2	26.9	93.11	574.4	-2,159.9	894.7	822.7	71.93	12.438					
8,300.0	6,771.6	6,962.6	6,785.6	47.9	26.9	92.67	574.4	-2,160.0	806.7	732.1	74.59	10.815					
8,400.0	6,770.8	6,959.5	6,782.5	50.5	26.9	92.23	574.3	-2,160.1	721.8	644.5	77.26	9.342					
8,500.0	6,770.0	6,956.4	6,779.4	53.2	26.9	91.79	574.3	-2,160.1	641.2	561.3	79.95	8.020					
8,600.0	6,769.1	6,953.4	6,776.4	55.9	26.9	91.37	574.3	-2,160.2	566.9	484.3	82.65	6.859					
8,700.0	6,768.3	6,950.5	6,773.4	58.6	26.9	90.95	574.3	-2,160.3	501.6	416.3	85.36	5.877					
8,800.0	6,767.5	6,947.5	6,770.5	61.3	26.9	90.53	574.3	-2,160.3	449.2	361.2	88.07	5.101					
8,900.0	6,766.6	6,944.7	6,767.7	64.0	26.9	90.13	574.3	-2,160.4	414.7	323.9	90.79	4.568					
8,999.2	6,765.8	6,941.9	6,764.9	66.7	26.9	89.73	574.3	-2,160.4	402.7	309.2	93.49	4.307 CC					
9,000.0	6,765.8	6,941.9	6,764.9	66.7	26.9	89.72	574.3	-2,160.4	402.7	309.2	93.51	4.306 ES, SF					
9,100.0	6,764.9	6,939.1	6,762.1	69.4	26.9	89.33	574.2	-2,160.5	415.1	318.9	96.24	4.313					
9,200.0	6,764.1	6,936.3	6,759.3	72.2	26.9	88.94	574.2	-2,160.5	449.9	351.0	98.97	4.546					
9,300.0	6,763.3	6,933.7	6,756.6	74.9	26.9	88.56	574.2	-2,160.6	502.5	400.8	101.69	4.942					
9,400.0	6,762.4	6,931.0	6,754.0	77.7	26.9	88.18	574.2	-2,160.6	568.0	463.6	104.42	5.440					
9,500.0	6,761.6	6,928.4	6,751.4	80.4	26.9	87.81	574.2	-2,160.7	642.4	535.3	107.15	5.996					
9,600.0	6,760.8	6,925.8	6,748.8	83.2	26.9	87.44	574.2	-2,160.7	723.0	613.2	109.88	6.581					
9,700.0	6,759.9	6,923.3	6,746.3	85.9	26.9	87.08	574.2	-2,160.8	808.0	695.4	112.60	7.176					
9,800.0	6,759.1	6,920.8	6,743.8	88.7	26.9	86.73	574.2	-2,160.8	896.0	780.7	115.33	7.770					
9,900.0	6,758.2	6,918.3	6,741.3	91.5	26.9	86.38	574.1	-2,160.9	986.4	868.3	118.05	8.356					



<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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	6,750.7	6,939.5	6,760.8	116.4	25.8	91.12	533.2	-4,797.2	910.7	778.3	132.47	6.875		
10,900.0	6,749.9	6,939.6	6,760.8	119.2	25.8	91.12	533.2	-4,797.2	819.9	684.7	135.25	6.062		
11,000.0	6,749.0	6,939.6	6,760.8	122.0	25.8	91.12	533.2	-4,797.2	731.5	593.4	138.04	5.299		
11,100.0	6,748.2	6,939.6	6,760.8	124.8	25.8	91.12	533.2	-4,797.2	646.4	505.6	140.82	4.590		
11,200.0	6,747.4	6,939.6	6,760.8	127.6	25.8	91.12	533.2	-4,797.2	566.3	422.7	143.61	3.943		
11,300.0	6,746.5	6,939.6	6,760.8	130.4	25.8	91.12	533.2	-4,797.2	493.4	347.0	146.40	3.370		
11,400.0	6,745.7	6,939.6	6,760.8	133.1	25.8	91.12	533.2	-4,797.2	431.6	282.4	149.18	2.893		
11,500.0	6,744.8	6,939.6	6,760.8	135.9	25.8	91.12	533.2	-4,797.2	386.1	234.1	151.97	2.540		
11,600.0	6,744.0	6,939.6	6,760.8	138.7	25.8	91.12	533.2	-4,797.2	363.1	208.3	154.76	2.346		
11,636.0	6,743.7	6,939.6	6,760.8	139.7	25.8	91.12	533.2	-4,797.2	361.3	205.6	155.77	2.320 CC, ES, SF		
11,700.0	6,743.2	6,939.6	6,760.8	141.5	25.8	91.12	533.2	-4,797.2	366.9	209.4	157.55	2.329		
11,800.0	6,742.3	6,939.6	6,760.8	144.3	25.8	91.12	533.2	-4,797.2	396.8	236.4	160.34	2.475		
11,900.0	6,741.5	6,939.6	6,760.8	147.1	25.8	91.12	533.2	-4,797.2	447.5	284.3	163.14	2.743		
12,000.0	6,740.6	6,939.6	6,760.8	149.9	25.8	91.12	533.2	-4,797.2	512.9	346.9	165.93	3.091		
12,100.0	6,739.8	6,939.6	6,760.8	152.7	25.8	91.12	533.2	-4,797.2	588.1	419.4	168.72	3.486		
12,200.0	6,739.0	6,939.6	6,760.8	155.5	25.8	91.12	533.2	-4,797.2	669.8	498.3	171.51	3.905		
12,300.0	6,738.1	6,939.6	6,760.8	158.3	25.8	91.12	533.2	-4,797.2	755.9	581.6	174.31	4.337		
12,400.0	6,737.3	6,939.6	6,760.8	161.1	25.8	91.12	533.2	-4,797.2	845.1	668.0	177.10	4.772		
12,500.0	6,736.5	6,939.6	6,760.8	163.9	25.8	91.12	533.2	-4,797.2	936.5	756.6	179.90	5.206		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS F01-30D Sec.36-T6N-R65W - LDS F01-30D - LDS F01-30D - Noble LDS F01-30D Plan #2 (01-04-													Offset Site Error:	0.0 ft
Survey Program: 0-Reference													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
10,800.0	6,750.7	6,935.3	6,760.7	116.4	26.8	91.07	550.6	-4,801.8	922.0	789.0	132.92	6.936		
10,900.0	6,749.9	6,934.5	6,759.9	119.2	26.8	90.94	550.6	-4,801.8	831.8	696.1	135.70	6.130		
11,000.0	6,749.0	6,933.6	6,759.0	122.0	26.8	90.81	550.6	-4,801.8	744.2	605.7	138.48	5.374		
11,100.0	6,748.2	6,932.8	6,758.2	124.8	26.8	90.69	550.6	-4,801.8	660.0	518.8	141.27	4.672		
11,200.0	6,747.4	6,932.0	6,757.4	127.6	26.8	90.56	550.6	-4,801.8	581.0	436.9	144.05	4.033		
11,300.0	6,746.5	6,931.1	6,756.5	130.4	26.8	90.43	550.6	-4,801.8	509.3	362.5	146.83	3.469		
11,400.0	6,745.7	6,930.3	6,755.7	133.1	26.8	90.31	550.6	-4,801.8	448.6	299.0	149.62	2.999		
11,500.0	6,744.8	6,929.5	6,754.8	135.9	26.8	90.18	550.6	-4,801.8	403.9	251.5	152.40	2.650		
11,600.0	6,744.0	6,928.6	6,754.0	138.7	26.8	90.05	550.6	-4,801.8	380.8	225.6	155.19	2.454		
11,640.7	6,743.7	6,928.3	6,753.7	139.9	26.8	90.00	550.6	-4,801.8	378.6	222.3	156.32	2.422 CC, ES, SF		
11,700.0	6,743.2	6,927.8	6,753.2	141.5	26.8	89.92	550.6	-4,801.8	383.3	225.3	157.97	2.426		
11,800.0	6,742.3	6,926.9	6,752.3	144.3	26.8	89.80	550.6	-4,801.8	410.8	250.0	160.75	2.555		
11,900.0	6,741.5	6,926.1	6,751.5	147.1	26.8	89.67	550.6	-4,801.8	458.9	295.4	163.54	2.806		
12,000.0	6,740.6	6,925.3	6,750.6	149.9	26.8	89.54	550.6	-4,801.8	522.0	355.7	166.32	3.138		
12,100.0	6,739.8	6,924.4	6,749.8	152.7	26.8	89.42	550.6	-4,801.8	595.3	426.2	169.11	3.520		
12,200.0	6,739.0	6,923.6	6,749.0	155.5	26.8	89.29	550.6	-4,801.8	675.4	503.5	171.89	3.929		
12,300.0	6,738.1	6,922.7	6,748.1	158.3	26.8	89.16	550.6	-4,801.8	760.3	585.6	174.67	4.353		
12,400.0	6,737.3	6,921.9	6,747.3	161.1	26.8	89.04	550.6	-4,801.8	848.5	671.0	177.46	4.781		
12,500.0	6,736.5	6,921.1	6,746.5	163.9	26.8	88.91	550.6	-4,801.8	939.0	758.8	180.24	5.210		

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 2RD - Wellbore #1 - Plan#1 (6-14-10)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
12,100.0	6,739.8	6,866.4	6,745.8	152.7	23.1	91.97	401.7	-6,201.4	967.9	799.0	168.94	5.729					
12,200.0	6,739.0	6,865.6	6,745.0	155.5	23.1	91.76	401.7	-6,201.4	871.1	699.3	171.76	5.072					
12,300.0	6,738.1	6,864.8	6,744.1	158.3	23.1	91.55	401.7	-6,201.4	775.1	600.5	174.58	4.440					
12,400.0	6,737.3	6,863.9	6,743.3	161.1	23.1	91.34	401.7	-6,201.4	680.2	502.8	177.40	3.834					
12,500.0	6,736.5	6,863.1	6,742.5	163.9	23.1	91.13	401.7	-6,201.4	587.0	406.8	180.21	3.258					
12,600.0	6,735.6	6,862.3	6,741.6	166.7	23.1	90.92	401.7	-6,201.4	496.6	313.5	183.03	2.713					
12,700.0	6,734.8	6,861.4	6,740.8	169.5	23.1	90.71	401.7	-6,201.4	410.5	224.7	185.84	2.209					
12,800.0	6,733.9	6,860.6	6,739.9	172.3	23.1	90.50	401.7	-6,201.4	332.3	143.7	188.65	1.762					
12,900.0	6,733.1	6,859.7	6,739.1	175.1	23.1	90.29	401.7	-6,201.4	269.0	77.6	191.47	1.405	Level 3				
13,000.0	6,732.3	6,858.9	6,738.3	177.8	23.1	90.08	401.7	-6,201.4	233.1	38.8	194.27	1.200	Level 2				
13,040.3	6,731.9	6,858.6	6,737.9	179.0	23.1	90.00	401.7	-6,201.4	229.5	34.1	195.41	1.175	Level 2, CC, ES, SF				
13,100.0	6,731.4	6,858.1	6,737.4	180.6	23.1	89.88	401.7	-6,201.4	237.2	40.1	197.08	1.203	Level 2				
13,200.0	6,730.6	6,857.2	6,736.6	183.4	23.1	89.67	401.7	-6,201.4	279.6	79.7	199.89	1.399	Level 3				
13,300.0	6,729.8	6,856.4	6,735.8	186.2	23.1	89.46	401.7	-6,201.4	346.6	143.9	202.69	1.710					
13,400.0	6,728.9	6,855.6	6,734.9	189.0	23.1	89.25	401.7	-6,201.4	426.7	221.2	205.49	2.076					
13,500.0	6,728.1	6,854.7	6,734.1	191.8	23.1	89.04	401.7	-6,201.4	513.8	305.5	208.29	2.467					
13,600.0	6,727.2	6,853.9	6,733.2	194.6	23.1	88.83	401.7	-6,201.4	604.9	393.8	211.08	2.866					
13,700.0	6,726.4	6,853.0	6,732.4	197.4	23.1	88.62	401.7	-6,201.4	698.4	484.6	213.88	3.266					
13,800.0	6,725.6	6,852.2	6,731.6	200.2	23.1	88.41	401.7	-6,201.4	793.6	576.9	216.67	3.663					
13,868.9	6,725.0	6,851.6	6,731.0	202.2	23.1	88.27	401.7	-6,201.4	859.8	641.2	218.58	3.933					

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Noffsinger Pad Sec.2-T5N-R65W -   Noffsinger 2RD - Wellbore #1 - Wellbore #1													Offset Site Error:		0.0 ft
Survey Program: 699-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
12,100.0	6,739.8	6,931.0	6,795.1	152.7	22.3	102.50	429.0	-6,176.3	951.9	788.1	163.80	5.811			
12,200.0	6,739.0	6,923.6	6,787.8	155.5	22.3	100.95	428.8	-6,176.8	856.2	688.7	167.45	5.113			
12,300.0	6,738.1	6,916.4	6,780.6	158.3	22.3	99.39	428.6	-6,177.2	761.5	590.5	171.02	4.453			
12,400.0	6,737.3	6,909.2	6,773.4	161.1	22.3	97.83	428.4	-6,177.7	668.4	493.9	174.50	3.830			
12,500.0	6,736.5	6,902.1	6,766.3	163.9	22.3	96.28	428.2	-6,178.1	577.4	399.5	177.89	3.246			
12,600.0	6,735.6	6,895.1	6,759.3	166.7	22.3	94.73	428.0	-6,178.5	489.9	308.8	181.16	2.704			
12,700.0	6,734.8	6,888.1	6,752.4	169.5	22.3	93.19	427.8	-6,178.9	408.1	223.7	184.33	2.214			
12,800.0	6,733.9	6,881.2	6,745.5	172.3	22.3	91.65	427.6	-6,179.3	336.0	148.7	187.39	1.793			
12,900.0	6,733.1	6,874.4	6,738.7	175.1	22.3	90.13	427.4	-6,179.8	281.5	91.2	190.32	1.479	Level 3		
13,000.0	6,732.3	6,867.7	6,732.0	177.8	22.2	88.63	427.2	-6,180.1	255.9	62.7	193.14	1.325	Level 3		
13,019.2	6,732.1	6,866.4	6,730.7	178.4	22.2	88.34	427.1	-6,180.2	255.1	61.5	193.66	1.317	Level 3, CC, ES, SF		
13,100.0	6,731.4	6,861.0	6,725.4	180.6	22.2	87.13	427.0	-6,180.5	267.6	71.7	195.83	1.366	Level 3		
13,200.0	6,730.6	6,854.5	6,718.8	183.4	22.2	85.66	426.8	-6,180.9	312.5	114.1	198.39	1.575			
13,300.0	6,729.8	6,849.0	6,713.3	186.2	22.2	84.44	426.6	-6,181.2	378.9	178.0	200.90	1.886			
13,400.0	6,728.9	6,841.9	6,706.3	189.0	22.2	82.87	426.4	-6,181.6	457.7	254.5	203.19	2.252			
13,500.0	6,728.1	6,835.9	6,700.3	191.8	22.2	81.54	426.3	-6,182.0	543.4	337.9	205.43	2.645			
13,600.0	6,727.2	6,830.1	6,694.4	194.6	22.2	80.25	426.1	-6,182.3	633.2	425.6	207.58	3.051			
13,700.0	6,726.4	6,824.3	6,688.6	197.4	22.2	78.98	426.0	-6,182.6	725.7	516.1	209.62	3.462			
13,800.0	6,725.6	6,818.6	6,683.0	200.2	22.2	77.74	425.9	-6,183.0	819.9	608.3	211.56	3.875			
13,868.9	6,725.0	6,814.7	6,679.1	202.2	22.2	76.91	425.8	-6,183.2	885.5	672.7	212.84	4.160			

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

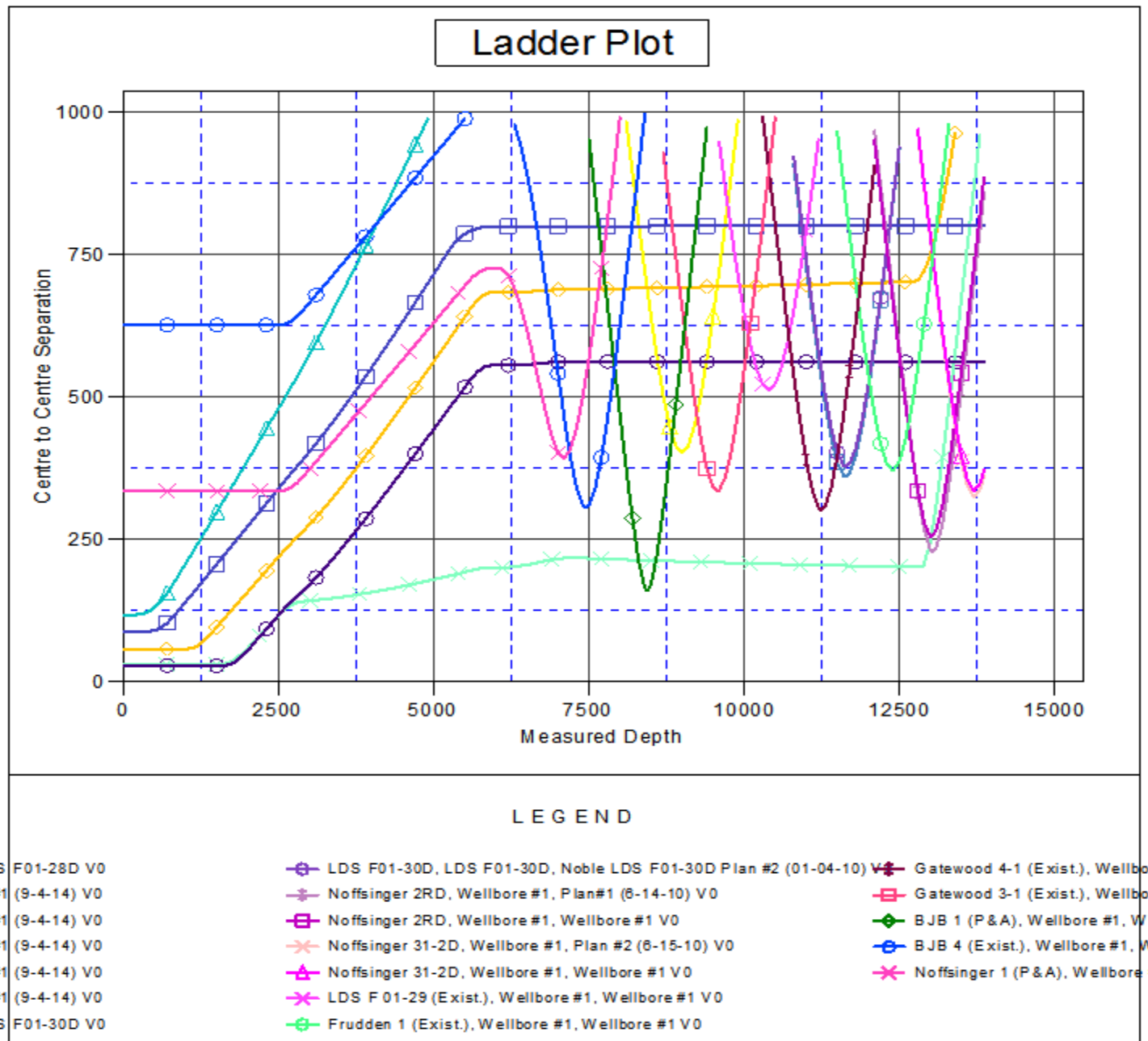
<b>Offset Design</b> Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 31-2D - Wellbore #1 - Plan #2 (6-15-10)												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (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
12,800.0	6,733.9	6,841.1	6,739.9	172.3	22.6	-91.34	-153.3	-6,872.8	968.1	774.3	193.75	4.996	
12,900.0	6,733.1	6,840.3	6,739.1	175.1	22.6	-91.20	-153.3	-6,872.8	874.5	678.0	196.55	4.449	
13,000.0	6,732.3	6,839.5	6,738.3	177.8	22.6	-91.05	-153.3	-6,872.8	782.6	583.3	199.36	3.926	
13,100.0	6,731.4	6,838.6	6,737.4	180.6	22.6	-90.90	-153.3	-6,872.8	692.9	490.8	202.16	3.428	
13,200.0	6,730.6	6,837.8	6,736.6	183.4	22.6	-90.75	-153.3	-6,872.8	606.5	401.5	204.96	2.959	
13,300.0	6,729.8	6,836.9	6,735.8	186.2	22.6	-90.61	-153.3	-6,872.8	524.9	317.1	207.76	2.526	
13,400.0	6,728.9	6,836.1	6,734.9	189.0	22.6	-90.46	-153.3	-6,872.8	450.7	240.2	210.56	2.141	
13,500.0	6,728.1	6,835.3	6,734.1	191.8	22.6	-90.31	-153.3	-6,872.8	388.3	175.0	213.35	1.820	
13,600.0	6,727.2	6,834.4	6,733.2	194.6	22.6	-90.16	-153.3	-6,872.8	344.2	128.0	216.15	1.592	
13,700.0	6,726.4	6,833.6	6,732.4	197.4	22.6	-90.02	-153.3	-6,872.8	325.8	106.8	218.95	1.488 Level 3	
13,711.7	6,726.3	6,833.5	6,732.3	197.8	22.6	-90.00	-153.3	-6,872.8	325.5	106.3	219.27	1.485 Level 3, CC, ES, SF	
13,800.0	6,725.6	6,832.7	6,731.6	200.2	22.6	-89.87	-153.3	-6,872.8	337.3	115.6	221.74	1.521	
13,868.9	6,725.0	6,832.2	6,731.0	202.2	22.6	-89.77	-153.3	-6,872.8	361.5	137.9	223.66	1.616	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<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			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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
12,800.0	6,733.9	6,867.7	6,760.6	172.3	21.2	-94.79	-165.3	-6,870.4	970.1	778.2	191.91	5.055	
12,900.0	6,733.1	6,863.0	6,756.0	175.1	21.2	-94.01	-165.2	-6,870.6	877.1	682.2	194.87	4.501	
13,000.0	6,732.3	6,858.4	6,751.4	177.8	21.2	-93.24	-165.1	-6,870.7	785.8	588.0	197.79	3.973	
13,100.0	6,731.4	6,854.0	6,747.0	180.6	21.2	-92.49	-164.9	-6,870.9	696.8	496.1	200.68	3.472	
13,200.0	6,730.6	6,849.6	6,742.6	183.4	21.2	-91.74	-164.8	-6,871.0	611.2	407.7	203.55	3.003	
13,300.0	6,729.8	6,845.3	6,738.3	186.2	21.2	-91.01	-164.7	-6,871.2	530.7	324.3	206.38	2.571	
13,400.0	6,728.9	6,841.0	6,734.0	189.0	21.2	-90.29	-164.5	-6,871.3	457.8	248.6	209.18	2.189	
13,500.0	6,728.1	6,836.9	6,729.9	191.8	21.2	-89.58	-164.4	-6,871.4	396.9	185.0	211.96	1.873	
13,600.0	6,727.2	6,832.8	6,725.8	194.6	21.2	-88.89	-164.3	-6,871.5	354.2	139.5	214.70	1.650	
13,700.0	6,726.4	6,828.8	6,721.8	197.4	21.2	-88.20	-164.2	-6,871.7	336.7	119.3	217.42	1.549	
13,710.6	6,726.3	6,828.3	6,721.4	197.7	21.2	-88.13	-164.1	-6,871.7	336.5	118.8	217.71	1.546 CC, ES, SF	
13,800.0	6,725.6	6,824.8	6,717.8	200.2	21.2	-87.53	-164.0	-6,871.8	348.2	128.1	220.11	1.582	
13,868.9	6,725.0	6,822.1	6,715.2	202.2	21.2	-87.08	-163.9	-6,871.9	371.9	149.9	221.94	1.675	

<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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4654.0ft (Original Well Elev) Coordinates are relative to: LDS 1U-234  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 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 @ 4654.0ft (Original Well Elev)
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4654.0ft (Original Well Elev)
<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 #1 (9-4-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4654.0ft (Original Well Elev) Coordinates are relative to: LDS 1U-234  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.58°

