

# PETROLEUM DEVELOPMENT CORP Weld County CO

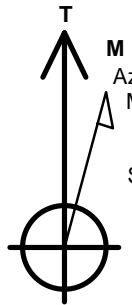
Well Name: **LDS 1V-304**

Surface Location: LDS 5N65W1U Pad Sec.1-T5N-R65W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4638.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1402085.66	3249703.84	40.433660	-104.602970	
RKB - 13' WELL @ 4651.0ft (RKB - 13')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50' E/W Hardline (1V-304)	1.0	-607.4	-3791.0	Rectangle (Sides: L6632.6 W100.0)
SHL 531'FNL & 347'FEL, Sec.1	1.0	0.0	0.0	Point
BHL 1145'FNL & 2145'FEL, Sec.2	6783.0	-607.4	-7107.3	Point

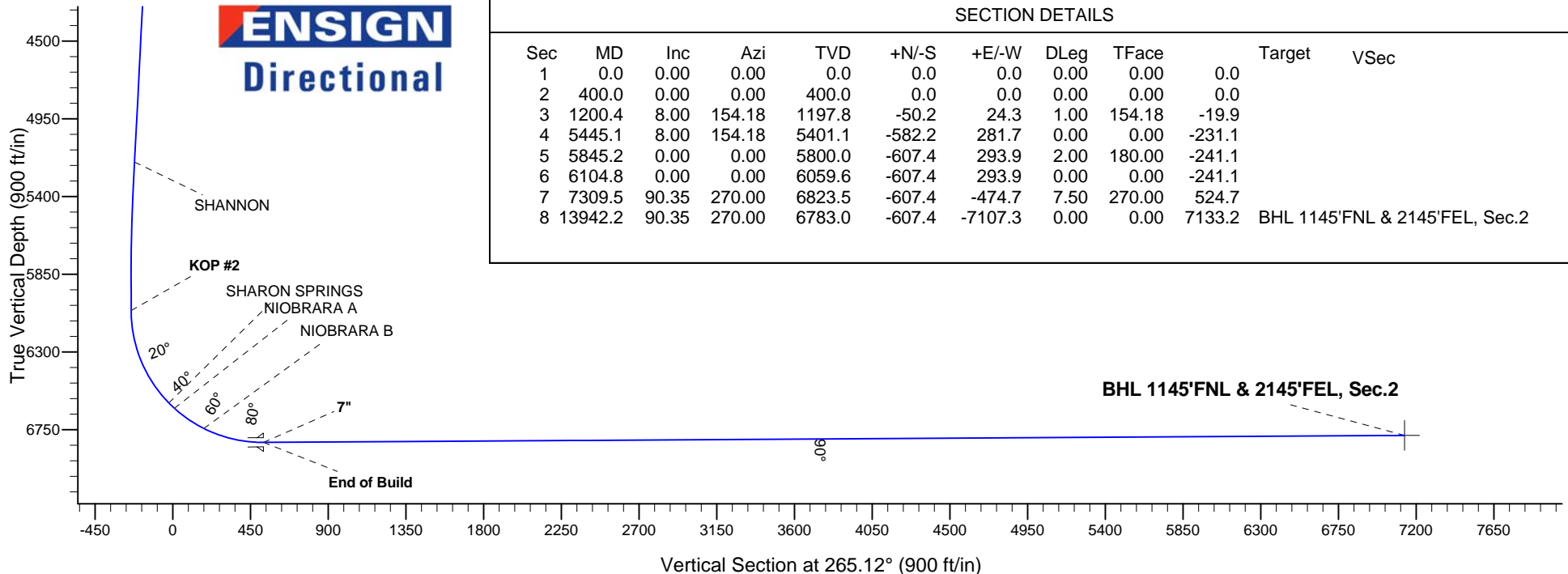
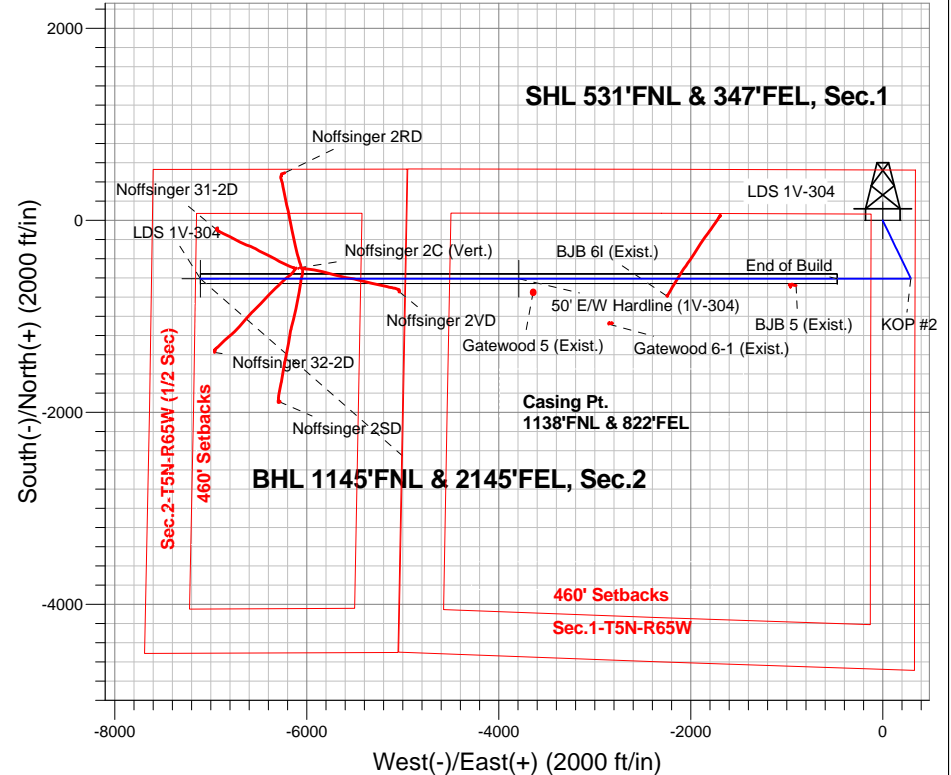


Azimuths to True North  
 Magnetic North: 8.26°  
 Magnetic Field  
 Strength: 52759.0snT  
 Dip Angle: 66.97°  
 Date: 4/30/2015  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP #1
6059.6	6104.8	KOP #2
6823.5	7309.5	End of Build

LDS 5N65W1U Pad Sec.1-T5N-R65W  
 LDS 1V-304  
 Plan #2 (4-30-15)



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	Target	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1200.4	8.00	154.18	1197.8	-50.2	24.3	1.00	154.18	-19.9	
4	5445.1	8.00	154.18	5401.1	-582.2	281.7	0.00	0.00	-231.1	
5	5845.2	0.00	0.00	5800.0	-607.4	293.9	2.00	180.00	-241.1	
6	6104.8	0.00	0.00	6059.6	-607.4	293.9	0.00	0.00	-241.1	
7	7309.5	90.35	270.00	6823.5	-607.4	-474.7	7.50	270.00	524.7	
8	13942.2	90.35	270.00	6783.0	-607.4	-7107.3	0.00	0.00	7133.2	BHL 1145'FNL & 2145'FEL, Sec.2



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.1-T5N-R65W**

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

**LDS 1V-304**

**Wellbore #1**

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

## **Standard Planning Report**

**30 April, 2015**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

<b>Project</b>	SEC.1-T5N-R65W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<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 1V-304		
<b>Well Position</b>	<b>+N/-S</b>	21.8 ft	<b>Northing:</b>
	<b>+E/-W</b>	-19.5 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

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

<b>Design</b>	Plan #2 (4-30-15)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	265.12

<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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.4	8.00	154.18	1,197.8	-50.2	24.3	1.00	1.00	0.00	154.18	
5,445.1	8.00	154.18	5,401.1	-582.2	281.7	0.00	0.00	0.00	0.00	
5,845.2	0.00	0.00	5,800.0	-607.4	293.9	2.00	-2.00	0.00	180.00	
6,104.8	0.00	0.00	6,059.6	-607.4	293.9	0.00	0.00	0.00	0.00	
7,309.5	90.35	270.00	6,823.5	-607.4	-474.7	7.50	7.50	0.00	270.00	
13,942.2	90.35	270.00	6,783.0	-607.4	-7,107.3	0.00	0.00	0.00	0.00	BHL 1145°FNL & 21

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
500.0	1.00	154.18	500.0	-0.8	0.4	-0.3	1.00	1.00	0.00
600.0	2.00	154.18	600.0	-3.1	1.5	-1.2	1.00	1.00	0.00
700.0	3.00	154.18	699.9	-7.1	3.4	-2.8	1.00	1.00	0.00
800.0	4.00	154.18	799.7	-12.6	6.1	-5.0	1.00	1.00	0.00
900.0	5.00	154.18	899.4	-19.6	9.5	-7.8	1.00	1.00	0.00
1,000.0	6.00	154.18	998.9	-28.3	13.7	-11.2	1.00	1.00	0.00
1,100.0	7.00	154.18	1,098.3	-38.4	18.6	-15.3	1.00	1.00	0.00
1,200.0	8.00	154.18	1,197.4	-50.2	24.3	-19.9	1.00	1.00	0.00
1,200.4	8.00	154.18	1,197.8	-50.2	24.3	-19.9	1.00	1.00	0.00
1,300.0	8.00	154.18	1,296.4	-62.7	30.4	-24.9	0.00	0.00	0.00
1,400.0	8.00	154.18	1,395.5	-75.3	36.4	-29.9	0.00	0.00	0.00
1,500.0	8.00	154.18	1,494.5	-87.8	42.5	-34.9	0.00	0.00	0.00
1,600.0	8.00	154.18	1,593.5	-100.3	48.5	-39.8	0.00	0.00	0.00
1,700.0	8.00	154.18	1,692.5	-112.9	54.6	-44.8	0.00	0.00	0.00
1,800.0	8.00	154.18	1,791.6	-125.4	60.7	-49.8	0.00	0.00	0.00
1,900.0	8.00	154.18	1,890.6	-137.9	66.7	-54.8	0.00	0.00	0.00
2,000.0	8.00	154.18	1,989.6	-150.5	72.8	-59.7	0.00	0.00	0.00
2,100.0	8.00	154.18	2,088.6	-163.0	78.9	-64.7	0.00	0.00	0.00
2,200.0	8.00	154.18	2,187.7	-175.5	84.9	-69.7	0.00	0.00	0.00
2,300.0	8.00	154.18	2,286.7	-188.1	91.0	-74.7	0.00	0.00	0.00
2,400.0	8.00	154.18	2,385.7	-200.6	97.1	-79.6	0.00	0.00	0.00
2,500.0	8.00	154.18	2,484.7	-213.1	103.1	-84.6	0.00	0.00	0.00
2,600.0	8.00	154.18	2,583.8	-225.7	109.2	-89.6	0.00	0.00	0.00
2,700.0	8.00	154.18	2,682.8	-238.2	115.3	-94.6	0.00	0.00	0.00
2,800.0	8.00	154.18	2,781.8	-250.7	121.3	-99.5	0.00	0.00	0.00
2,900.0	8.00	154.18	2,880.8	-263.3	127.4	-104.5	0.00	0.00	0.00
3,000.0	8.00	154.18	2,979.9	-275.8	133.5	-109.5	0.00	0.00	0.00
3,100.0	8.00	154.18	3,078.9	-288.3	139.5	-114.5	0.00	0.00	0.00
3,200.0	8.00	154.18	3,177.9	-300.9	145.6	-119.4	0.00	0.00	0.00
3,300.0	8.00	154.18	3,276.9	-313.4	151.6	-124.4	0.00	0.00	0.00
3,400.0	8.00	154.18	3,376.0	-325.9	157.7	-129.4	0.00	0.00	0.00
3,500.0	8.00	154.18	3,475.0	-338.5	163.8	-134.4	0.00	0.00	0.00
3,511.1	8.00	154.18	3,486.0	-339.9	164.5	-134.9	0.00	0.00	0.00
PARKMAN									
3,600.0	8.00	154.18	3,574.0	-351.0	169.8	-139.3	0.00	0.00	0.00
3,700.0	8.00	154.18	3,673.1	-363.5	175.9	-144.3	0.00	0.00	0.00
3,800.0	8.00	154.18	3,772.1	-376.1	182.0	-149.3	0.00	0.00	0.00
3,900.0	8.00	154.18	3,871.1	-388.6	188.0	-154.3	0.00	0.00	0.00
4,000.0	8.00	154.18	3,970.1	-401.1	194.1	-159.2	0.00	0.00	0.00
4,100.0	8.00	154.18	4,069.2	-413.7	200.2	-164.2	0.00	0.00	0.00
4,200.0	8.00	154.18	4,168.2	-426.2	206.2	-169.2	0.00	0.00	0.00
4,276.6	8.00	154.18	4,244.0	-435.8	210.9	-173.0	0.00	0.00	0.00
SUSSEX									
4,300.0	8.00	154.18	4,267.2	-438.7	212.3	-174.2	0.00	0.00	0.00
4,400.0	8.00	154.18	4,366.2	-451.3	218.4	-179.1	0.00	0.00	0.00
4,500.0	8.00	154.18	4,465.3	-463.8	224.4	-184.1	0.00	0.00	0.00
4,600.0	8.00	154.18	4,564.3	-476.3	230.5	-189.1	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,700.0	8.00	154.18	4,663.3	-488.9	236.6	-194.1	0.00	0.00	0.00	
4,800.0	8.00	154.18	4,762.3	-501.4	242.6	-199.0	0.00	0.00	0.00	
4,900.0	8.00	154.18	4,861.4	-513.9	248.7	-204.0	0.00	0.00	0.00	
5,000.0	8.00	154.18	4,960.4	-526.5	254.8	-209.0	0.00	0.00	0.00	
5,100.0	8.00	154.18	5,059.4	-539.0	260.8	-214.0	0.00	0.00	0.00	
5,200.0	8.00	154.18	5,158.4	-551.5	266.9	-219.0	0.00	0.00	0.00	
5,242.0	8.00	154.18	5,200.0	-556.8	269.4	-221.0	0.00	0.00	0.00	
<b>SHANNON</b>										
5,300.0	8.00	154.18	5,257.5	-564.1	272.9	-223.9	0.00	0.00	0.00	
5,400.0	8.00	154.18	5,356.5	-576.6	279.0	-228.9	0.00	0.00	0.00	
5,445.1	8.00	154.18	5,401.1	-582.2	281.7	-231.1	0.00	0.00	0.00	
5,500.0	6.90	154.18	5,455.6	-588.7	284.8	-233.7	2.00	-2.00	0.00	
5,600.0	4.90	154.18	5,555.1	-597.9	289.3	-237.4	2.00	-2.00	0.00	
5,700.0	2.90	154.18	5,654.8	-604.1	292.3	-239.8	2.00	-2.00	0.00	
5,800.0	0.90	154.18	5,754.8	-607.0	293.7	-241.0	2.00	-2.00	0.00	
5,845.2	0.00	0.00	5,800.0	-607.4	293.9	-241.1	2.00	-2.00	0.00	
5,900.0	0.00	0.00	5,854.8	-607.4	293.9	-241.1	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,954.8	-607.4	293.9	-241.1	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,054.8	-607.4	293.9	-241.1	0.00	0.00	0.00	
6,104.8	0.00	0.00	6,059.6	-607.4	293.9	-241.1	0.00	0.00	0.00	
<b>KOP #2</b>										
6,200.0	7.14	270.00	6,154.5	-607.4	288.0	-235.2	7.50	7.50	0.00	
6,300.0	14.64	270.00	6,252.6	-607.4	269.1	-216.4	7.50	7.50	0.00	
6,400.0	22.14	270.00	6,347.5	-607.4	237.6	-185.0	7.50	7.50	0.00	
6,500.0	29.64	270.00	6,437.4	-607.4	194.0	-141.5	7.50	7.50	0.00	
6,600.0	37.14	270.00	6,520.8	-607.4	139.0	-86.7	7.50	7.50	0.00	
6,698.1	44.50	270.00	6,595.0	-607.4	74.9	-22.9	7.50	7.50	0.00	
<b>SHARON SPRINGS</b>										
6,700.0	44.64	270.00	6,596.3	-607.4	73.6	-21.6	7.50	7.50	0.00	
6,742.9	47.85	270.00	6,626.0	-607.4	42.6	9.3	7.50	7.50	0.00	
<b>NIORARA A</b>										
6,800.0	52.14	270.00	6,662.7	-607.4	-1.2	52.9	7.50	7.50	0.00	
6,900.0	59.64	270.00	6,718.8	-607.4	-83.9	135.3	7.50	7.50	0.00	
6,950.9	63.46	270.00	6,743.0	-607.4	-128.6	179.9	7.50	7.50	0.00	
<b>NIORARA B</b>										
7,000.0	67.14	270.00	6,763.5	-607.4	-173.2	224.3	7.50	7.50	0.00	
7,100.0	74.64	270.00	6,796.2	-607.4	-267.7	318.4	7.50	7.50	0.00	
7,200.0	82.14	270.00	6,816.3	-607.4	-365.5	415.9	7.50	7.50	0.00	
7,300.0	89.64	270.00	6,823.5	-607.4	-465.2	515.2	7.50	7.50	0.00	
7,309.5	90.35	270.00	6,823.5	-607.4	-474.7	524.7	7.50	7.50	0.00	
<b>End of Build - 7"</b>										
7,400.0	90.35	270.00	6,823.0	-607.4	-565.2	614.9	0.00	0.00	0.00	
7,500.0	90.35	270.00	6,822.4	-607.4	-665.2	714.5	0.00	0.00	0.00	
7,600.0	90.35	270.00	6,821.7	-607.4	-765.2	814.1	0.00	0.00	0.00	
7,700.0	90.35	270.00	6,821.1	-607.4	-865.2	913.8	0.00	0.00	0.00	
7,800.0	90.35	270.00	6,820.5	-607.4	-965.2	1,013.4	0.00	0.00	0.00	
7,900.0	90.35	270.00	6,819.9	-607.4	-1,065.2	1,113.0	0.00	0.00	0.00	
8,000.0	90.35	270.00	6,819.3	-607.4	-1,165.2	1,212.7	0.00	0.00	0.00	
8,100.0	90.35	270.00	6,818.7	-607.4	-1,265.2	1,312.3	0.00	0.00	0.00	
8,200.0	90.35	270.00	6,818.1	-607.4	-1,365.2	1,411.9	0.00	0.00	0.00	
8,300.0	90.35	270.00	6,817.5	-607.4	-1,465.2	1,511.6	0.00	0.00	0.00	
8,400.0	90.35	270.00	6,816.9	-607.4	-1,565.2	1,611.2	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,500.0	90.35	270.00	6,816.2	-607.4	-1,665.2	1,710.9	0.00	0.00	0.00
8,600.0	90.35	270.00	6,815.6	-607.4	-1,765.2	1,810.5	0.00	0.00	0.00
8,700.0	90.35	270.00	6,815.0	-607.4	-1,865.2	1,910.1	0.00	0.00	0.00
8,800.0	90.35	270.00	6,814.4	-607.4	-1,965.2	2,009.8	0.00	0.00	0.00
8,900.0	90.35	270.00	6,813.8	-607.4	-2,065.2	2,109.4	0.00	0.00	0.00
9,000.0	90.35	270.00	6,813.2	-607.4	-2,165.2	2,209.0	0.00	0.00	0.00
9,100.0	90.35	270.00	6,812.6	-607.4	-2,265.2	2,308.7	0.00	0.00	0.00
9,200.0	90.35	270.00	6,812.0	-607.4	-2,365.2	2,408.3	0.00	0.00	0.00
9,300.0	90.35	270.00	6,811.4	-607.4	-2,465.2	2,507.9	0.00	0.00	0.00
9,400.0	90.35	270.00	6,810.7	-607.4	-2,565.2	2,607.6	0.00	0.00	0.00
9,500.0	90.35	270.00	6,810.1	-607.4	-2,665.2	2,707.2	0.00	0.00	0.00
9,600.0	90.35	270.00	6,809.5	-607.4	-2,765.2	2,806.8	0.00	0.00	0.00
9,700.0	90.35	270.00	6,808.9	-607.4	-2,865.2	2,906.5	0.00	0.00	0.00
9,800.0	90.35	270.00	6,808.3	-607.4	-2,965.2	3,006.1	0.00	0.00	0.00
9,900.0	90.35	270.00	6,807.7	-607.4	-3,065.2	3,105.7	0.00	0.00	0.00
10,000.0	90.35	270.00	6,807.1	-607.4	-3,165.2	3,205.4	0.00	0.00	0.00
10,100.0	90.35	270.00	6,806.5	-607.4	-3,265.2	3,305.0	0.00	0.00	0.00
10,200.0	90.35	270.00	6,805.9	-607.4	-3,365.2	3,404.6	0.00	0.00	0.00
10,300.0	90.35	270.00	6,805.2	-607.4	-3,465.2	3,504.3	0.00	0.00	0.00
10,400.0	90.35	270.00	6,804.6	-607.4	-3,565.2	3,603.9	0.00	0.00	0.00
10,500.0	90.35	270.00	6,804.0	-607.4	-3,665.1	3,703.6	0.00	0.00	0.00
10,600.0	90.35	270.00	6,803.4	-607.4	-3,765.1	3,803.2	0.00	0.00	0.00
10,700.0	90.35	270.00	6,802.8	-607.4	-3,865.1	3,902.8	0.00	0.00	0.00
10,800.0	90.35	270.00	6,802.2	-607.4	-3,965.1	4,002.5	0.00	0.00	0.00
10,900.0	90.35	270.00	6,801.6	-607.4	-4,065.1	4,102.1	0.00	0.00	0.00
11,000.0	90.35	270.00	6,801.0	-607.4	-4,165.1	4,201.7	0.00	0.00	0.00
11,100.0	90.35	270.00	6,800.4	-607.4	-4,265.1	4,301.4	0.00	0.00	0.00
11,200.0	90.35	270.00	6,799.8	-607.4	-4,365.1	4,401.0	0.00	0.00	0.00
11,300.0	90.35	270.00	6,799.1	-607.4	-4,465.1	4,500.6	0.00	0.00	0.00
11,400.0	90.35	270.00	6,798.5	-607.4	-4,565.1	4,600.3	0.00	0.00	0.00
11,500.0	90.35	270.00	6,797.9	-607.4	-4,665.1	4,699.9	0.00	0.00	0.00
11,600.0	90.35	270.00	6,797.3	-607.4	-4,765.1	4,799.5	0.00	0.00	0.00
11,700.0	90.35	270.00	6,796.7	-607.4	-4,865.1	4,899.2	0.00	0.00	0.00
11,800.0	90.35	270.00	6,796.1	-607.4	-4,965.1	4,998.8	0.00	0.00	0.00
11,900.0	90.35	270.00	6,795.5	-607.4	-5,065.1	5,098.4	0.00	0.00	0.00
12,000.0	90.35	270.00	6,794.9	-607.4	-5,165.1	5,198.1	0.00	0.00	0.00
12,100.0	90.35	270.00	6,794.3	-607.4	-5,265.1	5,297.7	0.00	0.00	0.00
12,200.0	90.35	270.00	6,793.6	-607.4	-5,365.1	5,397.3	0.00	0.00	0.00
12,300.0	90.35	270.00	6,793.0	-607.4	-5,465.1	5,497.0	0.00	0.00	0.00
12,400.0	90.35	270.00	6,792.4	-607.4	-5,565.1	5,596.6	0.00	0.00	0.00
12,500.0	90.35	270.00	6,791.8	-607.4	-5,665.1	5,696.3	0.00	0.00	0.00
12,600.0	90.35	270.00	6,791.2	-607.4	-5,765.1	5,795.9	0.00	0.00	0.00
12,700.0	90.35	270.00	6,790.6	-607.4	-5,865.1	5,895.5	0.00	0.00	0.00
12,800.0	90.35	270.00	6,790.0	-607.4	-5,965.1	5,995.2	0.00	0.00	0.00
12,900.0	90.35	270.00	6,789.4	-607.4	-6,065.1	6,094.8	0.00	0.00	0.00
13,000.0	90.35	270.00	6,788.8	-607.4	-6,165.1	6,194.4	0.00	0.00	0.00
13,100.0	90.35	270.00	6,788.1	-607.4	-6,265.1	6,294.1	0.00	0.00	0.00
13,200.0	90.35	270.00	6,787.5	-607.4	-6,365.1	6,393.7	0.00	0.00	0.00
13,300.0	90.35	270.00	6,786.9	-607.4	-6,465.1	6,493.3	0.00	0.00	0.00
13,400.0	90.35	270.00	6,786.3	-607.4	-6,565.1	6,593.0	0.00	0.00	0.00
13,500.0	90.35	270.00	6,785.7	-607.4	-6,665.1	6,692.6	0.00	0.00	0.00
13,600.0	90.35	270.00	6,785.1	-607.4	-6,765.1	6,792.2	0.00	0.00	0.00
13,700.0	90.35	270.00	6,784.5	-607.4	-6,865.1	6,891.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Project:</b>	SEC.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,800.0	90.35	270.00	6,783.9	-607.4	-6,965.1	6,991.5	0.00	0.00	0.00
13,900.0	90.35	270.00	6,783.3	-607.4	-7,065.1	7,091.1	0.00	0.00	0.00
13,942.2	90.35	270.00	6,783.0	-607.4	-7,107.3	7,133.2	0.00	0.00	0.00

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude
SHL 531'FNL & 347'F	- plan hits target center	0.00	0.00	1.0	0.0	0.0	1,402,085.68	3,249,703.84	40.433660 -104.602970
- Point									
BHL 1145'FNL & 214'F	- plan hits target center	0.00	0.00	6,783.0	-607.4	-7,107.3	1,401,406.46	3,242,603.34	40.431990 -104.628500
- Point									
50' E/W Hardline (1V-	- plan misses target center by 3839.4ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)	0.00	0.00	1.0	-607.4	-3,791.0	1,401,439.97	3,245,919.33	40.431992 -104.616588
- Rectangle (sides W6,632.6 H100.0 D0.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,309.5	6,823.5	7"	7	7-1/2	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,511.1	3,486.0	PARKMAN		0.00		
4,276.6	4,244.0	SUSSEX		0.00		
5,242.0	5,200.0	SHANNON		0.00		
6,698.1	6,595.0	SHARON SPRINGS		0.00		
6,742.9	6,626.0	NIOBRARA A		0.00		
6,950.9	6,743.0	NIOBRARA B		0.00		
	6,835.0	NIOBRARA C		0.00		
	6,864.0	FT HAYS		0.00		
	6,881.0	CODELL		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP #1
6,104.8	6,059.6	-607.4	293.9	KOP #2
7,309.5	6,823.5	-607.4	-474.7	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.1-T5N-R65W**

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

**LDS 1V-304**

**Wellbore #1**

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

## **Anticollision Report**

**30 April, 2015**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b>	4/30/2015		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	13,942.2	Plan #2 (4-30-15) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Separation Factor	Warning	
Offset Well - Wellbore - Design						
Existing Wells Sec.1-T5N-R65W						
BJB 5 (Exist.) - Wellbore #1 - Wellbore #1	7,742.5	6,811.5	69.3	24.5	1.546	CC, ES, SF
BJB 6I (Exist.) - Wellbore #1 - Wellbore #1	9,076.0	6,957.1	181.4	96.3	2.132	CC, ES, SF
Gatewood 5 (Exist.) - Wellbore #1 - Wellbore #1	10,476.2	6,792.2	135.6	-106.3	0.561	Level 1, CC, ES, SF
Gatewood 6-1 (Exist.) - Wellbore #1 - Wellbore #1	9,688.9	6,790.4	472.6	280.4	2.459	CC
Gatewood 6-1 (Exist.) - Wellbore #1 - Wellbore #1	9,700.0	6,790.3	472.7	280.2	2.456	ES, SF
LDS 5N65W1U Pad Sec.1-T5N-R65W						
LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)	400.0	401.0	89.1	87.5	56.535	CC, ES
LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)	13,942.2	13,869.2	734.8	331.6	1.823	SF
LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)	400.0	402.0	120.3	118.7	76.235	CC, ES
LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)	13,942.2	13,954.6	958.5	554.0	2.370	SF
LDS 1V-204 - Wellbore #1 - Plan #2 (4-30-15)	200.0	199.0	29.3	28.7	43.664	CC
LDS 1V-204 - Wellbore #1 - Plan #2 (4-30-15)	13,942.2	13,914.2	275.7	-122.2	0.693	Level 1, ES, SF
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	400.0	400.0	31.2	29.6	19.836	CC
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	13,942.2	13,885.3	219.1	-171.7	0.561	Level 1, ES, SF
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	400.0	400.0	60.5	58.9	38.425	CC
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	13,942.2	13,959.9	400.9	-4.3	0.989	Level 1, ES, SF
Noffsinger Pad Sec.2-T5N-R65W						
Noffsinger 2C (Vert.) - Wellbore #1 - Design #1	12,922.1	6,798.2	112.7	-76.8	0.595	Level 1, CC, ES, SF
Noffsinger 2RD - Wellbore #1 - Wellbore #1						Out of range
Noffsinger 2SD - Wellbore #1 - Wellbore #1						Out of range
Noffsinger 2VD - Wellbore #1 - Wellbore #1	11,872.2	6,938.0	136.9	-30.9	0.816	Level 1, CC, ES, SF
Noffsinger 31-2D - Wellbore #1 - Wellbore #1	13,767.8	6,912.4	503.0	284.9	2.306	CC, ES
Noffsinger 31-2D - Wellbore #1 - Wellbore #1	13,800.0	6,911.2	504.0	285.0	2.301	SF
Noffsinger 32-2D - Wellbore #1 - Wellbore #1	13,790.9	6,932.1	757.2	537.4	3.446	CC
Noffsinger 32-2D - Wellbore #1 - Wellbore #1	13,800.0	6,932.1	757.3	537.2	3.442	ES
Noffsinger 32-2D - Wellbore #1 - Wellbore #1	13,900.0	6,932.6	765.0	542.2	3.434	SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells Sec.1-T5N-R65W - BJB 5 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
6,700.0	6,596.3	6,601.7	6,600.1	18.6	12.1	-5.74	-676.8	-910.9	987.0	964.1	22.87	43.153		
6,800.0	6,662.7	6,666.9	6,665.4	18.5	12.3	-7.23	-676.8	-909.9	911.5	890.7	20.77	43.890		
6,900.0	6,718.8	6,721.7	6,720.1	18.5	12.4	-9.68	-676.7	-909.1	828.2	809.5	18.75	44.177		
7,000.0	6,763.5	6,765.2	6,763.6	18.6	12.5	-14.13	-676.7	-908.4	738.6	721.1	17.42	42.401		
7,100.0	6,796.2	6,796.5	6,794.9	19.2	12.6	-23.38	-676.7	-908.0	644.1	625.6	18.53	34.764		
7,200.0	6,816.3	6,815.1	6,813.5	20.8	12.6	-46.37	-676.7	-907.7	546.6	520.3	26.31	20.774		
7,300.0	6,823.5	6,820.8	6,819.2	22.7	12.6	-93.19	-676.7	-907.6	447.8	413.1	34.78	12.876		
7,400.0	6,823.0	6,818.7	6,817.1	24.7	12.6	-95.98	-676.7	-907.6	349.4	312.8	36.61	9.544		
7,500.0	6,822.4	6,816.6	6,815.0	26.9	12.6	-94.25	-676.7	-907.7	252.2	213.3	38.92	6.480		
7,600.0	6,821.7	6,814.5	6,812.9	29.2	12.6	-92.51	-676.7	-907.7	158.5	117.2	41.32	3.835		
7,700.0	6,821.1	6,812.4	6,810.8	31.5	12.6	-90.77	-676.7	-907.7	81.3	37.6	43.77	1.858		
7,742.5	6,820.9	6,811.5	6,809.9	32.6	12.6	-90.03	-676.7	-907.7	69.3	24.5	44.84	1.546 CC, ES, SF		
7,800.0	6,820.5	6,810.3	6,808.7	34.0	12.6	-89.03	-676.7	-907.8	90.0	43.8	46.26	1.946		
7,900.0	6,819.9	6,808.2	6,806.6	36.5	12.6	-87.29	-676.7	-907.8	172.0	123.3	48.75	3.528		
8,000.0	6,819.3	6,806.1	6,804.5	39.0	12.6	-85.55	-676.7	-907.8	266.6	215.3	51.24	5.202		
8,100.0	6,818.7	6,804.0	6,802.4	41.6	12.6	-83.82	-676.7	-907.9	364.0	310.3	53.71	6.777		
8,200.0	6,818.1	6,801.9	6,800.3	44.1	12.6	-82.11	-676.7	-907.9	462.6	406.4	56.15	8.238		
8,300.0	6,817.5	6,799.8	6,798.2	46.8	12.6	-80.40	-676.7	-907.9	561.6	503.1	58.55	9.592		
8,400.0	6,816.9	6,797.6	6,796.0	49.4	12.6	-78.72	-676.7	-908.0	661.0	600.1	60.90	10.854		
8,500.0	6,816.2	6,795.5	6,793.9	52.1	12.6	-77.05	-676.7	-908.0	760.5	697.3	63.19	12.035		
8,600.0	6,815.6	6,793.4	6,791.8	54.7	12.6	-75.41	-676.7	-908.0	860.1	794.6	65.41	13.148		
8,700.0	6,815.0	6,791.3	6,789.7	57.4	12.6	-73.79	-676.7	-908.0	959.7	892.2	67.58	14.202		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Existing Wells Sec.1-T5N-R65W - BJB 6I (Exist.) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.0 ft
Survey Program: 552-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
8,100.0	6,818.7	6,949.0	6,794.7	41.6	22.5	-87.46	-788.7	-2,241.0	992.6	933.6	59.00	16.825					
8,200.0	6,818.1	6,949.7	6,795.4	44.1	22.5	-87.70	-788.7	-2,241.0	894.5	832.9	61.60	14.522					
8,300.0	6,817.5	6,950.5	6,796.2	46.8	22.5	-87.95	-788.7	-2,241.1	796.9	732.6	64.22	12.408					
8,400.0	6,816.9	6,951.3	6,797.0	49.4	22.5	-88.20	-788.7	-2,241.1	699.9	633.0	66.86	10.467					
8,500.0	6,816.2	6,952.1	6,797.8	52.1	22.5	-88.46	-788.7	-2,241.1	603.8	534.3	69.52	8.685					
8,600.0	6,815.6	6,953.0	6,798.7	54.7	22.5	-88.72	-788.7	-2,241.1	509.3	437.1	72.20	7.055					
8,700.0	6,815.0	6,953.8	6,799.5	57.4	22.5	-88.98	-788.7	-2,241.1	417.4	342.5	74.88	5.574					
8,800.0	6,814.4	6,954.7	6,800.4	60.1	22.5	-89.26	-788.7	-2,241.1	330.2	252.7	77.58	4.257					
8,900.0	6,813.8	6,955.5	6,801.2	62.8	22.5	-89.53	-788.7	-2,241.1	252.7	172.4	80.28	3.148					
9,000.0	6,813.2	6,956.4	6,802.1	65.5	22.5	-89.82	-788.7	-2,241.1	196.6	113.6	82.99	2.369					
9,076.0	6,812.7	6,957.1	6,802.8	67.6	22.5	-90.03	-788.7	-2,241.2	181.4	96.3	85.05	2.132 CC, ES, SF					
9,100.0	6,812.6	6,957.3	6,803.1	68.2	22.5	-90.10	-788.7	-2,241.2	182.9	97.2	85.71	2.135					
9,200.0	6,812.0	6,958.3	6,804.0	71.0	22.5	-90.40	-788.7	-2,241.2	219.7	131.3	88.42	2.485					
9,300.0	6,811.4	6,959.2	6,804.9	73.7	22.5	-90.70	-788.7	-2,241.2	288.2	197.1	91.15	3.162					
9,400.0	6,810.7	6,960.2	6,805.9	76.4	22.5	-91.00	-788.7	-2,241.2	371.3	277.4	93.87	3.956					
9,500.0	6,810.1	6,961.2	6,806.9	79.2	22.5	-91.31	-788.7	-2,241.2	461.2	364.6	96.60	4.774					
9,600.0	6,809.5	6,962.0	6,807.7	81.9	22.5	-91.57	-788.7	-2,241.2	554.5	455.2	99.33	5.582					
9,700.0	6,808.9	6,962.0	6,807.7	84.7	22.5	-91.57	-788.7	-2,241.2	649.8	547.7	102.09	6.365					
9,800.0	6,808.3	6,964.0	6,809.7	87.4	22.5	-92.22	-788.7	-2,241.3	746.4	641.6	104.78	7.123					
9,900.0	6,807.7	6,965.0	6,810.7	90.2	22.5	-92.51	-788.7	-2,241.3	843.7	736.2	107.51	7.847					
10,000.0	6,807.1	6,965.9	6,811.6	93.0	22.5	-92.80	-788.7	-2,241.3	941.6	831.4	110.24	8.541					

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells Sec.1-T5N-R65W - Gatewood 5 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft			
Survey Program: 7123-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
9,500.0	6,810.1	6,798.1	6,798.1	79.2	136.0	-92.52	-742.9	-3,641.4	985.6	770.9	214.70	4.590					
9,600.0	6,809.5	6,797.5	6,797.5	81.9	136.0	-92.26	-742.9	-3,641.4	886.6	669.1	217.48	4.077					
9,700.0	6,808.9	6,796.9	6,796.9	84.7	135.9	-92.00	-742.9	-3,641.4	787.9	567.7	220.27	3.577					
9,800.0	6,808.3	6,796.3	6,796.3	87.4	135.9	-91.75	-742.9	-3,641.4	689.7	466.6	223.05	3.092					
9,900.0	6,807.7	6,795.7	6,795.7	90.2	135.9	-91.49	-742.9	-3,641.4	591.9	366.1	225.84	2.621					
10,000.0	6,807.1	6,795.1	6,795.1	93.0	135.9	-91.23	-742.9	-3,641.4	495.1	266.5	228.62	2.166					
10,100.0	6,806.5	6,794.5	6,794.5	95.7	135.9	-90.97	-742.9	-3,641.4	399.9	168.5	231.40	1.728					
10,200.0	6,805.9	6,793.9	6,793.9	98.5	135.9	-90.71	-742.9	-3,641.4	307.7	73.5	234.18	1.314	Level 3				
10,300.0	6,805.2	6,793.2	6,793.2	101.3	135.9	-90.45	-742.9	-3,641.4	222.3	-14.6	236.96	0.938	Level 1				
10,400.0	6,804.6	6,792.6	6,792.6	104.0	135.9	-90.20	-742.9	-3,641.4	155.5	-84.2	239.73	0.649	Level 1				
10,476.2	6,804.2	6,792.2	6,792.2	106.2	135.8	-90.00	-742.9	-3,641.4	135.6	-106.3	241.85	0.561	Level 1, CC, ES, SF				
10,500.0	6,804.0	6,792.0	6,792.0	106.8	135.8	-89.94	-742.9	-3,641.4	137.6	-104.9	242.51	0.568	Level 1				
10,600.0	6,803.4	6,791.4	6,791.4	109.6	135.8	-89.68	-742.9	-3,641.4	183.6	-61.7	245.27	0.748	Level 1				
10,700.0	6,802.8	6,790.8	6,790.8	112.4	135.8	-89.42	-742.9	-3,641.4	261.6	13.6	248.04	1.055	Level 2				
10,800.0	6,802.2	6,790.2	6,790.2	115.1	135.8	-89.16	-742.9	-3,641.4	351.0	100.2	250.80	1.400	Level 3				
10,900.0	6,801.6	6,789.6	6,789.6	117.9	135.8	-88.91	-742.9	-3,641.4	444.9	191.4	253.56	1.755					
11,000.0	6,801.0	6,789.0	6,789.0	120.7	135.8	-88.65	-742.9	-3,641.4	541.0	284.7	256.31	2.111					
11,100.0	6,800.4	6,788.4	6,788.4	123.5	135.8	-88.39	-742.9	-3,641.4	638.3	379.3	259.06	2.464					
11,200.0	6,799.8	6,787.8	6,787.8	126.3	135.8	-88.13	-742.9	-3,641.4	736.4	474.6	261.80	2.813					
11,300.0	6,799.1	6,787.1	6,787.1	129.1	135.7	-87.87	-742.9	-3,641.4	834.9	570.3	264.54	3.156					
11,400.0	6,798.5	6,786.5	6,786.5	131.9	135.7	-87.62	-742.9	-3,641.4	933.7	666.4	267.28	3.493					

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Existing Wells Sec.1-T5N-R65W - Gatewood 6-1 (Exist.) - Wellbore #1 - Wellbore #1												<b>Offset Well Error:</b>	0.0 ft
Survey Program: 100-UNKNOWN													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,900.0	6,813.8	6,794.3	6,793.8	62.8	108.0	-89.98	-1,079.9	-2,854.0	919.6	749.0	170.56	5.391	
9,000.0	6,813.2	6,793.8	6,793.3	65.5	108.0	-89.92	-1,079.9	-2,854.0	835.4	662.1	173.28	4.821	
9,100.0	6,812.6	6,793.3	6,792.9	68.2	108.0	-89.86	-1,079.9	-2,854.0	755.0	579.0	176.00	4.290	
9,200.0	6,812.0	6,792.8	6,792.4	71.0	108.0	-89.80	-1,079.9	-2,854.0	679.9	501.2	178.73	3.804	
9,300.0	6,811.4	6,792.3	6,791.9	73.7	108.0	-89.75	-1,079.9	-2,854.0	612.0	430.5	181.47	3.373	
9,400.0	6,810.7	6,791.8	6,791.4	76.4	108.0	-89.69	-1,079.9	-2,854.0	553.9	369.7	184.21	3.007	
9,500.0	6,810.1	6,791.3	6,790.9	79.2	108.0	-89.63	-1,079.9	-2,854.0	508.9	322.0	186.95	2.722	
9,600.0	6,809.5	6,790.8	6,790.4	81.9	107.9	-89.57	-1,079.9	-2,854.0	480.8	291.2	189.70	2.535	
9,688.9	6,809.0	6,790.4	6,790.0	84.4	107.9	-89.51	-1,079.9	-2,854.0	472.6	280.4	192.14	2.459 CC	
9,700.0	6,808.9	6,790.3	6,789.9	84.7	107.9	-89.51	-1,079.9	-2,854.0	472.7	280.2	192.45	2.456 ES, SF	
9,800.0	6,808.3	6,789.9	6,789.4	87.4	107.9	-89.45	-1,079.9	-2,854.0	485.5	290.3	195.20	2.487	
9,900.0	6,807.7	6,789.4	6,788.9	90.2	107.9	-89.39	-1,079.9	-2,854.0	517.6	319.6	197.96	2.615	
10,000.0	6,807.1	6,788.9	6,788.5	93.0	107.9	-89.33	-1,079.9	-2,854.0	565.8	365.1	200.72	2.819	
10,100.0	6,806.5	6,788.4	6,788.0	95.7	107.9	-89.27	-1,079.9	-2,854.0	626.4	422.9	203.48	3.078	
10,200.0	6,805.9	6,787.9	6,787.5	98.5	107.9	-89.21	-1,079.9	-2,854.0	696.1	489.9	206.25	3.375	
10,300.0	6,805.2	6,787.4	6,787.0	101.3	107.9	-89.15	-1,079.9	-2,854.0	772.5	563.5	209.01	3.696	
10,400.0	6,804.6	6,786.9	6,786.5	104.0	107.9	-89.09	-1,079.9	-2,854.0	853.8	642.0	211.78	4.032	
10,500.0	6,804.0	6,786.4	6,786.0	106.8	107.9	-89.03	-1,079.9	-2,854.0	938.7	724.2	214.55	4.375	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-45.95		61.9	-64.0	89.1	89.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-45.95		61.9	-64.0	89.1	88.9	0.23	392.389	
200.0	200.0	201.0	201.0	0.3	0.3	-45.95		61.9	-64.0	89.1	88.4	0.68	131.665	
300.0	300.0	301.0	301.0	0.6	0.6	-45.95		61.9	-64.0	89.1	88.0	1.13	79.104	
400.0	400.0	401.0	401.0	0.8	0.8	-45.95		61.9	-64.0	89.1	87.5	1.58	56.535 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	160.06		61.9	-64.0	89.9	87.9	2.00	44.938	
600.0	600.0	601.0	601.0	1.2	1.2	160.60		61.9	-64.0	92.4	89.9	2.41	38.266	
700.0	699.9	700.9	700.9	1.4	1.5	161.45		61.9	-64.0	96.5	93.6	2.84	33.991	
800.0	799.7	800.7	800.7	1.6	1.7	162.52		61.9	-64.0	102.3	99.0	3.27	31.270	
900.0	899.4	900.4	900.4	1.8	1.9	163.73		61.9	-64.0	109.8	106.1	3.71	29.602	
1,000.0	998.9	999.9	999.9	2.1	2.1	165.00		61.9	-64.0	119.0	114.9	4.15	28.675	
1,100.0	1,098.3	1,099.3	1,099.3	2.4	2.4	166.26		61.9	-64.0	130.0	125.4	4.60	28.288	
1,200.0	1,197.4	1,198.4	1,198.4	2.7	2.6	167.48		61.9	-64.0	142.7	137.7	5.04	28.303	
1,300.0	1,296.4	1,297.4	1,297.4	3.0	2.8	168.58		61.9	-64.0	156.4	150.9	5.50	28.451	
1,400.0	1,395.5	1,396.5	1,396.5	3.3	3.0	169.51		61.9	-64.0	170.0	164.1	5.95	28.574	
1,500.0	1,494.5	1,495.5	1,495.5	3.6	3.2	170.30		61.9	-64.0	183.7	177.3	6.41	28.679	
1,600.0	1,593.5	1,594.5	1,594.5	4.0	3.5	170.98		61.9	-64.0	197.5	190.6	6.86	28.768	
1,700.0	1,692.5	1,693.5	1,693.5	4.3	3.7	171.57		61.9	-64.0	211.3	203.9	7.32	28.846	
1,800.0	1,791.6	1,792.6	1,792.6	4.6	3.9	172.09		61.9	-64.0	225.0	217.3	7.78	28.914	
1,900.0	1,890.6	1,891.6	1,891.6	5.0	4.1	172.55		61.9	-64.0	238.8	230.6	8.24	28.974	
2,000.0	1,989.6	1,990.6	1,990.6	5.3	4.4	172.96		61.9	-64.0	252.7	243.9	8.70	29.027	
2,100.0	2,088.6	2,089.6	2,089.6	5.7	4.6	173.33		61.9	-64.0	266.5	257.3	9.17	29.074	
2,200.0	2,187.7	2,188.7	2,188.7	6.0	4.8	173.66		61.9	-64.0	280.3	270.7	9.63	29.117	
2,300.0	2,286.7	2,287.7	2,287.7	6.4	5.0	173.96		61.9	-64.0	294.2	284.1	10.09	29.155	
2,400.0	2,385.7	2,386.7	2,386.7	6.7	5.3	174.23		61.9	-64.0	308.0	297.5	10.55	29.190	
2,500.0	2,484.7	2,485.7	2,485.7	7.0	5.5	174.48		61.9	-64.0	321.9	310.9	11.01	29.221	
2,600.0	2,583.8	2,586.6	2,586.6	7.4	5.7	174.82		62.0	-63.4	335.5	324.0	11.47	29.247	
2,700.0	2,682.8	2,687.8	2,687.8	7.7	5.9	175.40		62.5	-61.0	348.5	336.6	11.92	29.249	
2,800.0	2,781.8	2,789.1	2,789.0	8.1	6.1	176.22		63.2	-56.8	361.0	348.6	12.36	29.205	
2,900.0	2,880.8	2,890.3	2,890.0	8.4	6.3	177.23		64.2	-50.9	373.0	360.2	12.81	29.117	
3,000.0	2,979.9	2,991.4	2,990.8	8.8	6.5	178.44		65.5	-43.3	384.5	371.2	13.26	28.991	
3,100.0	3,078.9	3,092.3	3,091.3	9.1	6.8	179.82		67.2	-33.9	395.7	382.0	13.72	28.833	
3,200.0	3,177.9	3,193.0	3,191.4	9.5	7.0	-178.64		69.1	-22.8	406.7	392.5	14.20	28.646	
3,300.0	3,276.9	3,293.0	3,290.5	9.8	7.2	-176.97		71.3	-10.1	417.5	402.9	14.68	28.438	
3,400.0	3,376.0	3,391.7	3,388.3	10.2	7.5	-175.34		73.6	2.8	428.6	413.5	15.18	28.238	
3,500.0	3,475.0	3,490.3	3,486.0	10.5	7.7	-173.79		75.9	15.8	440.1	424.4	15.69	28.051	
3,600.0	3,574.0	3,589.0	3,583.8	10.9	8.0	-172.33		78.1	28.7	451.8	435.6	16.21	27.876	
3,700.0	3,673.1	3,687.6	3,681.6	11.2	8.3	-170.94		80.4	41.7	463.8	447.1	16.74	27.712	
3,800.0	3,772.1	3,786.3	3,779.3	11.6	8.5	-169.61		82.6	54.6	476.1	458.8	17.27	27.559	
3,900.0	3,871.1	3,884.9	3,877.1	11.9	8.8	-168.36		84.9	67.6	488.6	470.8	17.82	27.416	
4,000.0	3,970.1	3,983.6	3,974.9	12.3	9.1	-167.16		87.1	80.5	501.3	483.0	18.38	27.282	
4,100.0	4,069.2	4,082.2	4,072.7	12.6	9.4	-166.03		89.4	93.5	514.3	495.3	18.94	27.158	
4,200.0	4,168.2	4,180.9	4,170.4	13.0	9.7	-164.95		91.7	106.4	527.4	507.9	19.50	27.041	
4,300.0	4,267.2	4,279.5	4,268.2	13.3	9.9	-163.92		93.9	119.4	540.7	520.6	20.08	26.933	
4,400.0	4,366.2	4,378.2	4,366.0	13.7	10.2	-162.95		96.2	132.3	554.2	533.5	20.65	26.832	
4,500.0	4,465.3	4,476.8	4,463.8	14.0	10.5	-162.02		98.4	145.3	567.8	546.6	21.23	26.738	
4,600.0	4,564.3	4,575.5	4,561.5	14.4	10.8	-161.13		100.7	158.2	581.6	559.7	21.82	26.651	
4,700.0	4,663.3	4,674.1	4,659.3	14.8	11.1	-160.28		103.0	171.2	595.4	573.0	22.41	26.570	
4,800.0	4,762.3	4,772.8	4,757.1	15.1	11.4	-159.47		105.2	184.1	609.5	586.5	23.00	26.495	
4,900.0	4,861.4	4,871.4	4,854.8	15.5	11.7	-158.70		107.5	197.1	623.6	600.0	23.60	26.425	
5,000.0	4,960.4	4,970.1	4,952.6	15.8	12.0	-157.96		109.7	210.0	637.8	613.6	24.20	26.360	

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,059.4	5,068.7	5,050.4	16.2	12.3	-157.26	112.0	223.0	652.2	627.4	24.80	26.299		
5,200.0	5,158.4	5,167.4	5,148.2	16.5	12.6	-156.58	114.3	235.9	666.6	641.2	25.40	26.243		
5,300.0	5,257.5	5,266.0	5,245.9	16.9	12.9	-155.94	116.5	248.9	681.1	655.1	26.01	26.191		
5,400.0	5,356.5	5,364.7	5,343.7	17.2	13.3	-155.32	118.8	261.8	695.7	669.1	26.61	26.143		
5,500.0	5,455.6	5,464.4	5,442.5	17.5	13.6	-154.77	121.0	274.8	709.9	682.7	27.22	26.080		
5,600.0	5,555.1	5,567.8	5,545.3	17.7	13.8	-154.35	122.9	285.7	720.9	693.2	27.72	26.007		
5,700.0	5,654.8	5,671.9	5,649.2	17.9	14.0	-154.09	124.2	293.0	728.3	700.1	28.15	25.873		
5,800.0	5,754.8	5,776.5	5,753.7	18.1	14.2	-153.96	124.8	296.5	731.9	703.4	28.51	25.673		
5,900.0	5,854.8	5,878.6	5,855.8	18.2	14.4	0.23	124.9	296.9	732.3	702.0	30.31	24.162		
6,000.0	5,954.8	5,978.6	5,955.8	18.3	14.6	0.23	124.9	296.9	732.3	701.6	30.64	23.896		
6,100.0	6,054.8	6,078.7	6,055.9	18.5	14.8	0.17	124.9	296.0	732.3	701.3	30.98	23.637		
6,144.1	6,098.9	6,122.8	6,099.9	18.5	14.8	90.00	124.9	292.7	732.3	702.6	29.64	24.705		
6,200.0	6,154.5	6,178.5	6,154.9	18.6	14.9	89.75	124.9	284.9	732.3	702.5	29.75	24.618		
6,300.0	6,252.6	6,277.6	6,251.1	18.6	14.9	89.34	124.9	261.1	732.3	702.5	29.82	24.553		
6,400.0	6,347.5	6,376.0	6,342.8	18.7	14.9	88.94	124.9	225.3	732.4	702.5	29.83	24.551		
6,500.0	6,437.4	6,473.9	6,428.6	18.6	14.9	88.57	124.9	178.5	732.5	702.6	29.85	24.539		
6,600.0	6,520.8	6,571.1	6,507.2	18.6	15.0	88.21	124.9	121.3	732.6	702.6	30.00	24.420		
6,700.0	6,596.3	6,667.9	6,577.6	18.6	15.3	87.89	124.9	55.1	732.7	702.3	30.43	24.076		
6,800.0	6,662.7	6,764.2	6,638.9	18.5	15.7	87.60	124.9	-19.1	732.9	701.6	31.31	23.411		
6,900.0	6,718.8	6,860.1	6,690.1	18.5	16.5	87.35	124.9	-100.1	733.0	700.3	32.74	22.388		
7,000.0	6,763.5	6,955.6	6,730.6	18.6	17.5	87.15	124.9	-186.6	733.2	698.3	34.81	21.061		
7,100.0	6,796.2	7,050.0	6,759.7	19.2	18.8	87.00	124.9	-276.3	733.3	695.8	37.49	19.561		
7,200.0	6,816.3	7,146.1	6,777.8	20.8	20.4	86.89	124.9	-370.6	733.3	692.6	40.73	18.004		
7,300.0	6,823.5	7,241.0	6,783.9	22.7	22.2	86.83	124.9	-465.3	733.4	689.0	44.36	16.531		
7,400.0	6,823.0	7,340.6	6,783.1	24.7	24.3	86.81	124.9	-564.8	733.4	685.0	48.43	15.143		
7,500.0	6,822.4	7,440.6	6,782.2	26.9	26.4	86.78	124.9	-664.8	733.4	680.6	52.77	13.898		
7,600.0	6,821.7	7,540.6	6,781.3	29.2	28.7	86.76	124.9	-764.8	733.4	676.1	57.33	12.792		
7,700.0	6,821.1	7,640.6	6,780.4	31.5	31.1	86.74	124.9	-864.8	733.4	671.4	62.07	11.816		
7,800.0	6,820.5	7,740.6	6,779.6	34.0	33.5	86.72	124.9	-964.8	733.5	666.5	66.94	10.957		
7,900.0	6,819.9	7,840.6	6,778.7	36.5	36.0	86.70	124.9	-1,064.8	733.5	661.6	71.92	10.199		
8,000.0	6,819.3	7,940.6	6,777.8	39.0	38.5	86.68	124.9	-1,164.8	733.5	656.5	76.98	9.528		
8,100.0	6,818.7	8,040.6	6,776.9	41.6	41.1	86.65	124.9	-1,264.8	733.5	651.4	82.12	8.932		
8,200.0	6,818.1	8,140.6	6,776.0	44.1	43.7	86.63	124.9	-1,364.8	733.5	646.2	87.32	8.401		
8,300.0	6,817.5	8,240.6	6,775.1	46.8	46.3	86.61	124.9	-1,464.8	733.5	641.0	92.56	7.925		
8,400.0	6,816.9	8,340.6	6,774.2	49.4	49.0	86.59	124.9	-1,564.8	733.6	635.7	97.84	7.497		
8,500.0	6,816.2	8,440.6	6,773.3	52.1	51.6	86.57	124.9	-1,664.8	733.6	630.4	103.16	7.111		
8,600.0	6,815.6	8,540.6	6,772.4	54.7	54.3	86.55	124.9	-1,764.8	733.6	625.1	108.51	6.761		
8,700.0	6,815.0	8,640.6	6,771.5	57.4	57.0	86.52	124.9	-1,864.8	733.6	619.7	113.88	6.442		
8,800.0	6,814.4	8,740.6	6,770.6	60.1	59.7	86.50	124.9	-1,964.8	733.6	614.3	119.27	6.151		
8,900.0	6,813.8	8,840.6	6,769.8	62.8	62.4	86.48	124.9	-2,064.8	733.6	609.0	124.68	5.884		
9,000.0	6,813.2	8,940.6	6,768.9	65.5	65.1	86.46	124.9	-2,164.8	733.7	603.5	130.11	5.639		
9,100.0	6,812.6	9,040.6	6,768.0	68.2	67.8	86.44	124.9	-2,264.8	733.7	598.1	135.55	5.412		
9,200.0	6,812.0	9,140.6	6,767.1	71.0	70.6	86.41	124.9	-2,364.8	733.7	592.7	141.01	5.203		
9,300.0	6,811.4	9,240.6	6,766.2	73.7	73.3	86.39	124.9	-2,464.8	733.7	587.2	146.48	5.009		
9,400.0	6,810.7	9,340.6	6,765.3	76.4	76.1	86.37	124.9	-2,564.8	733.7	581.8	151.95	4.829		
9,500.0	6,810.1	9,440.6	6,764.4	79.2	78.8	86.35	124.9	-2,664.8	733.7	576.3	157.44	4.661		
9,600.0	6,809.5	9,540.6	6,763.5	81.9	81.6	86.33	124.9	-2,764.7	733.8	570.8	162.93	4.503		
9,700.0	6,808.9	9,640.6	6,762.6	84.7	84.3	86.31	124.9	-2,864.7	733.8	565.3	168.43	4.357		
9,800.0	6,808.3	9,740.6	6,761.7	87.4	87.1	86.28	124.9	-2,964.7	733.8	559.9	173.94	4.219		
9,900.0	6,807.7	9,840.6	6,760.9	90.2	89.8	86.26	124.9	-3,064.7	733.8	554.4	179.45	4.089		
10,000.0	6,807.1	9,940.6	6,760.0	93.0	92.6	86.24	124.9	-3,164.7	733.8	548.9	184.97	3.967		

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,806.5	10,040.6	6,759.1	95.7	95.4	86.22	86.22	124.9	-3,264.7	733.8	543.4	190.49	3.852	
10,200.0	6,805.9	10,140.6	6,758.2	98.5	98.1	86.20	86.20	124.9	-3,364.7	733.9	537.8	196.02	3.744	
10,300.0	6,805.2	10,240.6	6,757.3	101.3	100.9	86.18	86.18	124.9	-3,464.7	733.9	532.3	201.55	3.641	
10,400.0	6,804.6	10,340.6	6,756.4	104.0	103.7	86.15	86.15	124.9	-3,564.7	733.9	526.8	207.09	3.544	
10,500.0	6,804.0	10,440.6	6,755.5	106.8	106.5	86.13	86.13	124.9	-3,664.7	733.9	521.3	212.63	3.452	
10,600.0	6,803.4	10,540.6	6,754.6	109.6	109.2	86.11	86.11	124.9	-3,764.7	733.9	515.8	218.17	3.364	
10,700.0	6,802.8	10,640.6	6,753.7	112.4	112.0	86.09	86.09	124.9	-3,864.7	734.0	510.2	223.71	3.281	
10,800.0	6,802.2	10,740.6	6,752.8	115.1	114.8	86.07	86.07	124.9	-3,964.7	734.0	504.7	229.26	3.202	
10,900.0	6,801.6	10,840.6	6,752.0	117.9	117.6	86.04	86.04	124.9	-4,064.7	734.0	499.2	234.81	3.126	
11,000.0	6,801.0	10,940.6	6,751.1	120.7	120.4	86.02	86.02	124.9	-4,164.7	734.0	493.7	240.36	3.054	
11,100.0	6,800.4	11,040.6	6,750.2	123.5	123.2	86.00	86.00	124.9	-4,264.7	734.0	488.1	245.91	2.985	
11,200.0	6,799.8	11,140.6	6,749.3	126.3	125.9	85.98	85.98	124.9	-4,364.7	734.1	482.6	251.47	2.919	
11,300.0	6,799.1	11,240.6	6,748.4	129.1	128.7	85.96	85.96	124.9	-4,464.7	734.1	477.1	257.02	2.856	
11,400.0	6,798.5	11,340.6	6,747.5	131.9	131.5	85.94	85.94	124.9	-4,564.7	734.1	471.5	262.58	2.796	
11,500.0	6,797.9	11,440.6	6,746.6	134.6	134.3	85.91	85.91	124.9	-4,664.7	734.1	466.0	268.14	2.738	
11,600.0	6,797.3	11,540.6	6,745.7	137.4	137.1	85.89	85.89	124.9	-4,764.7	734.1	460.4	273.70	2.682	
11,700.0	6,796.7	11,640.6	6,744.8	140.2	139.9	85.87	85.87	124.9	-4,864.7	734.2	454.9	279.27	2.629	
11,800.0	6,796.1	11,740.6	6,743.9	143.0	142.7	85.85	85.85	124.9	-4,964.7	734.2	449.3	284.83	2.578	
11,900.0	6,795.5	11,840.6	6,743.1	145.8	145.5	85.83	85.83	124.9	-5,064.6	734.2	443.8	290.40	2.528	
12,000.0	6,794.9	11,940.6	6,742.2	148.6	148.3	85.81	85.81	124.9	-5,164.6	734.2	438.3	295.96	2.481	
12,100.0	6,794.3	12,040.6	6,741.3	151.4	151.1	85.78	85.78	124.9	-5,264.6	734.2	432.7	301.53	2.435	
12,200.0	6,793.6	12,140.6	6,740.4	154.2	153.9	85.76	85.76	124.9	-5,364.6	734.3	427.2	307.10	2.391	
12,300.0	6,793.0	12,240.6	6,739.5	157.0	156.6	85.74	85.74	124.9	-5,464.6	734.3	421.6	312.66	2.348	
12,400.0	6,792.4	12,340.6	6,738.6	159.8	159.4	85.72	85.72	124.9	-5,564.6	734.3	416.1	318.23	2.307	
12,500.0	6,791.8	12,440.6	6,737.7	162.6	162.2	85.70	85.70	124.9	-5,664.6	734.3	410.5	323.80	2.268	
12,600.0	6,791.2	12,540.6	6,736.8	165.3	165.0	85.68	85.68	124.9	-5,764.6	734.3	405.0	329.37	2.230	
12,700.0	6,790.6	12,640.6	6,735.9	168.1	167.8	85.65	85.65	124.9	-5,864.6	734.4	399.4	334.95	2.192	
12,800.0	6,790.0	12,740.6	6,735.0	170.9	170.6	85.63	85.63	124.9	-5,964.6	734.4	393.9	340.52	2.157	
12,900.0	6,789.4	12,840.6	6,734.2	173.7	173.4	85.61	85.61	124.9	-6,064.6	734.4	388.3	346.09	2.122	
13,000.0	6,788.8	12,940.6	6,733.3	176.5	176.2	85.59	85.59	124.9	-6,164.6	734.4	382.8	351.66	2.088	
13,100.0	6,788.1	13,040.6	6,732.4	179.3	179.0	85.57	85.57	124.9	-6,264.6	734.4	377.2	357.23	2.056	
13,200.0	6,787.5	13,140.6	6,731.5	182.1	181.8	85.55	85.55	124.9	-6,364.6	734.5	371.7	362.81	2.024	
13,300.0	6,786.9	13,240.6	6,730.6	184.9	184.6	85.52	85.52	124.9	-6,464.6	734.5	366.1	368.38	1.994	
13,400.0	6,786.3	13,340.6	6,729.7	187.7	187.4	85.50	85.50	124.9	-6,564.6	734.5	360.6	373.95	1.964	
13,500.0	6,785.7	13,440.6	6,728.8	190.5	190.2	85.48	85.48	124.9	-6,664.6	734.5	355.0	379.53	1.935	
13,600.0	6,785.1	13,540.6	6,727.9	193.3	193.0	85.46	85.46	124.9	-6,764.6	734.6	349.5	385.10	1.907	
13,700.0	6,784.5	13,640.6	6,727.0	196.1	195.8	85.44	85.44	124.9	-6,864.6	734.6	343.9	390.68	1.880	
13,800.0	6,783.9	13,740.6	6,726.1	198.9	198.6	85.41	85.41	124.9	-6,964.6	734.6	338.3	396.25	1.854	
13,900.0	6,783.3	13,840.6	6,725.3	201.7	201.0	85.39	85.39	124.9	-7,064.6	734.6	333.2	401.42	1.830	
13,915.4	6,783.2	13,856.0	6,725.1	202.2	201.3	85.39	85.39	124.9	-7,080.0	734.6	332.5	402.13	1.827	
13,942.2	6,783.0	13,869.2	6,725.0	202.9	201.5	85.39	85.39	124.9	-7,093.2	734.8	331.6	403.11	1.823 SF	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	-45.84		83.8	-86.3	120.3	120.3	0.00	N/A	
100.0	100.0	102.0	102.0	0.1	0.1	-45.84		83.8	-86.3	120.3	120.1	0.23	524.678	
200.0	200.0	202.0	202.0	0.3	0.3	-45.84		83.8	-86.3	120.3	119.6	0.68	177.209	
300.0	300.0	302.0	302.0	0.6	0.6	-45.84		83.8	-86.3	120.3	119.2	1.13	106.608	
400.0	400.0	402.0	402.0	0.8	0.8	-45.84		83.8	-86.3	120.3	118.7	1.58	76.235 CC, ES	
500.0	500.0	502.0	502.0	1.0	1.0	160.12		83.8	-86.3	121.1	119.1	2.00	60.472	
600.0	600.0	602.0	602.0	1.2	1.2	160.52		83.8	-86.3	123.6	121.2	2.42	51.150	
700.0	699.9	701.9	701.9	1.4	1.5	161.16		83.8	-86.3	127.7	124.9	2.84	44.949	
800.0	799.7	801.7	801.7	1.6	1.7	161.99		83.8	-86.3	133.5	130.2	3.27	40.776	
900.0	899.4	901.4	901.4	1.8	1.9	162.95		83.8	-86.3	141.0	137.3	3.71	37.978	
1,000.0	998.9	1,000.9	1,000.9	2.1	2.1	164.00		83.8	-86.3	150.2	146.0	4.15	36.147	
1,100.0	1,098.3	1,100.3	1,100.3	2.4	2.4	165.08		83.8	-86.3	161.1	156.5	4.60	35.020	
1,200.0	1,197.4	1,199.4	1,199.4	2.7	2.6	166.16		83.8	-86.3	173.7	168.7	5.05	34.420	
1,300.0	1,296.4	1,298.4	1,298.4	3.0	2.8	167.18		83.8	-86.3	187.3	181.8	5.50	34.045	
1,400.0	1,395.5	1,397.5	1,397.5	3.3	3.0	168.06		83.8	-86.3	200.9	194.9	5.96	33.724	
1,500.0	1,494.5	1,496.6	1,496.6	3.6	3.2	169.05		84.3	-85.6	214.5	208.1	6.41	33.476	
1,600.0	1,593.5	1,595.6	1,595.6	4.0	3.5	170.35		85.7	-83.6	228.2	221.3	6.85	33.291	
1,700.0	1,692.5	1,694.4	1,694.3	4.3	3.7	171.91		88.1	-80.1	241.9	234.6	7.30	33.140	
1,800.0	1,791.6	1,793.0	1,792.7	4.6	3.9	173.68		91.5	-75.2	256.0	248.2	7.75	33.023	
1,900.0	1,890.6	1,891.3	1,890.7	5.0	4.1	175.63		95.8	-69.0	270.3	262.1	8.21	32.938	
2,000.0	1,989.6	1,989.2	1,988.1	5.3	4.3	177.70		101.1	-61.5	285.2	276.5	8.67	32.886	
2,100.0	2,088.6	2,086.7	2,085.0	5.7	4.6	179.88		107.3	-52.6	300.6	291.5	9.15	32.863	
2,200.0	2,187.7	2,184.5	2,182.1	6.0	4.8	-177.94		114.1	-42.7	316.7	307.0	9.64	32.860	
2,300.0	2,286.7	2,282.5	2,279.4	6.4	5.1	-175.96		121.0	-32.8	333.1	323.0	10.14	32.863	
2,400.0	2,385.7	2,380.5	2,376.6	6.7	5.4	-174.17		127.9	-23.0	349.9	339.3	10.64	32.877	
2,500.0	2,484.7	2,478.5	2,473.9	7.0	5.6	-172.54		134.8	-13.1	367.1	355.9	11.16	32.894	
2,600.0	2,583.8	2,576.5	2,571.2	7.4	5.9	-171.05		141.7	-3.2	384.5	372.8	11.68	32.916	
2,700.0	2,682.8	2,674.5	2,668.4	7.7	6.2	-169.70		148.6	6.7	402.1	389.9	12.21	32.942	
2,800.0	2,781.8	2,772.5	2,765.7	8.1	6.5	-168.46		155.5	16.6	419.9	407.2	12.74	32.969	
2,900.0	2,880.8	2,870.5	2,863.0	8.4	6.7	-167.32		162.4	26.5	437.9	424.6	13.27	32.999	
3,000.0	2,979.9	2,968.5	2,960.2	8.8	7.0	-166.27		169.3	36.4	456.0	442.2	13.81	33.030	
3,100.0	3,078.9	3,066.6	3,057.5	9.1	7.3	-165.30		176.2	46.2	474.3	460.0	14.35	33.062	
3,200.0	3,177.9	3,164.6	3,154.7	9.5	7.6	-164.40		183.0	56.1	492.7	477.9	14.89	33.095	
3,300.0	3,276.9	3,262.6	3,252.0	9.8	7.9	-163.56		189.9	66.0	511.3	495.8	15.43	33.128	
3,400.0	3,376.0	3,360.6	3,349.3	10.2	8.2	-162.79		196.8	75.9	529.9	513.9	15.98	33.161	
3,500.0	3,475.0	3,458.6	3,446.5	10.5	8.5	-162.06		203.7	85.8	548.6	532.1	16.53	33.194	
3,600.0	3,574.0	3,556.6	3,543.8	10.9	8.8	-161.39		210.6	95.7	567.4	550.3	17.08	33.227	
3,700.0	3,673.1	3,654.6	3,641.0	11.2	9.1	-160.75		217.5	105.6	586.2	568.6	17.63	33.259	
3,800.0	3,772.1	3,752.6	3,738.3	11.6	9.4	-160.16		224.4	115.5	605.2	587.0	18.18	33.292	
3,900.0	3,871.1	3,850.6	3,835.6	11.9	9.7	-159.60		231.3	125.3	624.2	605.4	18.73	33.323	
4,000.0	3,970.1	3,948.6	3,932.8	12.3	10.0	-159.08		238.2	135.2	643.2	623.9	19.28	33.355	
4,100.0	4,069.2	4,046.6	4,030.1	12.6	10.3	-158.58		245.0	145.1	662.3	642.4	19.84	33.385	
4,200.0	4,168.2	4,144.6	4,127.4	13.0	10.6	-158.12		251.9	155.0	681.4	661.0	20.39	33.415	
4,300.0	4,267.2	4,242.6	4,224.6	13.3	10.9	-157.68		258.8	164.9	700.6	679.6	20.95	33.445	
4,400.0	4,366.2	4,340.6	4,321.9	13.7	11.2	-157.26		265.7	174.8	719.8	698.3	21.50	33.474	
4,500.0	4,465.3	4,438.6	4,419.1	14.0	11.5	-156.86		272.6	184.7	739.0	717.0	22.06	33.502	
4,600.0	4,564.3	4,536.6	4,516.4	14.4	11.8	-156.49		279.5	194.6	758.3	735.7	22.62	33.530	
4,700.0	4,663.3	4,634.6	4,613.7	14.8	12.1	-156.13		286.4	204.4	777.6	754.5	23.17	33.557	
4,800.0	4,762.3	4,732.6	4,710.9	15.1	12.4	-155.79		293.3	214.3	797.0	773.2	23.73	33.583	
4,900.0	4,861.4	4,830.6	4,808.2	15.5	12.7	-155.46		300.2	224.2	816.3	792.0	24.29	33.609	
5,000.0	4,960.4	4,928.7	4,905.4	15.8	13.0	-155.15		307.0	234.1	835.7	810.9	24.85	33.634	

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,059.4	5,026.7	5,002.7	16.2	13.3	-154.86		313.9	244.0	855.1	829.7	25.41	33.658	
5,200.0	5,158.4	5,124.7	5,100.0	16.5	13.6	-154.58		320.8	253.9	874.5	848.6	25.96	33.682	
5,300.0	5,257.5	5,222.7	5,197.2	16.9	14.0	-154.31		327.7	263.8	894.0	867.5	26.52	33.705	
5,400.0	5,356.5	5,320.7	5,294.5	17.2	14.3	-154.05		334.6	273.7	913.5	886.4	27.08	33.728	
5,500.0	5,455.6	5,428.9	5,402.0	17.5	14.6	-153.88		341.9	284.2	932.2	904.6	27.65	33.711	
5,600.0	5,555.1	5,550.9	5,523.5	17.7	14.8	-153.83		347.7	292.4	946.2	918.1	28.14	33.626	
5,700.0	5,654.8	5,674.0	5,646.6	17.9	15.1	-153.88		350.5	296.5	954.6	926.1	28.56	33.425	
5,800.0	5,754.8	5,784.2	5,756.8	18.1	15.2	-153.99		350.8	296.9	957.9	928.9	28.91	33.132	
5,900.0	5,854.8	5,884.2	5,856.8	18.2	15.4	0.18		350.8	296.9	958.2	926.9	31.30	30.610	
6,000.0	5,954.8	5,984.2	5,956.8	18.3	15.6	0.18		350.8	296.9	958.2	926.5	31.63	30.293	
6,100.0	6,054.8	6,084.2	6,056.8	18.5	15.8	0.18		350.8	296.9	958.2	926.2	31.96	29.981	
6,200.0	6,154.5	6,184.5	6,157.0	18.6	15.9	90.42		350.8	295.0	958.2	927.9	30.27	31.651	
6,300.0	6,252.6	6,285.7	6,257.1	18.6	16.0	90.74		350.8	281.2	958.2	927.8	30.43	31.494	
6,400.0	6,347.5	6,387.5	6,355.2	18.7	16.0	91.04		350.8	254.1	958.3	927.9	30.46	31.457	
6,500.0	6,437.4	6,490.1	6,449.5	18.6	16.0	91.33		350.8	213.8	958.4	928.0	30.46	31.466	
6,600.0	6,520.8	6,593.3	6,538.0	18.6	15.9	91.60		350.8	160.9	958.5	928.0	30.52	31.404	
6,700.0	6,596.3	6,697.1	6,619.1	18.6	15.9	91.84		350.8	96.2	958.7	927.9	30.81	31.116	
6,800.0	6,662.7	6,801.5	6,691.0	18.5	16.0	92.04		350.8	20.7	958.8	927.3	31.50	30.434	
6,900.0	6,718.8	6,906.4	6,752.2	18.5	16.5	92.21		350.8	-64.4	958.9	926.1	32.78	29.252	
7,000.0	6,763.5	7,011.6	6,801.4	18.6	17.4	92.34		350.8	-157.3	959.0	924.2	34.75	27.597	
7,100.0	6,796.2	7,117.1	6,837.4	19.2	18.7	92.43		350.8	-256.4	959.0	921.6	37.42	25.626	
7,200.0	6,816.3	7,222.8	6,859.4	20.8	20.4	92.48		350.8	-359.7	959.1	918.3	40.73	23.546	
7,300.0	6,823.5	7,328.6	6,867.0	22.7	22.3	92.48		350.8	-465.1	959.1	914.5	44.52	21.545	
7,400.0	6,823.0	7,429.3	6,865.5	24.7	24.3	92.42		350.8	-565.9	959.0	910.5	48.56	19.748	
7,500.0	6,822.4	7,529.3	6,863.9	26.9	26.4	92.37		350.8	-665.8	959.0	906.1	52.87	18.138	
7,600.0	6,821.7	7,629.3	6,862.4	29.2	28.7	92.31		350.8	-765.8	958.9	901.5	57.41	16.704	
7,700.0	6,821.1	7,729.3	6,860.8	31.5	31.0	92.25		350.8	-865.8	958.9	896.8	62.12	15.436	
7,800.0	6,820.5	7,829.3	6,859.2	34.0	33.4	92.19		350.8	-965.8	958.9	891.9	66.97	14.317	
7,900.0	6,819.9	7,929.3	6,857.6	36.5	35.9	92.14		350.8	-1,065.8	958.8	886.9	71.94	13.328	
8,000.0	6,819.3	8,029.3	6,856.1	39.0	38.4	92.08		350.8	-1,165.7	958.8	881.8	76.99	12.453	
8,100.0	6,818.7	8,129.3	6,854.5	41.6	41.0	92.02		350.8	-1,265.7	958.8	876.6	82.12	11.675	
8,200.0	6,818.1	8,229.3	6,852.9	44.1	43.5	91.96		350.8	-1,365.7	958.7	871.4	87.31	10.981	
8,300.0	6,817.5	8,329.3	6,851.4	46.8	46.2	91.91		350.8	-1,465.7	958.7	866.1	92.55	10.359	
8,400.0	6,816.9	8,429.3	6,849.8	49.4	48.8	91.85		350.8	-1,565.7	958.7	860.8	97.83	9.799	
8,500.0	6,816.2	8,529.3	6,848.2	52.1	51.4	91.79		350.8	-1,665.7	958.6	855.5	103.15	9.293	
8,600.0	6,815.6	8,629.3	6,846.6	54.7	54.1	91.73		350.8	-1,765.6	958.6	850.1	108.50	8.835	
8,700.0	6,815.0	8,729.2	6,845.1	57.4	56.8	91.68		350.8	-1,865.6	958.6	844.7	113.87	8.418	
8,800.0	6,814.4	8,829.2	6,843.5	60.1	59.5	91.62		350.8	-1,965.6	958.5	839.3	119.27	8.037	
8,900.0	6,813.8	8,929.2	6,841.9	62.8	62.2	91.56		350.8	-2,065.6	958.5	833.8	124.69	7.687	
9,000.0	6,813.2	9,029.2	6,840.4	65.5	64.9	91.51		350.8	-2,165.6	958.5	828.4	130.12	7.366	
9,100.0	6,812.6	9,129.2	6,838.8	68.2	67.6	91.45		350.8	-2,265.6	958.5	822.9	135.57	7.070	
9,200.0	6,812.0	9,229.2	6,837.2	71.0	70.3	91.39		350.8	-2,365.5	958.4	817.4	141.04	6.796	
9,300.0	6,811.4	9,329.2	6,835.7	73.7	73.1	91.33		350.8	-2,465.5	958.4	811.9	146.51	6.541	
9,400.0	6,810.7	9,429.2	6,834.1	76.4	75.8	91.28		350.8	-2,565.5	958.4	806.4	152.00	6.305	
9,500.0	6,810.1	9,529.2	6,832.5	79.2	78.6	91.22		350.8	-2,665.5	958.4	800.9	157.49	6.085	
9,600.0	6,809.5	9,629.2	6,830.9	81.9	81.3	91.16		350.8	-2,765.5	958.3	795.3	163.00	5.879	
9,700.0	6,808.9	9,729.2	6,829.4	84.7	84.1	91.10		350.8	-2,865.5	958.3	789.8	168.51	5.687	
9,800.0	6,808.3	9,829.2	6,827.8	87.4	86.8	91.05		350.8	-2,965.4	958.3	784.3	174.03	5.507	
9,900.0	6,807.7	9,929.2	6,826.2	90.2	89.6	90.99		350.8	-3,065.4	958.3	778.7	179.56	5.337	
10,000.0	6,807.1	10,029.2	6,824.7	93.0	92.3	90.93		350.8	-3,165.4	958.3	773.2	185.09	5.177	
10,100.0	6,806.5	10,129.2	6,823.1	95.7	95.1	90.87		350.8	-3,265.4	958.3	767.6	190.63	5.027	

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	6,805.9	10,229.2	6,821.5	98.5	97.9	90.82	350.8	-3,365.4	958.2	762.1	196.17	4.885		
10,300.0	6,805.2	10,329.2	6,819.9	101.3	100.6	90.76	350.8	-3,465.4	958.2	756.5	201.71	4.750		
10,400.0	6,804.6	10,429.2	6,818.4	104.0	103.4	90.70	350.8	-3,565.3	958.2	751.0	207.26	4.623		
10,500.0	6,804.0	10,529.2	6,816.8	106.8	106.2	90.64	350.8	-3,665.3	958.2	745.4	212.82	4.502		
10,600.0	6,803.4	10,629.2	6,815.2	109.6	109.0	90.59	350.8	-3,765.3	958.2	739.8	218.37	4.388		
10,700.0	6,802.8	10,729.2	6,813.7	112.4	111.7	90.53	350.8	-3,865.3	958.2	734.2	223.93	4.279		
10,800.0	6,802.2	10,829.1	6,812.1	115.1	114.5	90.47	350.8	-3,965.3	958.2	728.7	229.50	4.175		
10,900.0	6,801.6	10,929.1	6,810.5	117.9	117.3	90.41	350.8	-4,065.3	958.2	723.1	235.06	4.076		
11,000.0	6,801.0	11,029.1	6,809.0	120.7	120.1	90.36	350.8	-4,165.2	958.2	717.5	240.63	3.982		
11,100.0	6,800.4	11,129.1	6,807.4	123.5	122.9	90.30	350.8	-4,265.2	958.1	711.9	246.20	3.892		
11,200.0	6,799.8	11,229.1	6,805.8	126.3	125.7	90.24	350.8	-4,365.2	958.1	706.4	251.77	3.806		
11,300.0	6,799.1	11,329.1	6,804.2	129.1	128.4	90.19	350.8	-4,465.2	958.1	700.8	257.35	3.723		
11,400.0	6,798.5	11,429.1	6,802.7	131.9	131.2	90.13	350.8	-4,565.2	958.1	695.2	262.93	3.644		
11,500.0	6,797.9	11,529.1	6,801.1	134.6	134.0	90.07	350.8	-4,665.2	958.1	689.6	268.50	3.568		
11,600.0	6,797.3	11,629.1	6,799.5	137.4	136.8	90.01	350.8	-4,765.1	958.1	684.1	274.08	3.496		
11,695.2	6,796.7	11,724.3	6,798.0	140.1	139.5	89.96	350.8	-4,860.3	958.1	678.7	279.40	3.429		
11,700.0	6,796.7	11,729.1	6,798.0	140.2	139.6	89.96	350.8	-4,865.1	958.1	678.5	279.66	3.426		
11,800.0	6,796.1	11,829.1	6,796.4	143.0	142.4	89.90	350.8	-4,965.1	958.1	672.9	285.25	3.359		
11,900.0	6,795.5	11,929.1	6,794.8	145.8	145.2	89.84	350.8	-5,065.1	958.1	667.3	290.83	3.295		
12,000.0	6,794.9	12,029.1	6,793.2	148.6	148.0	89.78	350.8	-5,165.1	958.1	661.7	296.41	3.232		
12,100.0	6,794.3	12,129.1	6,791.7	151.4	150.8	89.73	350.8	-5,265.1	958.1	656.1	302.00	3.173		
12,200.0	6,793.6	12,229.1	6,790.1	154.2	153.5	89.67	350.8	-5,365.0	958.1	650.6	307.58	3.115		
12,300.0	6,793.0	12,329.1	6,788.5	157.0	156.3	89.61	350.8	-5,465.0	958.2	645.0	313.17	3.060		
12,400.0	6,792.4	12,429.1	6,787.0	159.8	159.1	89.55	350.8	-5,565.0	958.2	639.4	318.76	3.006		
12,500.0	6,791.8	12,529.1	6,785.4	162.6	161.9	89.50	350.8	-5,665.0	958.2	633.8	324.35	2.954		
12,600.0	6,791.2	12,629.1	6,783.8	165.3	164.7	89.44	350.8	-5,765.0	958.2	628.2	329.94	2.904		
12,700.0	6,790.6	12,729.1	6,782.2	168.1	167.5	89.38	350.8	-5,865.0	958.2	622.7	335.53	2.856		
12,800.0	6,790.0	12,829.1	6,780.7	170.9	170.3	89.32	350.8	-5,964.9	958.2	617.1	341.12	2.809		
12,900.0	6,789.4	12,929.1	6,779.1	173.7	173.1	89.27	350.8	-6,064.9	958.2	611.5	346.71	2.764		
13,000.0	6,788.8	13,029.0	6,777.5	176.5	175.9	89.21	350.8	-6,164.9	958.2	605.9	352.30	2.720		
13,100.0	6,788.1	13,129.0	6,776.0	179.3	178.7	89.15	350.8	-6,264.9	958.2	600.3	357.89	2.677		
13,200.0	6,787.5	13,229.0	6,774.4	182.1	181.5	89.09	350.8	-6,364.9	958.2	594.8	363.48	2.636		
13,300.0	6,786.9	13,329.0	6,772.8	184.9	184.3	89.04	350.8	-6,464.9	958.3	589.2	369.07	2.596		
13,400.0	6,786.3	13,429.0	6,771.3	187.7	187.1	88.98	350.8	-6,564.8	958.3	583.6	374.66	2.558		
13,500.0	6,785.7	13,529.0	6,769.7	190.5	189.9	88.92	350.8	-6,664.8	958.3	578.0	380.26	2.520		
13,600.0	6,785.1	13,629.0	6,768.1	193.3	192.7	88.87	350.8	-6,764.8	958.3	572.5	385.85	2.484		
13,700.0	6,784.5	13,729.0	6,766.5	196.1	195.5	88.81	350.8	-6,864.8	958.3	566.9	391.44	2.448		
13,800.0	6,783.9	13,829.0	6,765.0	198.9	198.3	88.75	350.8	-6,964.8	958.3	561.3	397.03	2.414		
13,900.0	6,783.3	13,929.0	6,763.4	201.7	201.1	88.69	350.8	-7,064.7	958.4	555.7	402.62	2.380		
13,912.8	6,783.2	13,941.8	6,763.2	202.1	201.5	88.69	350.8	-7,077.5	958.4	555.0	403.34	2.376		
13,942.2	6,783.0	13,954.6	6,763.0	202.9	201.8	88.68	350.8	-7,090.3	958.5	554.0	404.52	2.370 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+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	138.18	138.18	-21.9	19.6	29.4				
100.0	100.0	99.0	99.0	0.1	0.1	138.18	138.18	-21.9	19.6	29.3	29.1	0.22	131.209	
200.0	200.0	199.0	199.0	0.3	0.3	138.18	138.18	-21.9	19.6	29.3	28.7	0.67	43.664 CC	
300.0	300.0	298.5	298.5	0.6	0.5	138.84	138.84	-22.7	19.8	30.1	29.0	1.10	27.435	
400.0	400.0	398.0	398.0	0.8	0.7	140.64	140.64	-25.1	20.6	32.5	31.0	1.52	21.360	
500.0	500.0	497.4	497.2	1.0	1.0	-11.32	-11.32	-29.2	21.9	35.7	33.8	1.93	18.490	
600.0	600.0	596.7	596.4	1.2	1.2	-9.13	-9.13	-34.9	23.8	38.9	36.6	2.34	16.646	
700.0	699.9	696.0	695.4	1.4	1.4	-6.96	-6.96	-42.3	26.1	42.1	39.3	2.76	15.252	
800.0	799.7	795.2	794.1	1.6	1.7	-4.79	-4.79	-51.3	29.0	45.2	42.0	3.19	14.179	
900.0	899.4	894.3	892.6	1.8	2.0	-2.63	-2.63	-61.9	32.4	48.4	44.8	3.63	13.335	
1,000.0	998.9	993.4	990.9	2.1	2.3	-0.48	-0.48	-74.1	36.3	51.6	47.5	4.08	12.659	
1,100.0	1,098.3	1,092.4	1,088.8	2.4	2.6	1.67	1.67	-87.9	40.8	54.9	50.3	4.53	12.106	
1,200.0	1,197.4	1,191.4	1,186.4	2.7	3.0	3.80	3.80	-103.3	45.7	58.2	53.2	4.99	11.647	
1,300.0	1,296.4	1,290.5	1,284.0	3.0	3.4	5.85	5.85	-120.3	51.2	62.3	56.8	5.47	11.386	
1,400.0	1,395.5	1,390.4	1,382.2	3.3	3.8	7.66	7.66	-137.8	56.8	66.9	60.9	5.96	11.232	
1,500.0	1,494.5	1,490.3	1,480.3	3.6	4.2	9.23	9.23	-155.3	62.4	71.6	65.1	6.45	11.102	
1,600.0	1,593.5	1,590.2	1,578.5	4.0	4.6	10.61	10.61	-172.7	68.0	76.3	69.3	6.94	10.985	
1,700.0	1,692.5	1,690.0	1,676.7	4.3	5.0	11.83	11.83	-190.2	73.6	81.0	73.6	7.45	10.882	
1,800.0	1,791.6	1,789.9	1,774.8	4.6	5.4	12.92	12.92	-207.7	79.2	85.8	77.9	7.95	10.790	
1,900.0	1,890.6	1,889.8	1,873.0	5.0	5.8	13.88	13.88	-225.2	84.8	90.6	82.2	8.46	10.706	
2,000.0	1,889.6	1,889.7	1,871.2	5.3	6.2	14.75	14.75	-242.6	90.4	95.5	86.5	8.98	10.629	
2,100.0	2,088.6	2,089.5	2,069.4	5.7	6.6	15.54	15.54	-260.1	96.0	100.3	90.8	9.50	10.559	
2,200.0	2,187.7	2,189.4	2,167.5	6.0	7.0	16.25	16.25	-277.6	101.7	105.2	95.2	10.02	10.494	
2,300.0	2,286.7	2,289.3	2,265.7	6.4	7.4	16.91	16.91	-295.1	107.3	110.1	99.5	10.55	10.434	
2,400.0	2,385.7	2,389.1	2,363.9	6.7	7.9	17.50	17.50	-312.5	112.9	115.0	103.9	11.08	10.379	
2,500.0	2,484.7	2,489.0	2,462.1	7.0	8.3	18.05	18.05	-330.0	118.5	119.9	108.3	11.61	10.327	
2,600.0	2,583.8	2,588.9	2,560.2	7.4	8.7	18.55	18.55	-347.5	124.1	124.8	112.7	12.14	10.279	
2,700.0	2,682.8	2,688.8	2,658.4	7.7	9.1	19.02	19.02	-365.0	129.7	129.7	117.0	12.68	10.233	
2,800.0	2,781.8	2,788.6	2,756.6	8.1	9.5	19.45	19.45	-382.4	135.3	134.7	121.4	13.21	10.191	
2,900.0	2,880.8	2,888.5	2,854.7	8.4	9.9	19.85	19.85	-399.9	140.9	139.6	125.9	13.75	10.151	
3,000.0	2,979.9	2,988.4	2,952.9	8.8	10.4	20.22	20.22	-417.4	146.5	144.6	130.3	14.29	10.114	
3,100.0	3,078.9	3,088.3	3,051.1	9.1	10.8	20.57	20.57	-434.9	152.1	149.5	134.7	14.83	10.079	
3,200.0	3,177.9	3,188.1	3,149.3	9.5	11.2	20.90	20.90	-452.4	157.8	154.5	139.1	15.38	10.045	
3,300.0	3,276.9	3,288.0	3,247.4	9.8	11.6	21.20	21.20	-469.8	163.4	159.4	143.5	15.92	10.014	
3,400.0	3,376.0	3,387.9	3,345.6	10.2	12.0	21.49	21.49	-487.3	169.0	164.4	147.9	16.47	9.984	
3,500.0	3,475.0	3,487.8	3,443.8	10.5	12.5	21.76	21.76	-504.8	174.6	169.4	152.4	17.01	9.956	
3,600.0	3,574.0	3,587.6	3,541.9	10.9	12.9	22.01	22.01	-522.3	180.2	174.4	156.8	17.56	9.929	
3,700.0	3,673.1	3,687.5	3,640.1	11.2	13.3	22.25	22.25	-539.7	185.8	179.3	161.2	18.11	9.904	
3,800.0	3,772.1	3,787.4	3,738.3	11.6	13.7	22.48	22.48	-557.2	191.4	184.3	165.7	18.66	9.880	
3,900.0	3,871.1	3,887.2	3,836.5	11.9	14.1	22.70	22.70	-574.7	197.0	189.3	170.1	19.21	9.857	
4,000.0	3,970.1	3,987.1	3,934.6	12.3	14.6	22.90	22.90	-592.2	202.6	194.3	174.5	19.76	9.835	
4,100.0	4,069.2	4,087.0	4,032.8	12.6	15.0	23.10	23.10	-609.6	208.2	199.3	179.0	20.31	9.814	
4,200.0	4,168.2	4,186.9	4,131.0	13.0	15.4	23.28	23.28	-627.1	213.9	204.3	183.4	20.86	9.794	
4,300.0	4,267.2	4,286.7	4,229.2	13.3	15.8	23.46	23.46	-644.6	219.5	209.3	187.9	21.41	9.775	
4,400.0	4,366.2	4,386.6	4,327.3	13.7	16.2	23.63	23.63	-662.1	225.1	214.3	192.3	21.96	9.757	
4,500.0	4,465.3	4,486.5	4,425.5	14.0	16.7	23.79	23.79	-679.5	230.7	219.3	196.8	22.52	9.739	
4,600.0	4,564.3	4,586.4	4,523.7	14.4	17.1	23.94	23.94	-697.0	236.3	224.3	201.2	23.07	9.722	
4,700.0	4,663.3	4,686.2	4,621.8	14.8	17.5	24.09	24.09	-714.5	241.9	229.3	205.7	23.62	9.706	
4,800.0	4,762.3	4,786.1	4,720.0	15.1	17.9	24.23	24.23	-732.0	247.5	234.3	210.1	24.18	9.691	
4,900.0	4,861.4	4,886.0	4,818.2	15.5	18.3	24.36	24.36	-749.4	253.1	239.3	214.6	24.73	9.676	
5,000.0	4,960.4	4,985.9	4,916.4	15.8	18.8	24.49	24.49	-766.9	258.7	244.3	219.0	25.29	9.662	

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #2 (4-30-15)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
5,100.0	5,059.4	5,085.7	5,014.5	16.2	19.2	24.61	-784.4	264.4	249.3	223.5	25.84	9.648					
5,200.0	5,158.4	5,185.6	5,112.7	16.5	19.6	24.73	-801.9	270.0	254.3	227.9	26.40	9.635					
5,300.0	5,257.5	5,285.5	5,210.9	16.9	20.0	24.85	-819.3	275.6	259.3	232.4	26.95	9.622					
5,400.0	5,356.5	5,388.8	5,312.5	17.2	20.4	24.98	-837.2	281.3	264.1	236.6	27.51	9.600					
5,500.0	5,455.6	5,498.5	5,420.9	17.5	20.7	25.28	-853.0	286.4	266.4	238.4	28.03	9.507					
5,600.0	5,555.1	5,608.3	5,530.0	17.7	21.0	25.53	-864.8	290.2	268.0	239.5	28.45	9.420					
5,700.0	5,654.8	5,718.1	5,639.5	17.9	21.2	25.70	-872.7	292.7	269.0	240.2	28.80	9.340					
5,800.0	5,754.8	5,827.9	5,749.2	18.1	21.3	25.78	-876.5	293.9	269.5	240.4	29.10	9.263					
5,900.0	5,854.8	5,932.4	5,853.8	18.2	21.4	179.96	-877.0	294.1	269.6	231.2	38.39	7.023					
6,000.0	5,954.8	6,032.4	5,953.8	18.3	21.5	179.96	-877.0	294.1	269.6	231.0	38.62	6.981					
6,060.4	6,015.1	6,092.8	6,014.1	18.4	21.6	180.00	-877.0	293.9	269.6	230.8	38.76	6.956					
6,100.0	6,054.8	6,132.4	6,053.6	18.5	21.6	-179.61	-877.0	292.1	269.6	230.8	38.81	6.947					
6,200.0	6,154.5	6,231.3	6,151.6	18.6	21.7	-87.96	-877.0	278.5	269.8	239.2	30.56	8.826					
6,300.0	6,252.6	6,329.3	6,246.0	18.6	21.7	-86.35	-877.0	252.8	270.1	239.2	30.90	8.743					
6,400.0	6,347.5	6,426.4	6,335.6	18.7	21.7	-84.81	-877.0	215.6	270.7	239.6	31.11	8.703					
6,500.0	6,437.4	6,522.6	6,419.1	18.6	21.7	-83.37	-877.0	167.7	271.4	240.2	31.24	8.688					
6,600.0	6,520.8	6,618.1	6,495.3	18.6	21.7	-82.05	-877.0	110.3	272.2	240.8	31.41	8.667					
6,700.0	6,596.3	6,712.9	6,563.3	18.6	21.7	-80.87	-877.0	44.4	273.1	241.3	31.75	8.600					
6,800.0	6,662.7	6,807.1	6,622.2	18.5	21.7	-79.84	-877.0	-29.1	273.9	241.4	32.45	8.441					
6,900.0	6,718.8	6,900.0	6,671.1	18.5	21.8	-78.99	-877.0	-108.0	274.7	241.0	33.66	8.159					
7,000.0	6,763.5	6,994.1	6,710.5	18.6	21.9	-78.31	-877.0	-193.4	275.3	239.8	35.54	7.747					
7,100.0	6,796.2	7,087.2	6,738.8	19.2	22.2	-77.81	-877.0	-282.0	275.8	237.7	38.08	7.243					
7,200.0	6,816.3	7,180.0	6,756.1	20.8	22.9	-77.51	-877.0	-373.1	276.1	234.9	41.23	6.697					
7,300.0	6,823.5	7,272.7	6,762.2	22.7	24.1	-77.40	-877.0	-465.6	276.2	231.4	44.88	6.155					
7,400.0	6,823.0	7,372.0	6,761.7	24.7	25.9	-77.40	-877.0	-564.9	276.2	227.4	48.87	5.652					
7,500.0	6,822.4	7,472.0	6,761.1	26.9	27.9	-77.41	-877.0	-664.9	276.2	223.1	53.12	5.200					
7,600.0	6,821.7	7,572.0	6,760.6	29.2	30.1	-77.42	-877.0	-764.9	276.2	218.6	57.58	4.797					
7,700.0	6,821.1	7,672.0	6,760.0	31.5	32.4	-77.42	-877.0	-864.9	276.2	214.0	62.20	4.441					
7,800.0	6,820.5	7,772.0	6,759.4	34.0	34.8	-77.43	-877.0	-964.9	276.2	209.3	66.96	4.125					
7,900.0	6,819.9	7,872.0	6,758.8	36.5	37.2	-77.44	-877.0	-1,064.9	276.2	204.4	71.82	3.846					
8,000.0	6,819.3	7,972.0	6,758.3	39.0	39.7	-77.44	-877.0	-1,164.9	276.2	199.4	76.76	3.598					
8,100.0	6,818.7	8,072.0	6,757.7	41.6	42.2	-77.45	-877.0	-1,264.8	276.2	194.4	81.78	3.377					
8,200.0	6,818.1	8,172.0	6,757.1	44.1	44.8	-77.46	-877.0	-1,364.8	276.2	189.3	86.86	3.180					
8,300.0	6,817.5	8,272.0	6,756.5	46.8	47.4	-77.47	-877.0	-1,464.8	276.2	184.2	91.98	3.002					
8,400.0	6,816.9	8,372.0	6,756.0	49.4	50.0	-77.47	-877.0	-1,564.8	276.2	179.0	97.15	2.843					
8,500.0	6,816.2	8,472.0	6,755.4	52.1	52.6	-77.48	-877.0	-1,664.8	276.2	173.8	102.34	2.698					
8,600.0	6,815.6	8,572.0	6,754.8	54.7	55.3	-77.49	-877.0	-1,764.8	276.1	168.6	107.57	2.567					
8,700.0	6,815.0	8,672.0	6,754.2	57.4	58.0	-77.49	-877.0	-1,864.8	276.1	163.3	112.83	2.447					
8,800.0	6,814.4	8,772.0	6,753.7	60.1	60.6	-77.50	-877.0	-1,964.8	276.1	158.0	118.11	2.338					
8,900.0	6,813.8	8,872.0	6,753.1	62.8	63.3	-77.51	-877.0	-2,064.8	276.1	152.7	123.40	2.238					
9,000.0	6,813.2	8,972.0	6,752.5	65.5	66.0	-77.52	-877.0	-2,164.8	276.1	147.4	128.72	2.145					
9,100.0	6,812.6	9,072.0	6,751.9	68.2	68.7	-77.52	-877.0	-2,264.8	276.1	142.1	134.04	2.060					
9,200.0	6,812.0	9,172.0	6,751.3	71.0	71.4	-77.53	-877.0	-2,364.8	276.1	136.7	139.39	1.981					
9,300.0	6,811.4	9,272.0	6,750.8	73.7	74.2	-77.54	-877.0	-2,464.8	276.1	131.4	144.74	1.908					
9,400.0	6,810.7	9,372.0	6,750.2	76.4	76.9	-77.54	-877.0	-2,564.8	276.1	126.0	150.10	1.839					
9,500.0	6,810.1	9,472.0	6,749.6	79.2	79.6	-77.55	-877.0	-2,664.8	276.1	120.6	155.48	1.776					
9,600.0	6,809.5	9,572.0	6,749.0	81.9	82.4	-77.56	-877.0	-2,764.8	276.1	115.2	160.86	1.716					
9,700.0	6,808.9	9,672.0	6,748.5	84.7	85.1	-77.56	-877.0	-2,864.8	276.1	109.8	166.25	1.661					
9,800.0	6,808.3	9,772.0	6,747.9	87.4	87.9	-77.57	-877.0	-2,964.8	276.1	104.4	171.65	1.608					
9,900.0	6,807.7	9,872.0	6,747.3	90.2	90.6	-77.58	-877.0	-3,064.8	276.0	99.0	177.05	1.559					
10,000.0	6,807.1	9,972.0	6,746.7	93.0	93.4	-77.59	-877.0	-3,164.8	276.0	93.6	182.46	1.513					

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-204 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,806.5	10,072.0	6,746.2	95.7	96.1	-77.59	-77.59	-877.0	-3,264.8	276.0	88.2	187.88	1.469	Level 3
10,200.0	6,805.9	10,172.0	6,745.6	98.5	98.9	-77.60	-77.60	-877.0	-3,364.8	276.0	82.7	193.30	1.428	Level 3
10,300.0	6,805.2	10,272.0	6,745.0	101.3	101.7	-77.61	-77.61	-877.0	-3,464.8	276.0	77.3	198.72	1.389	Level 3
10,400.0	6,804.6	10,372.0	6,744.4	104.0	104.4	-77.61	-77.61	-877.0	-3,564.8	276.0	71.9	204.15	1.352	Level 3
10,500.0	6,804.0	10,472.0	6,743.9	106.8	107.2	-77.62	-77.62	-877.0	-3,664.8	276.0	66.4	209.59	1.317	Level 3
10,600.0	6,803.4	10,572.0	6,743.3	109.6	110.0	-77.63	-77.63	-877.0	-3,764.8	276.0	61.0	215.02	1.284	Level 3
10,700.0	6,802.8	10,672.0	6,742.7	112.4	112.7	-77.64	-77.64	-877.0	-3,864.8	276.0	55.5	220.46	1.252	Level 3
10,800.0	6,802.2	10,772.0	6,742.1	115.1	115.5	-77.64	-77.64	-877.0	-3,964.8	276.0	50.1	225.91	1.222	Level 2
10,900.0	6,801.6	10,872.0	6,741.6	117.9	118.3	-77.65	-77.65	-877.0	-4,064.8	276.0	44.6	231.36	1.193	Level 2
11,000.0	6,801.0	10,972.0	6,741.0	120.7	121.1	-77.66	-77.66	-877.0	-4,164.8	276.0	39.2	236.81	1.165	Level 2
11,100.0	6,800.4	11,072.0	6,740.4	123.5	123.9	-77.66	-77.66	-877.0	-4,264.8	276.0	33.7	242.26	1.139	Level 2
11,200.0	6,799.8	11,172.0	6,739.8	126.3	126.6	-77.67	-77.67	-877.0	-4,364.8	276.0	28.2	247.71	1.114	Level 2
11,300.0	6,799.1	11,272.0	6,739.3	129.1	129.4	-77.68	-77.68	-877.0	-4,464.8	275.9	22.8	253.17	1.090	Level 2
11,400.0	6,798.5	11,372.0	6,738.7	131.9	132.2	-77.68	-77.68	-877.0	-4,564.8	275.9	17.3	258.63	1.067	Level 2
11,500.0	6,797.9	11,472.0	6,738.1	134.6	135.0	-77.69	-77.69	-877.0	-4,664.8	275.9	11.8	264.09	1.045	Level 2
11,600.0	6,797.3	11,572.0	6,737.5	137.4	137.8	-77.70	-77.70	-877.0	-4,764.8	275.9	6.4	269.55	1.024	Level 2
11,700.0	6,796.7	11,672.0	6,736.9	140.2	140.6	-77.71	-77.71	-877.0	-4,864.8	275.9	0.9	275.02	1.003	Level 2
11,800.0	6,796.1	11,772.0	6,736.4	143.0	143.3	-77.71	-77.71	-877.0	-4,964.8	275.9	-4.6	280.49	0.984	Level 1
11,900.0	6,795.5	11,872.0	6,735.8	145.8	146.1	-77.72	-77.72	-877.0	-5,064.8	275.9	-10.1	285.96	0.965	Level 1
12,000.0	6,794.9	11,972.0	6,735.2	148.6	148.9	-77.73	-77.73	-877.0	-5,164.8	275.9	-15.5	291.43	0.947	Level 1
12,100.0	6,794.3	12,072.0	6,734.6	151.4	151.7	-77.73	-77.73	-877.0	-5,264.8	275.9	-21.0	296.90	0.929	Level 1
12,200.0	6,793.6	12,172.0	6,734.1	154.2	154.5	-77.74	-77.74	-877.0	-5,364.8	275.9	-26.5	302.37	0.912	Level 1
12,300.0	6,793.0	12,272.0	6,733.5	157.0	157.3	-77.75	-77.75	-877.0	-5,464.8	275.9	-32.0	307.85	0.896	Level 1
12,400.0	6,792.4	12,372.0	6,732.9	159.8	160.1	-77.76	-77.76	-877.0	-5,564.8	275.9	-37.5	313.32	0.880	Level 1
12,500.0	6,791.8	12,472.0	6,732.3	162.6	162.9	-77.76	-77.76	-877.0	-5,664.8	275.9	-42.9	318.80	0.865	Level 1
12,600.0	6,791.2	12,572.0	6,731.8	165.3	165.7	-77.77	-77.77	-877.0	-5,764.8	275.8	-48.4	324.28	0.851	Level 1
12,700.0	6,790.6	12,672.0	6,731.2	168.1	168.5	-77.78	-77.78	-877.0	-5,864.8	275.8	-53.9	329.76	0.836	Level 1
12,800.0	6,790.0	12,772.0	6,730.6	170.9	171.3	-77.78	-77.78	-877.0	-5,964.8	275.8	-59.4	335.24	0.823	Level 1
12,900.0	6,789.4	12,872.0	6,730.0	173.7	174.0	-77.79	-77.79	-877.0	-6,064.8	275.8	-64.9	340.72	0.810	Level 1
13,000.0	6,788.8	12,972.0	6,729.5	176.5	176.8	-77.80	-77.80	-877.0	-6,164.8	275.8	-70.4	346.21	0.797	Level 1
13,100.0	6,788.1	13,072.0	6,728.9	179.3	179.6	-77.81	-77.81	-877.0	-6,264.8	275.8	-75.9	351.69	0.784	Level 1
13,200.0	6,787.5	13,172.0	6,728.3	182.1	182.4	-77.81	-77.81	-877.0	-6,364.8	275.8	-81.4	357.18	0.772	Level 1
13,300.0	6,786.9	13,272.0	6,727.7	184.9	185.2	-77.82	-77.82	-877.0	-6,464.8	275.8	-86.9	362.66	0.760	Level 1
13,400.0	6,786.3	13,372.0	6,727.2	187.7	188.0	-77.83	-77.83	-877.0	-6,564.8	275.8	-92.4	368.15	0.749	Level 1
13,500.0	6,785.7	13,472.0	6,726.6	190.5	190.8	-77.83	-77.83	-877.0	-6,664.8	275.8	-97.9	373.64	0.738	Level 1
13,600.0	6,785.1	13,572.0	6,726.0	193.3	193.6	-77.84	-77.84	-877.0	-6,764.8	275.8	-103.4	379.13	0.727	Level 1
13,700.0	6,784.5	13,672.0	6,725.4	196.1	196.4	-77.85	-77.85	-877.0	-6,864.8	275.8	-108.9	384.62	0.717	Level 1
13,800.0	6,783.9	13,772.0	6,724.9	198.9	199.2	-77.85	-77.85	-877.0	-6,964.8	275.8	-114.4	390.11	0.707	Level 1
13,900.0	6,783.3	13,872.0	6,724.3	201.7	202.0	-77.86	-77.86	-877.0	-7,064.8	275.7	-119.8	395.60	0.697	Level 1
13,942.2	6,783.0	13,914.2	6,724.0	202.9	203.2	-77.86	-77.86	-877.0	-7,107.0	275.7	-122.2	397.92	0.693	Level 1, ES, SF



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-45.53	21.9	-22.3	31.2					
100.0	100.0	100.0	100.0	0.1	0.1	-45.53	21.9	-22.3	31.2	31.0	0.22	138.849		
200.0	200.0	200.0	200.0	0.3	0.3	-45.53	21.9	-22.3	31.2	30.5	0.67	46.283		
300.0	300.0	300.0	300.0	0.6	0.6	-45.53	21.9	-22.3	31.2	30.1	1.12	27.770		
400.0	400.0	400.0	400.0	0.8	0.8	-45.53	21.9	-22.3	31.2	29.6	1.57	19.836 CC		
500.0	500.0	500.0	500.0	1.0	1.0	160.82	21.9	-22.3	32.0	30.0	2.00	16.030		
600.0	600.0	600.0	600.0	1.2	1.2	162.24	21.9	-22.3	34.5	32.1	2.41	14.313		
700.0	699.9	699.9	699.9	1.4	1.5	164.20	21.9	-22.3	38.7	35.9	2.84	13.641		
800.0	799.7	799.7	799.7	1.6	1.7	166.32	21.9	-22.3	44.6	41.3	3.27	13.644		
900.0	899.4	899.4	899.4	1.8	1.9	168.34	21.9	-22.3	52.3	48.5	3.71	14.101		
1,000.0	998.9	998.9	998.9	2.1	2.1	170.12	21.9	-22.3	61.7	57.5	4.15	14.875		
1,100.0	1,098.3	1,099.5	1,099.5	2.4	2.3	171.69	21.2	-21.7	72.0	67.4	4.56	15.774		
1,200.0	1,197.4	1,200.3	1,200.3	2.7	2.5	173.10	19.1	-20.2	82.3	77.4	4.96	16.587		
1,300.0	1,296.4	1,301.4	1,301.2	3.0	2.7	174.37	15.5	-17.5	91.9	86.5	5.38	17.073		
1,400.0	1,395.5	1,402.7	1,402.4	3.3	2.9	175.53	10.6	-13.7	99.7	93.9	5.81	17.164		
1,500.0	1,494.5	1,504.3	1,503.7	3.6	3.1	176.65	4.2	-8.9	105.7	99.5	6.24	16.944		
1,600.0	1,593.5	1,606.1	1,605.0	4.0	3.4	177.79	-3.7	-2.9	110.1	103.4	6.68	16.475		
1,700.0	1,692.5	1,708.0	1,706.2	4.3	3.6	179.00	-13.0	4.1	112.8	105.6	7.13	15.808		
1,800.0	1,791.6	1,808.2	1,805.6	4.6	3.9	-179.75	-22.9	11.7	114.4	106.8	7.59	15.081		
1,900.0	1,890.6	1,908.1	1,904.7	5.0	4.1	-178.55	-32.9	19.2	116.2	108.1	8.05	14.433		
2,000.0	1,989.6	2,008.1	2,003.9	5.3	4.4	-177.38	-42.9	26.7	117.9	109.4	8.51	13.851		
2,100.0	2,088.6	2,108.0	2,103.1	5.7	4.7	-176.24	-52.8	34.3	119.7	110.7	8.98	13.327		
2,200.0	2,187.7	2,208.0	2,202.3	6.0	5.0	-175.14	-62.8	41.8	121.6	112.1	9.46	12.852		
2,300.0	2,286.7	2,307.9	2,301.4	6.4	5.3	-174.08	-72.8	49.4	123.5	113.5	9.94	12.420		
2,400.0	2,385.7	2,407.9	2,400.6	6.7	5.6	-173.04	-82.7	56.9	125.4	115.0	10.43	12.026		
2,500.0	2,484.7	2,507.9	2,499.8	7.0	5.9	-172.04	-92.7	64.4	127.4	116.5	10.92	11.666		
2,600.0	2,583.8	2,607.8	2,599.0	7.4	6.2	-171.07	-102.6	72.0	129.4	118.0	11.42	11.335		
2,700.0	2,682.8	2,707.8	2,698.1	7.7	6.5	-170.13	-112.6	79.5	131.5	119.6	11.92	11.029		
2,800.0	2,781.8	2,807.7	2,797.3	8.1	6.8	-169.22	-122.6	87.1	133.6	121.1	12.43	10.747		
2,900.0	2,880.8	2,907.7	2,896.5	8.4	7.1	-168.33	-132.5	94.6	135.7	122.8	12.94	10.486		
3,000.0	2,979.9	3,007.6	2,995.6	8.8	7.5	-167.48	-142.5	102.1	137.8	124.4	13.46	10.243		
3,100.0	3,078.9	3,107.6	3,094.8	9.1	7.8	-166.65	-152.4	109.7	140.0	126.0	13.98	10.017		
3,200.0	3,177.9	3,207.5	3,194.0	9.5	8.1	-165.84	-162.4	117.2	142.2	127.7	14.50	9.806		
3,300.0	3,276.9	3,307.5	3,293.2	9.8	8.4	-165.06	-172.4	124.8	144.5	129.4	15.04	9.609		
3,400.0	3,376.0	3,407.5	3,392.3	10.2	8.7	-164.31	-182.3	132.3	146.7	131.2	15.57	9.425		
3,500.0	3,475.0	3,507.4	3,491.5	10.5	9.1	-163.57	-192.3	139.9	149.0	132.9	16.11	9.252		
3,600.0	3,574.0	3,607.4	3,590.7	10.9	9.4	-162.86	-202.3	147.4	151.3	134.7	16.65	9.089		
3,700.0	3,673.1	3,707.3	3,689.8	11.2	9.7	-162.17	-212.2	154.9	153.7	136.5	17.20	8.936		
3,800.0	3,772.1	3,807.3	3,789.0	11.6	10.0	-161.51	-222.2	162.5	156.0	138.3	17.75	8.792		
3,900.0	3,871.1	3,907.2	3,888.2	11.9	10.3	-160.86	-232.1	170.0	158.4	140.1	18.30	8.656		
4,000.0	3,970.1	4,007.2	3,987.4	12.3	10.7	-160.23	-242.1	177.6	160.8	142.0	18.86	8.527		
4,100.0	4,069.2	4,107.1	4,086.5	12.6	11.0	-159.62	-252.1	185.1	163.2	143.8	19.42	8.405		
4,200.0	4,168.2	4,207.1	4,185.7	13.0	11.3	-159.03	-262.0	192.6	165.7	145.7	19.98	8.290		
4,300.0	4,267.2	4,307.1	4,284.9	13.3	11.6	-158.45	-272.0	200.2	168.1	147.6	20.55	8.181		
4,400.0	4,366.2	4,407.0	4,384.0	13.7	12.0	-157.89	-281.9	207.7	170.6	149.5	21.12	8.077		
4,500.0	4,465.3	4,507.0	4,483.2	14.0	12.3	-157.35	-291.9	215.3	173.1	151.4	21.69	7.978		
4,600.0	4,564.3	4,606.9	4,582.4	14.4	12.6	-156.82	-301.9	222.8	175.6	153.3	22.27	7.885		
4,700.0	4,663.3	4,706.9	4,681.6	14.8	13.0	-156.31	-311.8	230.4	178.1	155.2	22.85	7.795		
4,800.0	4,762.3	4,806.8	4,780.7	15.1	13.3	-155.81	-321.8	237.9	180.6	157.2	23.43	7.710		
4,900.0	4,861.4	4,906.8	4,879.9	15.5	13.6	-155.33	-331.8	245.4	183.1	159.1	24.01	7.629		
5,000.0	4,960.4	5,006.8	4,979.1	15.8	13.9	-154.86	-341.7	253.0	185.7	161.1	24.59	7.551		

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
5,100.0	5,059.4	5,106.7	5,078.3	16.2	14.3	-154.40	-351.7	260.5	188.3	163.1	25.18	7.477				
5,200.0	5,158.4	5,206.7	5,177.4	16.5	14.6	-153.95	-361.6	268.1	190.8	165.1	25.77	7.407				
5,300.0	5,257.5	5,306.6	5,276.6	16.9	14.9	-153.52	-371.6	275.6	193.4	167.1	26.36	7.339				
5,400.0	5,356.5	5,404.8	5,374.1	17.2	15.2	-153.14	-381.2	282.9	196.2	169.3	26.93	7.285				
5,500.0	5,455.6	5,500.0	5,468.8	17.5	15.4	-153.17	-388.6	288.5	200.5	173.1	27.38	7.322				
5,600.0	5,555.1	5,594.2	5,562.8	17.7	15.6	-153.39	-393.5	292.1	204.6	176.9	27.74	7.377				
5,700.0	5,654.8	5,688.8	5,657.3	17.9	15.8	-153.71	-395.8	293.9	208.3	180.2	28.03	7.429				
5,800.0	5,754.8	5,786.2	5,754.8	18.1	15.9	-154.07	-396.1	294.1	211.0	182.7	28.29	7.457				
5,900.0	5,854.8	5,886.2	5,854.8	18.2	16.1	0.06	-396.1	294.1	211.3	178.8	32.54	6.494				
6,000.0	5,954.8	5,986.2	5,954.8	18.3	16.2	0.06	-396.1	294.1	211.3	178.5	32.82	6.437				
6,067.5	6,022.2	6,053.7	6,022.2	18.4	16.3	0.06	-396.1	294.1	211.3	178.3	33.02	6.399				
6,100.0	6,054.8	6,086.2	6,054.7	18.5	16.4	-0.17	-396.1	293.3	211.3	178.2	33.13	6.377				
6,200.0	6,154.5	6,185.7	6,153.5	18.6	16.5	88.41	-396.1	282.2	211.4	182.1	29.31	7.213				
6,300.0	6,252.6	6,284.4	6,249.3	18.6	16.5	87.01	-396.1	258.6	211.6	182.3	29.26	7.232				
6,400.0	6,347.5	6,382.6	6,340.7	18.7	16.5	85.67	-396.1	223.1	211.9	182.7	29.16	7.268				
6,500.0	6,437.4	6,480.1	6,426.3	18.6	16.5	84.41	-396.1	176.4	212.3	183.2	29.10	7.296				
6,600.0	6,520.8	6,577.1	6,504.9	18.6	16.4	83.25	-396.1	119.6	212.8	183.6	29.20	7.286				
6,700.0	6,596.3	6,673.6	6,575.3	18.6	16.4	82.21	-396.1	53.7	213.3	183.7	29.60	7.205				
6,800.0	6,662.7	6,769.7	6,636.5	18.5	16.4	81.30	-396.1	-20.2	213.8	183.3	30.44	7.022				
6,900.0	6,718.8	6,865.4	6,687.9	18.5	16.4	80.54	-396.1	-100.9	214.2	182.4	31.83	6.729				
7,000.0	6,763.5	6,960.8	6,728.6	18.6	17.2	79.93	-396.1	-187.1	214.6	180.8	33.83	6.343				
7,100.0	6,796.2	7,056.0	6,758.3	19.2	18.6	79.48	-396.1	-277.5	214.9	178.5	36.43	5.899				
7,200.0	6,816.3	7,150.0	6,776.3	20.8	20.2	79.21	-396.1	-369.7	215.1	175.6	39.53	5.441				
7,300.0	6,823.5	7,246.0	6,782.9	22.7	22.1	79.11	-396.1	-465.4	215.2	172.1	43.07	4.996				
7,400.0	6,823.0	7,345.4	6,782.1	24.7	24.1	79.05	-396.1	-564.9	215.2	168.1	47.08	4.571				
7,500.0	6,822.4	7,445.4	6,781.2	26.9	26.3	78.98	-396.1	-664.8	215.3	163.9	51.37	4.190				
7,600.0	6,821.7	7,545.4	6,780.3	29.2	28.6	78.91	-396.1	-764.8	215.3	159.4	55.87	3.854				
7,700.0	6,821.1	7,645.4	6,779.5	31.5	31.0	78.84	-396.1	-864.8	215.4	154.8	60.54	3.557				
7,800.0	6,820.5	7,745.4	6,778.6	34.0	33.5	78.77	-396.1	-964.8	215.4	150.1	65.34	3.297				
7,900.0	6,819.9	7,845.4	6,777.7	36.5	36.0	78.70	-396.1	-1,064.8	215.5	145.2	70.24	3.068				
8,000.0	6,819.3	7,945.4	6,776.8	39.0	38.5	78.64	-396.1	-1,164.8	215.5	140.3	75.22	2.865				
8,100.0	6,818.7	8,045.4	6,776.0	41.6	41.1	78.57	-396.1	-1,264.8	215.6	135.3	80.27	2.686				
8,200.0	6,818.1	8,145.4	6,775.1	44.1	43.7	78.50	-396.1	-1,364.8	215.6	130.3	85.37	2.526				
8,300.0	6,817.5	8,245.4	6,774.2	46.8	46.3	78.43	-396.1	-1,464.8	215.7	125.2	90.51	2.383				
8,400.0	6,816.9	8,345.4	6,773.3	49.4	49.0	78.36	-396.1	-1,564.8	215.7	120.0	95.70	2.254				
8,500.0	6,816.2	8,445.4	6,772.5	52.1	51.7	78.30	-396.1	-1,664.8	215.8	114.9	100.91	2.138				
8,600.0	6,815.6	8,545.4	6,771.6	54.7	54.3	78.23	-396.1	-1,764.8	215.8	109.7	106.15	2.033				
8,700.0	6,815.0	8,645.4	6,770.7	57.4	57.0	78.16	-396.1	-1,864.8	215.9	104.5	111.41	1.938				
8,800.0	6,814.4	8,745.4	6,769.9	60.1	59.7	78.09	-396.1	-1,964.8	215.9	99.3	116.68	1.851				
8,900.0	6,813.8	8,845.4	6,769.0	62.8	62.4	78.02	-396.1	-2,064.8	216.0	94.0	121.98	1.771				
9,000.0	6,813.2	8,945.4	6,768.1	65.5	65.2	77.96	-396.1	-2,164.8	216.1	88.8	127.28	1.697				
9,100.0	6,812.6	9,045.4	6,767.2	68.2	67.9	77.89	-396.1	-2,264.8	216.1	83.5	132.60	1.630				
9,200.0	6,812.0	9,145.4	6,766.4	71.0	70.6	77.82	-396.1	-2,364.8	216.2	78.2	137.93	1.567				
9,300.0	6,811.4	9,245.4	6,765.5	73.7	73.4	77.75	-396.1	-2,464.8	216.2	72.9	143.27	1.509				
9,400.0	6,810.7	9,345.4	6,764.6	76.4	76.1	77.68	-396.1	-2,564.8	216.3	67.7	148.61	1.455 Level 3				
9,500.0	6,810.1	9,445.4	6,763.7	79.2	78.9	77.62	-396.1	-2,664.8	216.3	62.4	153.96	1.405 Level 3				
9,600.0	6,809.5	9,545.4	6,762.9	81.9	81.6	77.55	-396.1	-2,764.8	216.4	57.1	159.31	1.358 Level 3				
9,700.0	6,808.9	9,645.4	6,762.0	84.7	84.4	77.48	-396.1	-2,864.8	216.4	51.8	164.67	1.314 Level 3				
9,800.0	6,808.3	9,745.4	6,761.1	87.4	87.1	77.41	-396.1	-2,964.8	216.5	46.5	170.03	1.273 Level 3				
9,900.0	6,807.7	9,845.4	6,760.3	90.2	89.9	77.35	-396.1	-3,064.7	216.6	41.2	175.40	1.235 Level 2				
10,000.0	6,807.1	9,945.4	6,759.4	93.0	92.7	77.28	-396.1	-3,164.7	216.6	35.8	180.76	1.198 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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,806.5	10,045.4	6,758.5	95.7	95.4	77.21		-396.1	-3,264.7	216.7	30.5	186.13	1.164	Level 2
10,200.0	6,805.9	10,145.4	6,757.6	98.5	98.2	77.14		-396.1	-3,364.7	216.7	25.2	191.50	1.132	Level 2
10,300.0	6,805.2	10,245.4	6,756.8	101.3	101.0	77.08		-396.1	-3,464.7	216.8	19.9	196.88	1.101	Level 2
10,400.0	6,804.6	10,345.4	6,755.9	104.0	103.8	77.01		-396.1	-3,564.7	216.8	14.6	202.25	1.072	Level 2
10,500.0	6,804.0	10,445.4	6,755.0	106.8	106.5	76.94		-396.1	-3,664.7	216.9	9.3	207.62	1.045	Level 2
10,600.0	6,803.4	10,545.4	6,754.1	109.6	109.3	76.87		-396.1	-3,764.7	217.0	4.0	212.99	1.019	Level 2
10,700.0	6,802.8	10,645.4	6,753.3	112.4	112.1	76.81		-396.1	-3,864.7	217.0	-1.3	218.37	0.994	Level 1
10,800.0	6,802.2	10,745.4	6,752.4	115.1	114.9	76.74		-396.1	-3,964.7	217.1	-6.7	223.74	0.970	Level 1
10,900.0	6,801.6	10,845.4	6,751.5	117.9	117.7	76.67		-396.1	-4,064.7	217.1	-12.0	229.11	0.948	Level 1
11,000.0	6,801.0	10,945.4	6,750.7	120.7	120.4	76.60		-396.1	-4,164.7	217.2	-17.3	234.48	0.926	Level 1
11,100.0	6,800.4	11,045.4	6,749.8	123.5	123.2	76.54		-396.1	-4,264.7	217.3	-22.6	239.85	0.906	Level 1
11,200.0	6,799.8	11,145.4	6,748.9	126.3	126.0	76.47		-396.1	-4,364.7	217.3	-27.9	245.22	0.886	Level 1
11,300.0	6,799.1	11,245.4	6,748.0	129.1	128.8	76.40		-396.1	-4,464.7	217.4	-33.2	250.59	0.867	Level 1
11,400.0	6,798.5	11,345.4	6,747.2	131.9	131.6	76.34		-396.1	-4,564.7	217.4	-38.5	255.96	0.850	Level 1
11,500.0	6,797.9	11,445.4	6,746.3	134.6	134.4	76.27		-396.1	-4,664.7	217.5	-43.8	261.33	0.832	Level 1
11,600.0	6,797.3	11,545.4	6,745.4	137.4	137.2	76.20		-396.1	-4,764.7	217.6	-49.1	266.69	0.816	Level 1
11,700.0	6,796.7	11,645.4	6,744.5	140.2	140.0	76.14		-396.1	-4,864.7	217.6	-54.4	272.05	0.800	Level 1
11,800.0	6,796.1	11,745.4	6,743.7	143.0	142.7	76.07		-396.1	-4,964.7	217.7	-59.7	277.41	0.785	Level 1
11,900.0	6,795.5	11,845.4	6,742.8	145.8	145.5	76.00		-396.1	-5,064.7	217.8	-65.0	282.77	0.770	Level 1
12,000.0	6,794.9	11,945.4	6,741.9	148.6	148.3	75.93		-396.1	-5,164.7	217.8	-70.3	288.13	0.756	Level 1
12,100.0	6,794.3	12,045.4	6,741.1	151.4	151.1	75.87		-396.1	-5,264.7	217.9	-75.6	293.48	0.742	Level 1
12,200.0	6,793.6	12,145.4	6,740.2	154.2	153.9	75.80		-396.1	-5,364.7	218.0	-80.9	298.84	0.729	Level 1
12,300.0	6,793.0	12,245.4	6,739.3	157.0	156.7	75.73		-396.1	-5,464.6	218.0	-86.2	304.19	0.717	Level 1
12,400.0	6,792.4	12,345.4	6,738.4	159.8	159.5	75.67		-396.1	-5,564.6	218.1	-91.5	309.53	0.705	Level 1
12,500.0	6,791.8	12,445.4	6,737.6	162.6	162.3	75.60		-396.1	-5,664.6	218.1	-96.7	314.88	0.693	Level 1
12,600.0	6,791.2	12,545.4	6,736.7	165.3	165.1	75.53		-396.1	-5,764.6	218.2	-102.0	320.22	0.681	Level 1
12,700.0	6,790.6	12,645.4	6,735.8	168.1	167.9	75.47		-396.1	-5,864.6	218.3	-107.3	325.56	0.670	Level 1
12,800.0	6,790.0	12,745.4	6,734.9	170.9	170.7	75.40		-396.1	-5,964.6	218.3	-112.6	330.90	0.660	Level 1
12,900.0	6,789.4	12,845.4	6,734.1	173.7	173.5	75.34		-396.1	-6,064.6	218.4	-117.8	336.24	0.650	Level 1
13,000.0	6,788.8	12,945.4	6,733.2	176.5	176.3	75.27		-396.1	-6,164.6	218.5	-123.1	341.57	0.640	Level 1
13,100.0	6,788.1	13,045.4	6,732.3	179.3	179.1	75.20		-396.1	-6,264.6	218.5	-128.4	346.90	0.630	Level 1
13,200.0	6,787.5	13,145.4	6,731.5	182.1	181.9	75.14		-396.1	-6,364.6	218.6	-133.6	352.23	0.621	Level 1
13,300.0	6,786.9	13,245.4	6,730.6	184.9	184.7	75.07		-396.1	-6,464.6	218.7	-138.9	357.55	0.612	Level 1
13,400.0	6,786.3	13,345.4	6,729.7	187.7	187.5	75.00		-396.1	-6,564.6	218.7	-144.1	362.87	0.603	Level 1
13,500.0	6,785.7	13,445.4	6,728.8	190.5	190.3	74.94		-396.1	-6,664.6	218.8	-149.4	368.19	0.594	Level 1
13,600.0	6,785.1	13,545.4	6,728.0	193.3	193.1	74.87		-396.1	-6,764.6	218.9	-154.6	373.51	0.586	Level 1
13,700.0	6,784.5	13,645.4	6,727.1	196.1	195.9	74.80		-396.1	-6,864.6	218.9	-159.9	378.82	0.578	Level 1
13,800.0	6,783.9	13,745.4	6,726.2	198.9	198.7	74.74		-396.1	-6,964.6	219.0	-165.1	384.13	0.570	Level 1
13,900.0	6,783.3	13,845.4	6,725.3	201.7	201.0	74.67		-396.1	-7,064.6	219.1	-169.9	389.00	0.563	Level 1
13,920.2	6,783.1	13,865.6	6,725.2	202.3	201.4	74.66		-396.1	-7,084.8	219.1	-170.8	389.88	0.562	Level 1
13,942.2	6,783.0	13,885.3	6,725.0	202.9	201.8	74.65		-396.1	-7,104.5	219.1	-171.7	390.79	0.561	Level 1, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-43.69		43.7	-41.8	60.5				
100.0	100.0	100.0	100.0	0.1	0.1	-43.69		43.7	-41.8	60.5	60.2	0.22	268.973	
200.0	200.0	200.0	200.0	0.3	0.3	-43.69		43.7	-41.8	60.5	59.8	0.67	89.658	
300.0	300.0	300.0	300.0	0.6	0.6	-43.69		43.7	-41.8	60.5	59.3	1.12	53.795	
400.0	400.0	400.0	400.0	0.8	0.8	-43.69		43.7	-41.8	60.5	58.9	1.57	38.425 CC	
500.0	500.0	500.0	500.0	1.0	1.0	162.38		43.7	-41.8	61.3	59.3	2.00	30.670	
600.0	600.0	600.0	600.0	1.2	1.2	163.09		43.7	-41.8	63.8	61.4	2.41	26.451	
700.0	699.9	699.9	699.9	1.4	1.5	164.15		43.7	-41.8	68.0	65.1	2.84	23.964	
800.0	799.7	799.7	799.7	1.6	1.7	165.42		43.7	-41.8	73.9	70.6	3.27	22.597	
900.0	899.4	899.4	899.4	1.8	1.9	166.80		43.7	-41.8	81.5	77.8	3.71	21.986	
1,000.0	998.9	998.9	998.9	2.1	2.1	168.16		43.7	-41.8	90.8	86.7	4.15	21.905	
1,100.0	1,098.3	1,098.3	1,098.3	2.4	2.4	169.44		43.7	-41.8	101.9	97.4	4.59	22.209	
1,200.0	1,197.4	1,197.4	1,197.4	2.7	2.6	170.61		43.7	-41.8	114.8	109.8	5.04	22.799	
1,300.0	1,296.4	1,296.4	1,296.4	3.0	2.8	171.63		43.7	-41.8	128.6	123.1	5.49	23.430	
1,400.0	1,395.5	1,395.5	1,395.5	3.3	3.0	172.44		43.7	-41.8	142.4	136.4	5.94	23.962	
1,500.0	1,494.5	1,494.5	1,494.5	3.6	3.2	173.11		43.7	-41.8	156.2	149.8	6.40	24.415	
1,600.0	1,593.5	1,593.5	1,593.5	4.0	3.5	173.68		43.7	-41.8	170.0	163.2	6.85	24.805	
1,700.0	1,692.5	1,692.5	1,692.5	4.3	3.7	174.26		43.2	-41.1	183.1	175.8	7.30	25.104	
1,800.0	1,791.6	1,791.6	1,791.6	4.6	3.9	174.97		41.7	-39.0	194.7	186.9	7.72	25.222	
1,900.0	1,890.6	1,890.6	1,890.6	5.0	4.1	175.80		39.0	-35.4	204.6	196.4	8.15	25.112	
2,000.0	1,889.6	1,889.6	1,889.6	5.3	4.3	176.76		35.2	-30.4	212.9	204.3	8.58	24.808	
2,100.0	2,088.6	2,088.6	2,088.6	5.7	4.5	177.85		30.3	-23.8	219.6	210.6	9.02	24.340	
2,200.0	2,187.7	2,187.7	2,187.7	6.0	4.7	179.09		24.3	-15.7	224.8	215.3	9.47	23.734	
2,300.0	2,286.7	2,286.7	2,286.7	6.4	4.9	179.52		17.2	-6.2	228.5	218.6	9.93	23.013	
2,400.0	2,385.7	2,385.7	2,385.7	6.7	5.2	178.12		9.8	3.7	231.6	221.2	10.39	22.292	
2,500.0	2,484.7	2,484.7	2,484.7	7.0	5.4	176.75		2.5	13.6	234.8	223.9	10.86	21.629	
2,600.0	2,583.8	2,583.8	2,583.8	7.4	5.7	175.43		-4.9	23.4	238.2	226.8	11.33	21.017	
2,700.0	2,682.8	2,682.8	2,682.8	7.7	6.0	174.14		-12.2	33.3	241.6	229.8	11.82	20.451	
2,800.0	2,781.8	2,781.8	2,781.8	8.1	6.2	172.89		-19.6	43.2	245.2	232.9	12.31	19.926	
2,900.0	2,880.8	2,880.8	2,880.8	8.4	6.5	171.67		-27.0	53.1	249.0	236.2	12.81	19.438	
3,000.0	2,979.9	2,979.9	2,979.9	8.8	6.8	170.49		-34.3	63.0	252.8	239.5	13.32	18.983	
3,100.0	3,078.9	3,078.9	3,078.9	9.1	7.1	169.35		-41.7	72.8	256.7	242.9	13.83	18.560	
3,200.0	3,177.9	3,177.9	3,177.9	9.5	7.4	168.24		-49.1	82.7	260.7	246.4	14.35	18.164	
3,300.0	3,276.9	3,276.9	3,276.9	9.8	7.7	167.17		-56.4	92.6	264.9	250.0	14.88	17.794	
3,400.0	3,376.0	3,376.0	3,376.0	10.2	8.0	166.13		-63.8	102.5	269.1	253.6	15.42	17.447	
3,500.0	3,475.0	3,475.0	3,475.0	10.5	8.3	165.12		-71.1	112.4	273.4	257.4	15.97	17.122	
3,600.0	3,574.0	3,574.0	3,574.0	10.9	8.6	164.14		-78.5	122.2	277.7	261.2	16.52	16.817	
3,700.0	3,673.1	3,673.1	3,673.1	11.2	8.9	163.19		-85.9	132.1	282.2	265.1	17.07	16.530	
3,800.0	3,772.1	3,772.1	3,772.1	11.6	9.2	162.28		-93.2	142.0	286.7	269.1	17.64	16.260	
3,900.0	3,871.1	3,871.1	3,871.1	11.9	9.5	161.39		-100.6	151.9	291.3	273.1	18.20	16.005	
4,000.0	3,970.1	3,970.1	3,970.1	12.3	9.8	160.53		-108.0	161.7	296.0	277.2	18.78	15.765	
4,100.0	4,069.2	4,069.2	4,069.2	12.6	10.1	159.69		-115.3	171.6	300.8	281.4	19.35	15.539	
4,200.0	4,168.2	4,168.2	4,168.2	13.0	10.4	158.89		-122.7	181.5	305.6	285.6	19.94	15.325	
4,300.0	4,267.2	4,267.2	4,267.2	13.3	10.7	158.10		-130.0	191.4	310.4	289.9	20.53	15.123	
4,400.0	4,366.2	4,366.2	4,366.2	13.7	11.0	157.34		-137.4	201.3	315.3	294.2	21.12	14.932	
4,500.0	4,465.3	4,465.3	4,465.3	14.0	11.4	156.61		-144.8	211.1	320.3	298.6	21.71	14.750	
4,600.0	4,564.3	4,564.3	4,564.3	14.4	11.7	155.90		-152.1	221.0	325.3	303.0	22.31	14.579	
4,700.0	4,663.3	4,663.3	4,663.3	14.8	12.0	155.21		-159.5	230.9	330.4	307.5	22.92	14.416	
4,800.0	4,762.3	4,762.3	4,762.3	15.1	12.3	154.54		-166.9	240.8	335.5	312.0	23.52	14.261	
4,900.0	4,861.4	4,861.4	4,861.4	15.5	12.6	153.89		-174.2	250.6	340.6	316.5	24.13	14.114	
5,000.0	4,960.4	4,960.4	4,960.4	15.8	12.9	153.26		-181.6	260.5	345.8	321.1	24.75	13.975	

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,059.4	5,107.7	5,084.5	16.2	13.2	-152.64	-188.9	270.4	351.1	325.7	25.36	13.842		
5,200.0	5,158.4	5,205.0	5,181.1	16.5	13.5	-152.09	-196.0	279.9	356.5	330.5	25.96	13.733		
5,300.0	5,257.5	5,300.0	5,275.6	16.9	13.8	-151.90	-201.4	287.1	363.4	337.0	26.46	13.735		
5,400.0	5,356.5	5,390.9	5,366.4	17.2	13.9	-152.10	-204.8	291.6	372.2	345.3	26.89	13.839		
5,500.0	5,455.6	5,483.4	5,458.8	17.5	14.1	-152.68	-206.5	293.9	382.3	355.1	27.27	14.021		
5,600.0	5,555.1	5,579.6	5,555.1	17.7	14.3	-153.39	-206.6	294.1	391.3	363.7	27.57	14.191		
5,700.0	5,654.8	5,679.4	5,654.8	17.9	14.4	-153.88	-206.6	294.1	397.4	369.5	27.88	14.256		
5,800.0	5,754.8	5,779.4	5,754.8	18.1	14.6	-154.12	-206.6	294.1	400.4	372.2	28.18	14.211		
5,900.0	5,854.8	5,879.4	5,854.8	18.2	14.8	0.03	-206.6	294.1	400.7	369.8	30.97	12.940		
6,000.0	5,954.8	5,979.4	5,954.8	18.3	15.0	0.03	-206.6	294.1	400.7	369.5	31.28	12.810		
6,100.0	6,054.8	6,079.4	6,054.8	18.5	15.1	0.03	-206.6	294.1	400.7	369.1	31.60	12.681		
6,200.0	6,154.5	6,179.4	6,154.8	18.6	15.3	90.63	-206.6	292.4	400.8	371.2	29.56	13.557		
6,300.0	6,252.6	6,280.2	6,254.6	18.6	15.4	91.44	-206.6	279.0	400.9	371.1	29.79	13.454		
6,400.0	6,347.5	6,381.8	6,352.5	18.7	15.4	92.22	-206.6	252.3	401.0	371.1	29.91	13.410		
6,500.0	6,437.4	6,484.1	6,446.7	18.6	15.4	92.96	-206.6	212.5	401.3	371.3	29.96	13.393		
6,600.0	6,520.8	6,587.1	6,535.3	18.6	15.4	93.66	-206.6	160.1	401.6	371.5	30.07	13.353		
6,700.0	6,596.3	6,690.8	6,616.6	18.6	15.4	94.29	-206.6	95.8	401.9	371.5	30.39	13.222		
6,800.0	6,662.7	6,795.1	6,688.8	18.5	15.6	94.85	-206.6	20.7	402.2	371.1	31.11	12.927		
6,900.0	6,718.8	6,900.0	6,750.4	18.5	16.0	95.32	-206.6	-64.1	402.5	370.1	32.41	12.419		
7,000.0	6,763.5	7,005.3	6,800.0	18.6	17.0	95.70	-206.6	-156.9	402.7	368.3	34.41	11.704		
7,100.0	6,796.2	7,110.9	6,836.5	19.2	18.4	95.97	-206.6	-255.9	402.9	365.8	37.13	10.850		
7,200.0	6,816.3	7,216.8	6,859.0	20.8	20.1	96.14	-206.6	-359.3	403.0	362.5	40.50	9.951		
7,300.0	6,823.5	7,322.8	6,867.0	22.7	22.1	96.20	-206.6	-464.9	403.1	358.7	44.37	9.086		
7,400.0	6,823.0	7,423.6	6,866.0	24.7	24.2	96.13	-206.6	-565.7	403.0	354.6	48.45	8.318		
7,500.0	6,822.4	7,523.6	6,864.9	26.9	26.3	96.06	-206.6	-665.7	403.0	350.2	52.79	7.634		
7,600.0	6,821.7	7,623.6	6,863.8	29.2	28.6	95.99	-206.6	-765.7	402.9	345.6	57.35	7.026		
7,700.0	6,821.1	7,723.6	6,862.7	31.5	31.0	95.92	-206.6	-865.7	402.9	340.8	62.08	6.490		
7,800.0	6,820.5	7,823.6	6,861.5	34.0	33.4	95.85	-206.6	-965.7	402.8	335.9	66.94	6.018		
7,900.0	6,819.9	7,923.6	6,860.4	36.5	35.9	95.77	-206.6	-1,065.7	402.8	330.9	71.91	5.601		
8,000.0	6,819.3	8,023.6	6,859.3	39.0	38.5	95.70	-206.6	-1,165.6	402.7	325.8	76.97	5.232		
8,100.0	6,818.7	8,123.6	6,858.2	41.6	41.1	95.63	-206.6	-1,265.6	402.7	320.6	82.10	4.905		
8,200.0	6,818.1	8,223.6	6,857.1	44.1	43.7	95.56	-206.6	-1,365.6	402.6	315.3	87.29	4.613		
8,300.0	6,817.5	8,323.6	6,856.0	46.8	46.3	95.49	-206.6	-1,465.6	402.6	310.1	92.52	4.351		
8,400.0	6,816.9	8,423.6	6,854.8	49.4	48.9	95.42	-206.6	-1,565.6	402.5	304.7	97.80	4.116		
8,500.0	6,816.2	8,523.6	6,853.7	52.1	51.6	95.34	-206.6	-1,665.6	402.5	299.4	103.12	3.903		
8,600.0	6,815.6	8,623.6	6,852.6	54.7	54.3	95.27	-206.6	-1,765.6	402.4	294.0	108.46	3.710		
8,700.0	6,815.0	8,723.6	6,851.5	57.4	57.0	95.20	-206.6	-1,865.6	402.4	288.6	113.83	3.535		
8,800.0	6,814.4	8,823.6	6,850.4	60.1	59.7	95.13	-206.6	-1,965.6	402.3	283.1	119.23	3.375		
8,900.0	6,813.8	8,923.6	6,849.3	62.8	62.4	95.06	-206.6	-2,065.6	402.3	277.7	124.64	3.228		
9,000.0	6,813.2	9,023.6	6,848.1	65.5	65.1	94.98	-206.6	-2,165.6	402.3	272.2	130.07	3.093		
9,100.0	6,812.6	9,123.6	6,847.0	68.2	67.8	94.91	-206.6	-2,265.6	402.2	266.7	135.52	2.968		
9,200.0	6,812.0	9,223.6	6,845.9	71.0	70.6	94.84	-206.6	-2,365.6	402.2	261.2	140.98	2.853		
9,300.0	6,811.4	9,323.6	6,844.8	73.7	73.3	94.77	-206.6	-2,465.6	402.1	255.7	146.45	2.746		
9,400.0	6,810.7	9,423.6	6,843.7	76.4	76.1	94.70	-206.6	-2,565.5	402.1	250.1	151.93	2.646		
9,500.0	6,810.1	9,523.6	6,842.6	79.2	78.8	94.63	-206.6	-2,665.5	402.0	244.6	157.43	2.554		
9,600.0	6,809.5	9,623.6	6,841.4	81.9	81.6	94.55	-206.6	-2,765.5	402.0	239.1	162.93	2.467		
9,700.0	6,808.9	9,723.6	6,840.3	84.7	84.3	94.48	-206.6	-2,865.5	402.0	233.5	168.44	2.386		
9,800.0	6,808.3	9,823.6	6,839.2	87.4	87.1	94.41	-206.6	-2,965.5	401.9	228.0	173.96	2.310		
9,900.0	6,807.7	9,923.6	6,838.1	90.2	89.8	94.34	-206.6	-3,065.5	401.9	222.4	179.49	2.239		
10,000.0	6,807.1	10,023.6	6,837.0	93.0	92.6	94.27	-206.6	-3,165.5	401.8	216.8	185.02	2.172		
10,100.0	6,806.5	10,123.6	6,835.9	95.7	95.4	94.19	-206.6	-3,265.5	401.8	211.3	190.56	2.109		

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
10,200.0	6,805.9	10,223.5	6,834.7		98.5	98.1	94.12	-206.6	-3,365.5	401.8	205.7	196.10	2.049	
10,300.0	6,805.2	10,323.5	6,833.6	101.3	100.9		94.05	-206.6	-3,465.5	401.7	200.1	201.65	1.992	
10,400.0	6,804.6	10,423.5	6,832.5	104.0	103.7		93.98	-206.6	-3,565.5	401.7	194.5	207.20	1.939	
10,500.0	6,804.0	10,523.5	6,831.4	106.8	106.5		93.91	-206.6	-3,665.5	401.7	188.9	212.76	1.888	
10,600.0	6,803.4	10,623.5	6,830.3	109.6	109.2		93.83	-206.6	-3,765.4	401.6	183.3	218.32	1.840	
10,700.0	6,802.8	10,723.5	6,829.1	112.4	112.0		93.76	-206.6	-3,865.4	401.6	177.7	223.88	1.794	
10,800.0	6,802.2	10,823.5	6,828.0	115.1	114.8		93.69	-206.6	-3,965.4	401.6	172.1	229.45	1.750	
10,900.0	6,801.6	10,923.5	6,826.9	117.9	117.6		93.62	-206.6	-4,065.4	401.5	166.5	235.02	1.709	
11,000.0	6,801.0	11,023.5	6,825.8	120.7	120.4		93.55	-206.6	-4,165.4	401.5	160.9	240.59	1.669	
11,100.0	6,800.4	11,123.5	6,824.7	123.5	123.2		93.47	-206.6	-4,265.4	401.5	155.3	246.17	1.631	
11,200.0	6,799.8	11,223.5	6,823.6	126.3	126.0		93.40	-206.6	-4,365.4	401.4	149.7	251.75	1.595	
11,300.0	6,799.1	11,323.5	6,822.4	129.1	128.7		93.33	-206.6	-4,465.4	401.4	144.1	257.33	1.560	
11,400.0	6,798.5	11,423.5	6,821.3	131.9	131.5		93.26	-206.6	-4,565.4	401.4	138.5	262.92	1.527	
11,500.0	6,797.9	11,523.5	6,820.2	134.6	134.3		93.18	-206.6	-4,665.4	401.4	132.9	268.50	1.495 Level 3	
11,600.0	6,797.3	11,623.5	6,819.1	137.4	137.1		93.11	-206.6	-4,765.4	401.3	127.2	274.09	1.464 Level 3	
11,700.0	6,796.7	11,723.5	6,818.0	140.2	139.9		93.04	-206.6	-4,865.4	401.3	121.6	279.68	1.435 Level 3	
11,800.0	6,796.1	11,823.5	6,816.9	143.0	142.7		92.97	-206.6	-4,965.4	401.3	116.0	285.27	1.407 Level 3	
11,900.0	6,795.5	11,923.5	6,815.7	145.8	145.5		92.90	-206.6	-5,065.3	401.2	110.4	290.87	1.379 Level 3	
12,000.0	6,794.9	12,023.5	6,814.6	148.6	148.3		92.82	-206.6	-5,165.3	401.2	104.8	296.46	1.353 Level 3	
12,100.0	6,794.3	12,123.5	6,813.5	151.4	151.1		92.75	-206.6	-5,265.3	401.2	99.1	302.06	1.328 Level 3	
12,200.0	6,793.6	12,223.5	6,812.4	154.2	153.9		92.68	-206.6	-5,365.3	401.2	93.5	307.66	1.304 Level 3	
12,300.0	6,793.0	12,323.5	6,811.3	157.0	156.7		92.61	-206.6	-5,465.3	401.1	87.9	313.26	1.281 Level 3	
12,400.0	6,792.4	12,423.5	6,810.2	159.8	159.5		92.53	-206.6	-5,565.3	401.1	82.3	318.86	1.258 Level 3	
12,500.0	6,791.8	12,523.5	6,809.0	162.6	162.3		92.46	-206.6	-5,665.3	401.1	76.6	324.46	1.236 Level 2	
12,600.0	6,791.2	12,623.5	6,807.9	165.3	165.0		92.39	-206.6	-5,765.3	401.1	71.0	330.06	1.215 Level 2	
12,700.0	6,790.6	12,723.5	6,806.8	168.1	167.8		92.32	-206.6	-5,865.3	401.1	65.4	335.66	1.195 Level 2	
12,800.0	6,790.0	12,823.5	6,805.7	170.9	170.6		92.25	-206.6	-5,965.3	401.0	59.8	341.27	1.175 Level 2	
12,900.0	6,789.4	12,923.5	6,804.6	173.7	173.4		92.17	-206.6	-6,065.3	401.0	54.1	346.88	1.156 Level 2	
13,000.0	6,788.8	13,023.5	6,803.5	176.5	176.2		92.10	-206.6	-6,165.3	401.0	48.5	352.48	1.138 Level 2	
13,100.0	6,788.1	13,123.5	6,802.3	179.3	179.0		92.03	-206.6	-6,265.3	401.0	42.9	358.09	1.120 Level 2	
13,200.0	6,787.5	13,223.5	6,801.2	182.1	181.8		91.96	-206.6	-6,365.3	401.0	37.3	363.70	1.102 Level 2	
13,300.0	6,786.9	13,323.5	6,800.1	184.9	184.6		91.88	-206.6	-6,465.2	400.9	31.6	369.31	1.086 Level 2	
13,400.0	6,786.3	13,423.5	6,799.0	187.7	187.4		91.81	-206.6	-6,565.2	400.9	26.0	374.91	1.069 Level 2	
13,500.0	6,785.7	13,523.5	6,797.9	190.5	190.2		91.74	-206.6	-6,665.2	400.9	20.4	380.52	1.054 Level 2	
13,600.0	6,785.1	13,623.5	6,796.8	193.3	193.0		91.67	-206.6	-6,765.2	400.9	14.8	386.13	1.038 Level 2	
13,700.0	6,784.5	13,723.5	6,795.6	196.1	195.8		91.60	-206.6	-6,865.2	400.9	9.1	391.74	1.023 Level 2	
13,800.0	6,783.9	13,823.5	6,794.5	198.9	198.6		91.52	-206.6	-6,965.2	400.9	3.5	397.35	1.009 Level 2	
13,900.0	6,783.3	13,923.5	6,793.4	201.7	201.4		91.45	-206.6	-7,065.2	400.9	-2.1	402.97	0.995 Level 1	
13,931.1	6,783.1	13,954.6	6,793.1	202.6	202.3		91.43	-206.6	-7,096.3	400.9	-3.9	404.71	0.990 Level 1	
13,942.2	6,783.0	13,959.9	6,793.0	202.9	202.5		91.42	-206.6	-7,101.6	400.9	-4.3	405.17	0.989 Level 1, ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
12,000.0	6,794.9	6,803.9	6,803.9	148.6	15.2	92.86	-494.7	-6,087.2	929.0	765.5	163.52	5.681		
12,100.0	6,794.3	6,803.3	6,803.3	151.4	15.2	92.55	-494.7	-6,087.2	829.8	663.5	166.34	4.989		
12,200.0	6,793.6	6,802.6	6,802.6	154.2	15.2	92.24	-494.7	-6,087.2	730.9	561.7	169.16	4.321		
12,300.0	6,793.0	6,802.0	6,802.0	157.0	15.2	91.93	-494.7	-6,087.2	632.3	460.3	171.98	3.676		
12,400.0	6,792.4	6,801.4	6,801.4	159.8	15.2	91.62	-494.7	-6,087.2	534.2	359.4	174.79	3.056		
12,500.0	6,791.8	6,800.8	6,800.8	162.6	15.2	91.31	-494.7	-6,087.2	436.9	259.3	177.60	2.460		
12,600.0	6,791.2	6,800.2	6,800.2	165.3	15.2	91.00	-494.7	-6,087.2	341.3	160.9	180.41	1.892		
12,700.0	6,790.6	6,799.6	6,799.6	168.1	15.2	90.69	-494.7	-6,087.2	249.1	65.9	183.21	1.359 Level 3		
12,800.0	6,790.0	6,799.0	6,799.0	170.9	15.2	90.38	-494.7	-6,087.2	166.2	-19.8	186.01	0.893 Level 1		
12,900.0	6,789.4	6,798.4	6,798.4	173.7	15.2	90.07	-494.7	-6,087.2	114.8	-74.0	188.81	0.608 Level 1		
12,922.1	6,789.2	6,798.2	6,798.2	174.4	15.2	90.00	-494.7	-6,087.2	112.7	-76.8	189.43	0.595 Level 1, CC, ES, SF		
13,000.0	6,788.8	6,797.8	6,797.8	176.5	15.2	89.76	-494.7	-6,087.2	136.9	-54.7	191.60	0.715 Level 1		
13,100.0	6,788.1	6,797.1	6,797.1	179.3	15.2	89.45	-494.7	-6,087.2	210.5	16.1	194.39	1.083 Level 2		
13,200.0	6,787.5	6,796.5	6,796.5	182.1	15.2	89.14	-494.7	-6,087.2	299.8	102.7	197.17	1.521		
13,300.0	6,786.9	6,795.9	6,795.9	184.9	15.2	88.83	-494.7	-6,087.2	394.3	194.3	199.94	1.972		
13,400.0	6,786.3	6,795.3	6,795.3	187.7	15.2	88.52	-494.7	-6,087.2	490.9	288.2	202.71	2.422		
13,500.0	6,785.7	6,794.7	6,794.7	190.5	15.2	88.21	-494.7	-6,087.2	588.7	383.2	205.47	2.865		
13,600.0	6,785.1	6,794.1	6,794.1	193.3	15.2	87.90	-494.7	-6,087.2	687.1	478.9	208.23	3.300		
13,700.0	6,784.5	6,793.5	6,793.5	196.1	15.2	87.58	-494.7	-6,087.2	786.0	575.0	210.98	3.725		
13,800.0	6,783.9	6,792.9	6,792.9	198.9	15.2	87.27	-494.7	-6,087.2	885.0	671.3	213.73	4.141		
13,900.0	6,783.3	6,792.3	6,792.3	201.7	15.2	86.96	-494.7	-6,087.2	984.3	767.8	216.47	4.547		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 2VD - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 700-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,900.0	6,801.6	6,963.7	6,829.9	117.9	23.3	-100.43	-744.4	-5,036.8	981.5	843.1	138.31	7.096	
11,000.0	6,801.0	6,961.1	6,827.3	120.7	23.3	-99.39	-744.4	-5,036.8	882.6	741.1	141.49	6.238	
11,100.0	6,800.4	6,958.5	6,824.7	123.5	23.3	-98.33	-744.3	-5,036.9	784.0	639.3	144.65	5.420	
11,200.0	6,799.8	6,955.9	6,822.1	126.3	23.3	-97.26	-744.3	-5,037.0	685.8	538.0	147.78	4.641	
11,300.0	6,799.1	6,953.3	6,819.5	129.1	23.3	-96.18	-744.3	-5,037.0	588.2	437.3	150.87	3.898	
11,400.0	6,798.5	6,950.7	6,816.8	131.9	23.3	-95.09	-744.3	-5,037.1	491.5	337.6	153.94	3.193	
11,500.0	6,797.9	6,948.0	6,814.2	134.6	23.3	-93.99	-744.3	-5,037.1	396.5	239.5	156.96	2.526	
11,600.0	6,797.3	6,945.4	6,811.5	137.4	23.3	-92.88	-744.3	-5,037.2	304.6	144.7	159.94	1.905	
11,700.0	6,796.7	6,942.6	6,808.8	140.2	23.3	-91.74	-744.3	-5,037.2	220.0	57.1	162.87	1.350 Level 3	
11,800.0	6,796.1	6,939.9	6,806.1	143.0	23.3	-90.60	-744.3	-5,037.3	154.8	-11.0	165.75	0.934 Level 1	
11,872.2	6,795.6	6,938.0	6,804.2	145.0	23.3	-89.80	-744.3	-5,037.3	136.9	-30.9	167.79	0.816 Level 1, CC, ES, SF	
11,900.0	6,795.5	6,937.3	6,803.4	145.8	23.3	-89.49	-744.3	-5,037.3	139.7	-28.8	168.56	0.829 Level 1	
12,000.0	6,794.9	6,934.7	6,800.8	148.6	23.3	-88.41	-744.3	-5,037.4	187.3	15.9	171.32	1.093 Level 2	
12,100.0	6,794.3	6,932.1	6,798.3	151.4	23.3	-87.36	-744.3	-5,037.4	265.7	91.7	174.03	1.527	
12,200.0	6,793.6	6,929.7	6,795.9	154.2	23.3	-86.33	-744.3	-5,037.5	355.1	178.5	176.68	2.010	
12,300.0	6,793.0	6,927.3	6,793.5	157.0	23.3	-85.33	-744.2	-5,037.5	449.0	269.8	179.28	2.505	
12,400.0	6,792.4	6,924.9	6,791.1	159.8	23.3	-84.35	-744.2	-5,037.6	545.1	363.3	181.83	2.998	
12,500.0	6,791.8	6,922.6	6,788.8	162.6	23.3	-83.40	-744.2	-5,037.6	642.4	458.0	184.33	3.485	
12,600.0	6,791.2	6,920.4	6,786.6	165.3	23.3	-82.48	-744.2	-5,037.7	740.3	553.6	186.78	3.964	
12,700.0	6,790.6	6,918.2	6,784.4	168.1	23.3	-81.58	-744.2	-5,037.7	838.8	649.6	189.19	4.434	
12,800.0	6,790.0	6,916.1	6,782.3	170.9	23.3	-80.71	-744.2	-5,037.7	937.6	746.0	191.55	4.895	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 700-MWD												<b>Offset Well Error:</b>	0.0 ft
Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 31-2D - Wellbore #1 - Wellbore #1													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,000.0	6,788.8	6,940.0	6,832.9	176.5	21.3	94.54	-105.2	-6,932.1	917.4	721.3	196.13	4.678	
13,100.0	6,788.1	6,936.5	6,829.5	179.3	21.3	94.14	-105.1	-6,932.2	835.6	636.6	199.01	4.199	
13,200.0	6,787.5	6,933.0	6,826.0	182.1	21.3	93.75	-105.0	-6,932.3	758.2	556.3	201.89	3.756	
13,300.0	6,786.9	6,929.5	6,822.4	184.9	21.3	93.34	-105.0	-6,932.4	686.6	481.9	204.76	3.353	
13,400.0	6,786.3	6,925.9	6,818.8	187.7	21.3	92.94	-104.9	-6,932.5	622.9	415.3	207.62	3.000	
13,500.0	6,785.7	6,922.3	6,815.2	190.5	21.3	92.52	-104.8	-6,932.6	569.7	359.2	210.48	2.707	
13,600.0	6,785.1	6,918.6	6,811.6	193.3	21.3	92.11	-104.7	-6,932.7	530.2	316.8	213.33	2.485	
13,700.0	6,784.5	6,914.9	6,807.9	196.1	21.3	91.69	-104.6	-6,932.9	507.5	291.3	216.17	2.348	
13,767.8	6,784.1	6,912.4	6,805.3	198.0	21.3	91.40	-104.6	-6,933.0	503.0	284.9	218.09	2.306 CC, ES	
13,800.0	6,783.9	6,911.2	6,804.1	198.9	21.3	91.26	-104.5	-6,933.0	504.0	285.0	219.00	2.301 SF	
13,900.0	6,783.3	6,907.4	6,800.3	201.7	21.3	90.83	-104.4	-6,933.1	520.0	298.2	221.83	2.344	
13,942.2	6,783.0	6,905.8	6,798.7	202.9	21.3	90.64	-104.4	-6,933.2	532.3	309.3	223.01	2.387	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 668-MWD												<b>Offset Well Error:</b>	0.0 ft
Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 32-2D - Wellbore #1 - Wellbore #1													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,200.0	6,787.5	6,929.5	6,764.4	182.1	25.7	-87.84	-1,364.0	-6,955.8	960.5	757.3	203.20	4.727	
13,300.0	6,786.9	6,929.9	6,764.8	184.9	25.7	-87.87	-1,364.0	-6,955.8	902.4	696.4	206.00	4.381	
13,400.0	6,786.3	6,930.4	6,765.2	187.7	25.7	-87.90	-1,364.1	-6,955.8	852.1	643.3	208.80	4.081	
13,500.0	6,785.7	6,930.8	6,765.6	190.5	25.7	-87.94	-1,364.1	-6,955.8	811.1	599.5	211.60	3.833	
13,600.0	6,785.1	6,931.2	6,766.1	193.3	25.7	-87.97	-1,364.1	-6,955.8	780.9	566.5	214.40	3.642	
13,700.0	6,784.5	6,931.7	6,766.5	196.1	25.7	-88.00	-1,364.1	-6,955.8	762.6	545.4	217.20	3.511	
13,790.9	6,783.9	6,932.1	6,766.9	198.7	25.7	-88.03	-1,364.1	-6,955.8	757.2	537.4	219.75	3.446 CC	
13,800.0	6,783.9	6,932.1	6,767.0	198.9	25.7	-88.04	-1,364.1	-6,955.8	757.3	537.2	220.01	3.442 ES	
13,900.0	6,783.3	6,932.6	6,767.5	201.7	25.7	-88.07	-1,364.1	-6,955.8	765.0	542.2	222.81	3.434 SF	
13,942.2	6,783.0	6,932.8	6,767.7	202.9	25.7	-88.09	-1,364.1	-6,955.8	772.2	548.2	223.99	3.447	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well LDS 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4651.0ft (RKB - 13')

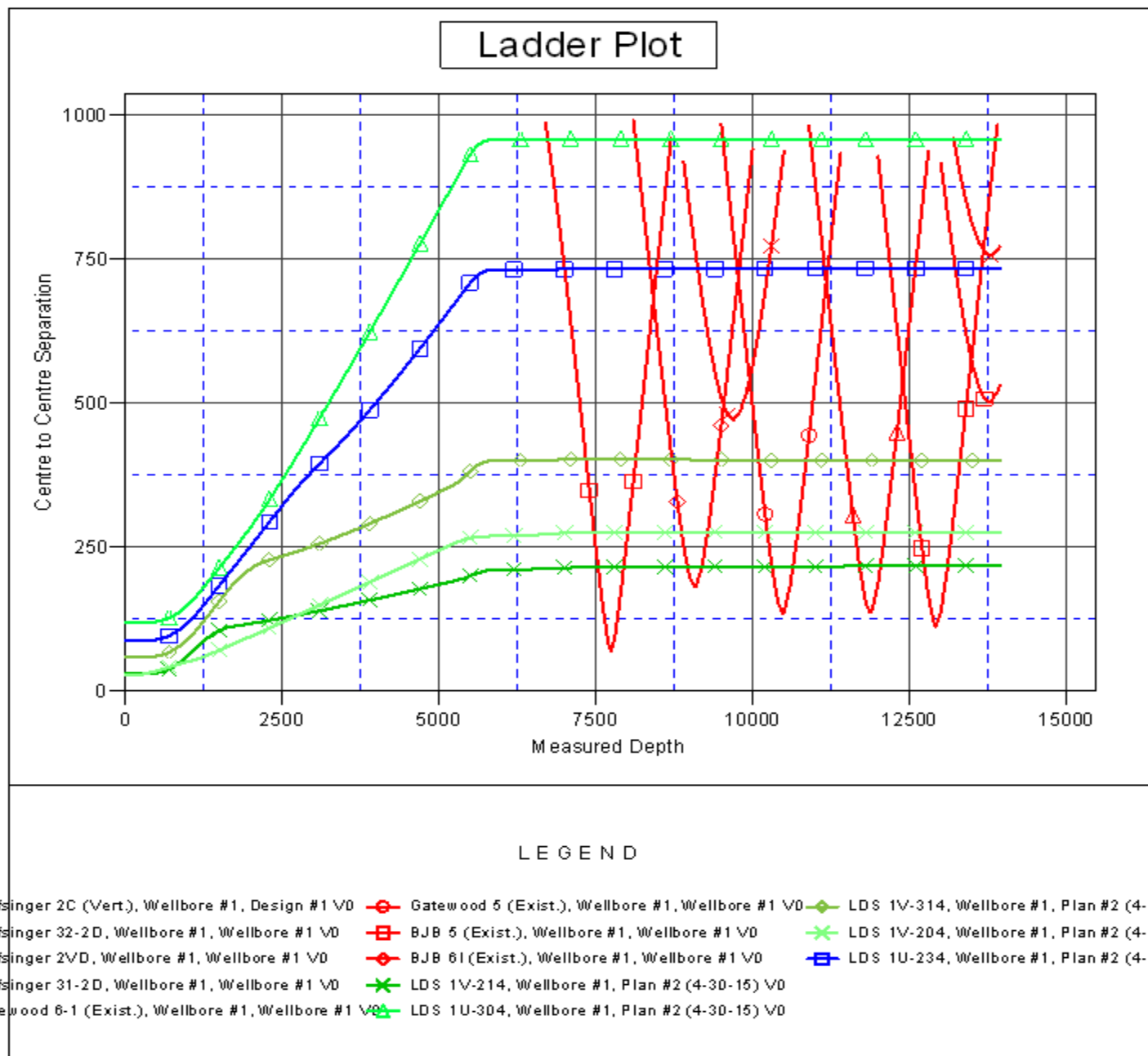
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1V-304

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 1V-304
<b>Project:</b>	SEC.1-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Reference Site:</b>	LDS 5N65W1U Pad Sec.1-T5N-R65W	<b>MD Reference:</b>	WELL @ 4651.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	LDS 1V-304	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4651.0ft (RKB - 13')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1V-304

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

