

PETROLEUM DEVELOPMENT CORP Weld County CO

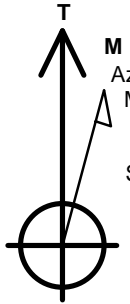
Well Name: **LDS 1V-204**

Surface Location: LDS 5N65W1U Pad Sec.1-T5N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4637.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1402063.99	3249723.63	40.433600	-104.602900	
RKB - 13' WELL @ 4650.0ft (RKB - 13')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50' E/W Hardline (1V-204)	1.0	-855.1	-3813.1	Rectangle (Sides: L6638.7 W100.0)
SHL 553'FNL & 326'FEL, Sec.1	1.0	0.0	-0.1	Point
BHL 1415'FNL & 2144'FEL, Sec.2	6724.0	-855.1	-7132.5	Point

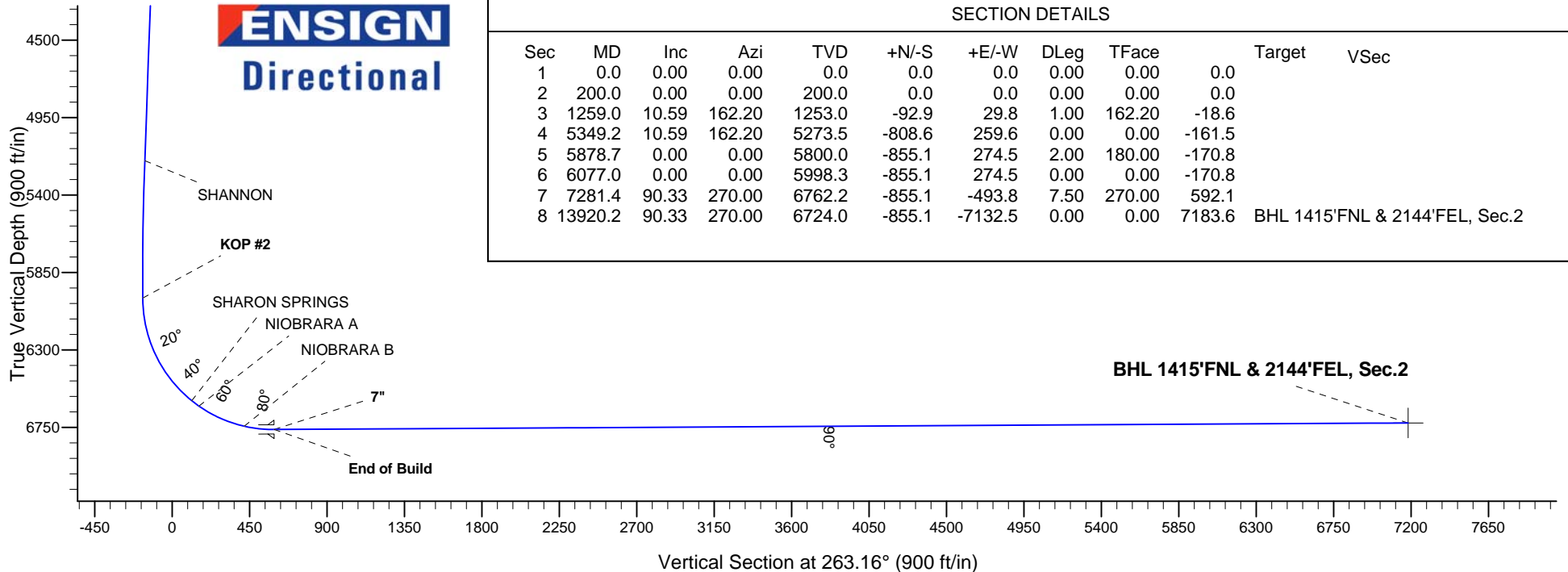
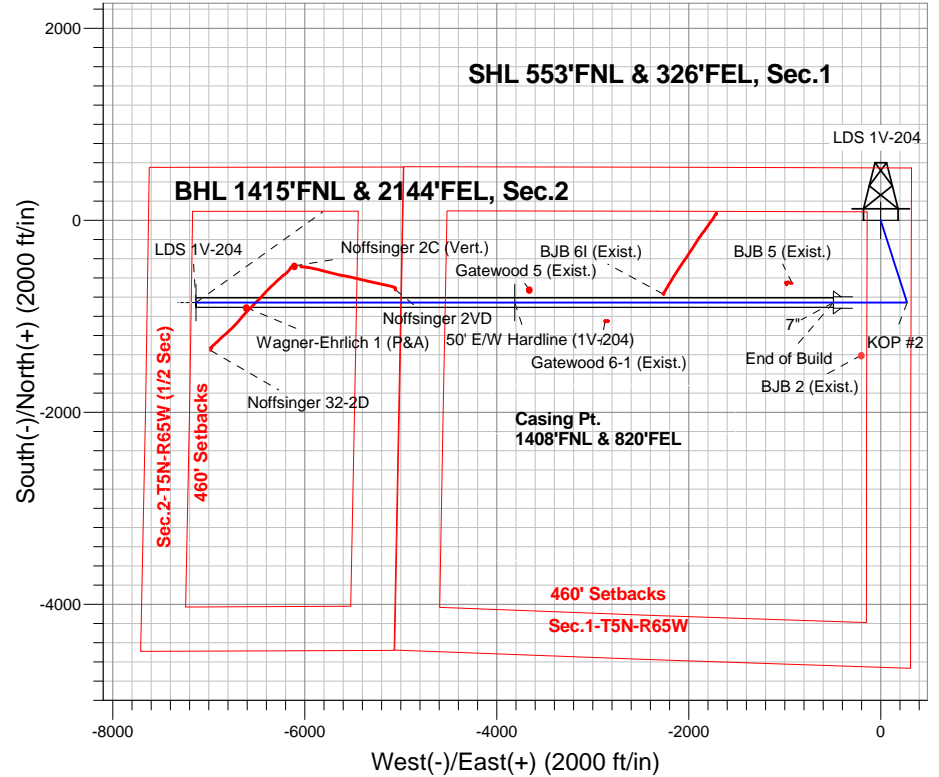


Azimuths to True North
 Magnetic North: 8.26°
 Magnetic Field
 Strength: 52759.0snT
 Dip Angle: 66.97°
 Date: 4/30/2015
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
5998.3	6077.0	KOP #2
6762.2	7281.4	End of Build

LDS 5N65W1U Pad Sec.1-T5N-R65W
 LDS 1V-204
 Plan #2 (4-30-15)





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.1-T5N-R65W

LDS 5N65W1U Pad Sec.1-T5N-R65W

LDS 1V-204

Wellbore #1

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

Standard Planning Report

30 April, 2015

Database:	Landmark	Local Co-ordinate Reference:	Well LDS 1V-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Project:	SEC.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	North Reference:	True
Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (4-30-15)		

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

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

Well	LDS 1V-204					
Well Position	+N-S	0.0 ft	Northing:	1,402,063.99 ft	Latitude:	40.433600
	+E-W	0.1 ft	Easting:	3,249,723.63 ft	Longitude:	-104.602900
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,637.0 ft

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

Design	Plan #2 (4-30-15)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	263.16

Plan Sections										
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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,259.0	10.59	162.20	1,253.0	-92.9	29.8	1.00	1.00	0.00	162.20	
5,349.2	10.59	162.20	5,273.5	-808.6	259.6	0.00	0.00	0.00	0.00	
5,878.7	0.00	0.00	5,800.0	-855.1	274.5	2.00	-2.00	0.00	180.00	
6,077.0	0.00	0.00	5,998.3	-855.1	274.5	0.00	0.00	0.00	0.00	
7,281.4	90.33	270.00	6,762.2	-855.1	-493.8	7.50	7.50	0.00	270.00	
13,920.2	90.33	270.00	6,724.0	-855.1	-7,132.5	0.00	0.00	0.00	0.00	BHL 1415'FNL & 21

Database:	Landmark	Local Co-ordinate Reference:	Well LDS 1V-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Project:	SEC.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	North Reference:	True
Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
KOP #1									
300.0	1.00	162.20	300.0	-0.8	0.3	-0.2	1.00	1.00	0.00
400.0	2.00	162.20	400.0	-3.3	1.1	-0.7	1.00	1.00	0.00
500.0	3.00	162.20	499.9	-7.5	2.4	-1.5	1.00	1.00	0.00
600.0	4.00	162.20	599.7	-13.3	4.3	-2.7	1.00	1.00	0.00
700.0	5.00	162.20	699.4	-20.8	6.7	-4.1	1.00	1.00	0.00
800.0	6.00	162.20	798.9	-29.9	9.6	-6.0	1.00	1.00	0.00
900.0	7.00	162.20	898.3	-40.7	13.1	-8.1	1.00	1.00	0.00
1,000.0	8.00	162.20	997.4	-53.1	17.0	-10.6	1.00	1.00	0.00
1,100.0	9.00	162.20	1,096.3	-67.2	21.6	-13.4	1.00	1.00	0.00
1,200.0	10.00	162.20	1,194.9	-82.9	26.6	-16.6	1.00	1.00	0.00
1,259.0	10.59	162.20	1,253.0	-92.9	29.8	-18.6	1.00	1.00	0.00
1,300.0	10.59	162.20	1,293.3	-100.1	32.1	-20.0	0.00	0.00	0.00
1,400.0	10.59	162.20	1,391.6	-117.6	37.7	-23.5	0.00	0.00	0.00
1,500.0	10.59	162.20	1,489.9	-135.1	43.4	-27.0	0.00	0.00	0.00
1,600.0	10.59	162.20	1,588.2	-152.6	49.0	-30.5	0.00	0.00	0.00
1,700.0	10.59	162.20	1,686.5	-170.1	54.6	-34.0	0.00	0.00	0.00
1,800.0	10.59	162.20	1,784.8	-187.6	60.2	-37.5	0.00	0.00	0.00
1,900.0	10.59	162.20	1,883.1	-205.1	65.8	-41.0	0.00	0.00	0.00
2,000.0	10.59	162.20	1,981.4	-222.6	71.5	-44.5	0.00	0.00	0.00
2,100.0	10.59	162.20	2,079.7	-240.1	77.1	-47.9	0.00	0.00	0.00
2,200.0	10.59	162.20	2,178.0	-257.6	82.7	-51.4	0.00	0.00	0.00
2,300.0	10.59	162.20	2,276.3	-275.1	88.3	-54.9	0.00	0.00	0.00
2,400.0	10.59	162.20	2,374.5	-292.6	93.9	-58.4	0.00	0.00	0.00
2,500.0	10.59	162.20	2,472.8	-310.1	99.5	-61.9	0.00	0.00	0.00
2,600.0	10.59	162.20	2,571.1	-327.6	105.2	-65.4	0.00	0.00	0.00
2,700.0	10.59	162.20	2,669.4	-345.1	110.8	-68.9	0.00	0.00	0.00
2,800.0	10.59	162.20	2,767.7	-362.6	116.4	-72.4	0.00	0.00	0.00
2,900.0	10.59	162.20	2,866.0	-380.1	122.0	-75.9	0.00	0.00	0.00
3,000.0	10.59	162.20	2,964.3	-397.6	127.6	-79.4	0.00	0.00	0.00
3,100.0	10.59	162.20	3,062.6	-415.1	133.2	-82.9	0.00	0.00	0.00
3,200.0	10.59	162.20	3,160.9	-432.6	138.9	-86.4	0.00	0.00	0.00
3,300.0	10.59	162.20	3,259.2	-450.1	144.5	-89.9	0.00	0.00	0.00
3,400.0	10.59	162.20	3,357.5	-467.6	150.1	-93.4	0.00	0.00	0.00
3,500.0	10.59	162.20	3,455.8	-485.1	155.7	-96.9	0.00	0.00	0.00
3,530.7	10.59	162.20	3,486.0	-490.4	157.4	-97.9	0.00	0.00	0.00
PARKMAN									
3,600.0	10.59	162.20	3,554.1	-502.5	161.3	-100.4	0.00	0.00	0.00
3,700.0	10.59	162.20	3,652.4	-520.0	166.9	-103.9	0.00	0.00	0.00
3,800.0	10.59	162.20	3,750.7	-537.5	172.6	-107.4	0.00	0.00	0.00
3,900.0	10.59	162.20	3,849.0	-555.0	178.2	-110.8	0.00	0.00	0.00
4,000.0	10.59	162.20	3,947.3	-572.5	183.8	-114.3	0.00	0.00	0.00
4,100.0	10.59	162.20	4,045.6	-590.0	189.4	-117.8	0.00	0.00	0.00
4,200.0	10.59	162.20	4,143.9	-607.5	195.0	-121.3	0.00	0.00	0.00
4,300.0	10.59	162.20	4,242.2	-625.0	200.6	-124.8	0.00	0.00	0.00
4,301.8	10.59	162.20	4,244.0	-625.4	200.8	-124.9	0.00	0.00	0.00
SUSSEX									
4,400.0	10.59	162.20	4,340.5	-642.5	206.3	-128.3	0.00	0.00	0.00
4,500.0	10.59	162.20	4,438.8	-660.0	211.9	-131.8	0.00	0.00	0.00
4,600.0	10.59	162.20	4,537.1	-677.5	217.5	-135.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well LDS 1V-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Project:	SEC.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	North Reference:	True
Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	10.59	162.20	4,635.4	-695.0	223.1	-138.8	0.00	0.00	0.00
4,800.0	10.59	162.20	4,733.7	-712.5	228.7	-142.3	0.00	0.00	0.00
4,900.0	10.59	162.20	4,832.0	-730.0	234.4	-145.8	0.00	0.00	0.00
5,000.0	10.59	162.20	4,930.3	-747.5	240.0	-149.3	0.00	0.00	0.00
5,100.0	10.59	162.20	5,028.6	-765.0	245.6	-152.8	0.00	0.00	0.00
5,200.0	10.59	162.20	5,126.9	-782.5	251.2	-156.3	0.00	0.00	0.00
5,274.4	10.59	162.20	5,200.0	-795.5	255.4	-158.9	0.00	0.00	0.00
SHANNON									
5,300.0	10.59	162.20	5,225.2	-800.0	256.8	-159.8	0.00	0.00	0.00
5,349.2	10.59	162.20	5,273.5	-808.6	259.6	-161.5	0.00	0.00	0.00
5,400.0	9.57	162.20	5,323.5	-817.1	262.3	-163.2	2.00	-2.00	0.00
5,500.0	7.57	162.20	5,422.4	-831.3	266.9	-166.0	2.00	-2.00	0.00
5,600.0	5.57	162.20	5,521.7	-842.2	270.4	-168.2	2.00	-2.00	0.00
5,700.0	3.57	162.20	5,621.4	-849.8	272.8	-169.7	2.00	-2.00	0.00
5,800.0	1.57	162.20	5,721.3	-854.1	274.2	-170.6	2.00	-2.00	0.00
5,878.7	0.00	0.00	5,800.0	-855.1	274.5	-170.8	2.00	-2.00	0.00
5,900.0	0.00	0.00	5,821.3	-855.1	274.5	-170.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,921.3	-855.1	274.5	-170.8	0.00	0.00	0.00
6,077.0	0.00	0.00	5,998.3	-855.1	274.5	-170.8	0.00	0.00	0.00
KOP #2									
6,100.0	1.73	270.00	6,021.3	-855.1	274.2	-170.4	7.50	7.50	0.00
6,200.0	9.23	270.00	6,120.8	-855.1	264.6	-161.0	7.50	7.50	0.00
6,300.0	16.73	270.00	6,218.2	-855.1	242.2	-138.7	7.50	7.50	0.00
6,400.0	24.23	270.00	6,311.8	-855.1	207.2	-104.0	7.50	7.50	0.00
6,500.0	31.73	270.00	6,400.0	-855.1	160.4	-57.4	7.50	7.50	0.00
6,600.0	39.23	270.00	6,481.4	-855.1	102.4	0.2	7.50	7.50	0.00
6,700.0	46.73	270.00	6,554.5	-855.1	34.2	67.8	7.50	7.50	0.00
6,761.8	51.36	270.00	6,595.0	-855.1	-12.4	114.1	7.50	7.50	0.00
SHARON SPRINGS									
6,800.0	54.23	270.00	6,618.1	-855.1	-42.8	144.3	7.50	7.50	0.00
6,813.7	55.25	270.00	6,626.0	-855.1	-54.0	155.4	7.50	7.50	0.00
NIORARA A									
6,900.0	61.73	270.00	6,671.1	-855.1	-127.6	228.4	7.50	7.50	0.00
7,000.0	69.23	270.00	6,712.6	-855.1	-218.5	318.7	7.50	7.50	0.00
7,100.0	76.73	270.00	6,741.8	-855.1	-314.0	413.6	7.50	7.50	0.00
7,105.1	77.11	270.00	6,743.0	-855.1	-319.0	418.5	7.50	7.50	0.00
NIORARA B									
7,200.0	84.23	270.00	6,758.4	-855.1	-412.6	511.4	7.50	7.50	0.00
7,281.4	90.33	270.00	6,762.2	-855.1	-493.8	592.1	7.50	7.50	0.00
End of Build - 7"									
7,300.0	90.33	270.00	6,762.1	-855.1	-512.4	610.6	0.00	0.00	0.00
7,400.0	90.33	270.00	6,761.6	-855.1	-612.4	709.9	0.00	0.00	0.00
7,500.0	90.33	270.00	6,761.0	-855.1	-712.4	809.2	0.00	0.00	0.00
7,600.0	90.33	270.00	6,760.4	-855.1	-812.4	908.4	0.00	0.00	0.00
7,700.0	90.33	270.00	6,759.8	-855.1	-912.4	1,007.7	0.00	0.00	0.00
7,800.0	90.33	270.00	6,759.2	-855.1	-1,012.4	1,107.0	0.00	0.00	0.00
7,900.0	90.33	270.00	6,758.7	-855.1	-1,112.4	1,206.3	0.00	0.00	0.00
8,000.0	90.33	270.00	6,758.1	-855.1	-1,212.4	1,305.6	0.00	0.00	0.00
8,100.0	90.33	270.00	6,757.5	-855.1	-1,312.4	1,404.9	0.00	0.00	0.00
8,200.0	90.33	270.00	6,756.9	-855.1	-1,412.4	1,504.2	0.00	0.00	0.00
8,300.0	90.33	270.00	6,756.4	-855.1	-1,512.4	1,603.5	0.00	0.00	0.00
8,400.0	90.33	270.00	6,755.8	-855.1	-1,612.4	1,702.7	0.00	0.00	0.00

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Project:	SEC.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	North Reference:	True
Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	90.33	270.00	6,755.2	-855.1	-1,712.4	1,802.0	0.00	0.00	0.00
8,600.0	90.33	270.00	6,754.6	-855.1	-1,812.4	1,901.3	0.00	0.00	0.00
8,700.0	90.33	270.00	6,754.1	-855.1	-1,912.4	2,000.6	0.00	0.00	0.00
8,800.0	90.33	270.00	6,753.5	-855.1	-2,012.4	2,099.9	0.00	0.00	0.00
8,900.0	90.33	270.00	6,752.9	-855.1	-2,112.4	2,199.2	0.00	0.00	0.00
9,000.0	90.33	270.00	6,752.3	-855.1	-2,212.4	2,298.5	0.00	0.00	0.00
9,100.0	90.33	270.00	6,751.8	-855.1	-2,312.4	2,397.8	0.00	0.00	0.00
9,200.0	90.33	270.00	6,751.2	-855.1	-2,412.4	2,497.0	0.00	0.00	0.00
9,300.0	90.33	270.00	6,750.6	-855.1	-2,512.4	2,596.3	0.00	0.00	0.00
9,400.0	90.33	270.00	6,750.0	-855.1	-2,612.4	2,695.6	0.00	0.00	0.00
9,500.0	90.33	270.00	6,749.5	-855.1	-2,712.4	2,794.9	0.00	0.00	0.00
9,600.0	90.33	270.00	6,748.9	-855.1	-2,812.4	2,894.2	0.00	0.00	0.00
9,700.0	90.33	270.00	6,748.3	-855.1	-2,912.4	2,993.5	0.00	0.00	0.00
9,800.0	90.33	270.00	6,747.7	-855.1	-3,012.4	3,092.8	0.00	0.00	0.00
9,900.0	90.33	270.00	6,747.2	-855.1	-3,112.4	3,192.1	0.00	0.00	0.00
10,000.0	90.33	270.00	6,746.6	-855.1	-3,212.4	3,291.3	0.00	0.00	0.00
10,100.0	90.33	270.00	6,746.0	-855.1	-3,312.4	3,390.6	0.00	0.00	0.00
10,200.0	90.33	270.00	6,745.4	-855.1	-3,412.4	3,489.9	0.00	0.00	0.00
10,300.0	90.33	270.00	6,744.9	-855.1	-3,512.4	3,589.2	0.00	0.00	0.00
10,400.0	90.33	270.00	6,744.3	-855.1	-3,612.4	3,688.5	0.00	0.00	0.00
10,500.0	90.33	270.00	6,743.7	-855.1	-3,712.4	3,787.8	0.00	0.00	0.00
10,600.0	90.33	270.00	6,743.1	-855.1	-3,812.4	3,887.1	0.00	0.00	0.00
10,700.0	90.33	270.00	6,742.5	-855.1	-3,912.4	3,986.4	0.00	0.00	0.00
10,800.0	90.33	270.00	6,742.0	-855.1	-4,012.4	4,085.6	0.00	0.00	0.00
10,900.0	90.33	270.00	6,741.4	-855.1	-4,112.4	4,184.9	0.00	0.00	0.00
11,000.0	90.33	270.00	6,740.8	-855.1	-4,212.4	4,284.2	0.00	0.00	0.00
11,100.0	90.33	270.00	6,740.2	-855.1	-4,312.4	4,383.5	0.00	0.00	0.00
11,200.0	90.33	270.00	6,739.7	-855.1	-4,412.4	4,482.8	0.00	0.00	0.00
11,300.0	90.33	270.00	6,739.1	-855.1	-4,512.4	4,582.1	0.00	0.00	0.00
11,400.0	90.33	270.00	6,738.5	-855.1	-4,612.4	4,681.4	0.00	0.00	0.00
11,500.0	90.33	270.00	6,737.9	-855.1	-4,712.4	4,780.7	0.00	0.00	0.00
11,600.0	90.33	270.00	6,737.4	-855.1	-4,812.4	4,879.9	0.00	0.00	0.00
11,700.0	90.33	270.00	6,736.8	-855.1	-4,912.4	4,979.2	0.00	0.00	0.00
11,800.0	90.33	270.00	6,736.2	-855.1	-5,012.4	5,078.5	0.00	0.00	0.00
11,900.0	90.33	270.00	6,735.6	-855.1	-5,112.4	5,177.8	0.00	0.00	0.00
12,000.0	90.33	270.00	6,735.1	-855.1	-5,212.4	5,277.1	0.00	0.00	0.00
12,100.0	90.33	270.00	6,734.5	-855.1	-5,312.4	5,376.4	0.00	0.00	0.00
12,200.0	90.33	270.00	6,733.9	-855.1	-5,412.4	5,475.7	0.00	0.00	0.00
12,300.0	90.33	270.00	6,733.3	-855.1	-5,512.4	5,575.0	0.00	0.00	0.00
12,400.0	90.33	270.00	6,732.8	-855.1	-5,612.4	5,674.2	0.00	0.00	0.00
12,500.0	90.33	270.00	6,732.2	-855.1	-5,712.4	5,773.5	0.00	0.00	0.00
12,600.0	90.33	270.00	6,731.6	-855.1	-5,812.4	5,872.8	0.00	0.00	0.00
12,700.0	90.33	270.00	6,731.0	-855.1	-5,912.4	5,972.1	0.00	0.00	0.00
12,800.0	90.33	270.00	6,730.5	-855.1	-6,012.4	6,071.4	0.00	0.00	0.00
12,900.0	90.33	270.00	6,729.9	-855.1	-6,112.4	6,170.7	0.00	0.00	0.00
13,000.0	90.33	270.00	6,729.3	-855.1	-6,212.4	6,270.0	0.00	0.00	0.00
13,100.0	90.33	270.00	6,728.7	-855.1	-6,312.3	6,369.3	0.00	0.00	0.00
13,200.0	90.33	270.00	6,728.1	-855.1	-6,412.3	6,468.5	0.00	0.00	0.00
13,300.0	90.33	270.00	6,727.6	-855.1	-6,512.3	6,567.8	0.00	0.00	0.00
13,400.0	90.33	270.00	6,727.0	-855.1	-6,612.3	6,667.1	0.00	0.00	0.00
13,500.0	90.33	270.00	6,726.4	-855.1	-6,712.3	6,766.4	0.00	0.00	0.00
13,600.0	90.33	270.00	6,725.8	-855.1	-6,812.3	6,865.7	0.00	0.00	0.00
13,700.0	90.33	270.00	6,725.3	-855.1	-6,912.3	6,965.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well LDS 1V-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Project:	SEC.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	North Reference:	True
Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	90.33	270.00	6,724.7	-855.1	-7,012.3	7,064.3	0.00	0.00	0.00
13,900.0	90.33	270.00	6,724.1	-855.1	-7,112.3	7,163.6	0.00	0.00	0.00
13,920.2	90.33	270.00	6,724.0	-855.1	-7,132.5	7,183.6	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 553'FNL & 326'F	- plan misses target center by 0.1ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)	0.00	0.00	1.0	0.0	-0.1	1,402,064.02	3,249,723.55	40.433600 -104.602900
50' E/W Hardline (1V-	- plan misses target center by 3907.9ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)	0.00	0.00	1.0	-855.1	-3,813.1	1,401,170.39	3,245,919.47	40.431252 -104.616597
BHL 1415'FNL & 214'	- plan hits target center	0.00	0.00	6,724.0	-855.1	-7,132.5	1,401,136.83	3,242,600.42	40.431250 -104.628520
7,281.4 6,762.2 7" 7 7-1/2									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,530.7	3,486.0	PARKMAN		0.00		
4,301.8	4,244.0	SUSSEX		0.00		
5,274.4	5,200.0	SHANNON		0.00		
6,761.8	6,595.0	SHARON SPRINGS		0.00		
6,813.7	6,626.0	NIOBRARA A		0.00		
7,105.1	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
200.0	200.0	0.0	0.0	KOP #1
6,077.0	5,998.3	-855.1	274.5	KOP #2
7,281.4	6,762.2	-855.1	-493.8	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.1-T5N-R65W

LDS 5N65W1U Pad Sec.1-T5N-R65W

LDS 1V-204

Wellbore #1

Plan #2 (4-30-15)

Anticollision Report

30 April, 2015



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	4/30/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,920.2	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)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec.1-T5N-R65W						
BJB 2 (Exist.) - Wellbore #1 - Wellbore #1	6,983.7	6,670.6	547.5	396.2	3.618	CC
BJB 2 (Exist.) - Wellbore #1 - Wellbore #1	7,000.0	6,676.6	547.7	396.1	3.613	ES, SF
BJB 5 (Exist.) - Wellbore #1 - Wellbore #1	7,715.7	6,751.2	200.2	155.2	4.446	CC, ES, SF
BJB 6I (Exist.) - Wellbore #1 - Wellbore #1	9,047.5	6,897.5	88.3	3.1	1.036	Level 2, CC, ES, SF
Gatewood 5 (Exist.) - Wellbore #1 - Wellbore #1	10,448.5	6,733.0	134.0	-106.9	0.556	Level 1, CC, ES, SF
Gatewood 6-1 (Exist.) - Wellbore #1 - Wellbore #1	9,661.1	6,733.2	202.5	10.9	1.057	Level 2, CC, ES, SF
Existing Wells Sec.2-T5N-R65W						
Wagner-Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1	13,396.8	6,723.0	51.2	-271.8	0.158	Level 1, CC, ES, SF
LDS 5N65W1U Pad Sec.1-T5N-R65W						
LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)	200.0	202.0	118.4	117.7	174.375	CC, ES
LDS 1U-234 - Wellbore #1 - Plan #2 (4-30-15)	5,700.0	5,635.0	995.5	967.0	34.897	SF
LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)	200.0	203.0	149.6	148.9	219.626	CC, ES
LDS 1U-304 - Wellbore #1 - Plan #2 (4-30-15)	1,900.0	1,881.8	357.7	349.3	42.559	SF
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	200.0	201.0	60.5	59.8	89.456	CC, ES
LDS 1V-214 - Wellbore #1 - Plan #2 (4-30-15)	13,920.2	13,885.3	481.0	76.0	1.188	Level 2, SF
LDS 1V-304 - Wellbore #1 - Plan #2 (4-30-15)	200.0	201.0	29.3	28.7	43.374	CC
LDS 1V-304 - Wellbore #1 - Plan #2 (4-30-15)	13,920.2	13,942.2	275.8	-122.3	0.693	Level 1, ES, SF
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	200.0	201.0	89.8	89.1	132.718	CC, ES
LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)	13,920.2	13,959.9	673.9	270.0	1.668	SF
LDS 5N65W1W Pad Sec.1-T5N-R65W						
LDS 1V-334 - Wellbore #1 - Plan #2 (4-30-15)	6,000.0	5,930.5	244.1	207.9	6.736	CC
LDS 1V-334 - Wellbore #1 - Plan #2 (4-30-15)	13,920.2	13,911.5	250.9	-145.2	0.633	Level 1, ES, SF
Noffsinger Pad Sec.2-T5N-R65W						
Noffsinger 2C (Vert.) - Wellbore #1 - Design #1	12,894.5	6,739.9	382.2	192.7	2.017	CC
Noffsinger 2C (Vert.) - Wellbore #1 - Design #1	12,900.0	6,739.9	382.3	192.6	2.016	ES, SF
Noffsinger 2VD - Wellbore #1 - Wellbore #1	11,845.4	6,880.9	133.0	-35.0	0.792	Level 1, CC, ES, SF
Noffsinger 32-2D - Wellbore #1 - Wellbore #1	13,762.7	6,884.0	485.8	265.9	2.209	CC, ES
Noffsinger 32-2D - Wellbore #1 - Wellbore #1	13,800.0	6,884.0	487.2	266.3	2.205	SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - BJB 2 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7050-UNKNOWN												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,400.0	3,357.5	3,321.5	3,321.5	12.1	66.4	38.98	-1,402.6	-203.3	999.6	924.0	75.61	13.220	
3,500.0	3,455.8	3,419.8	3,419.8	12.5	68.4	39.65	-1,402.6	-203.3	985.3	907.3	77.95	12.640	
3,600.0	3,554.1	3,518.1	3,518.1	12.9	70.4	40.34	-1,402.6	-203.3	971.1	890.8	80.29	12.095	
3,700.0	3,652.4	3,616.4	3,616.4	13.4	72.3	41.04	-1,402.6	-203.3	957.1	874.4	82.64	11.581	
3,800.0	3,750.7	3,714.7	3,714.7	13.8	74.3	41.77	-1,402.6	-203.3	943.2	858.2	85.00	11.097	
3,900.0	3,849.0	3,813.0	3,813.0	14.2	76.3	42.52	-1,402.6	-203.3	929.4	842.1	87.36	10.639	
4,000.0	3,947.3	3,911.3	3,911.3	14.6	78.2	43.29	-1,402.6	-203.3	915.9	826.1	89.73	10.207	
4,100.0	4,045.6	4,009.6	4,009.6	15.0	80.2	44.09	-1,402.6	-203.3	902.5	810.4	92.11	9.798	
4,200.0	4,143.9	4,107.9	4,107.9	15.5	82.2	44.90	-1,402.6	-203.3	889.3	794.8	94.50	9.410	
4,300.0	4,242.2	4,206.2	4,206.2	15.9	84.1	45.74	-1,402.6	-203.3	876.2	779.3	96.89	9.043	
4,400.0	4,340.5	4,304.5	4,304.5	16.3	86.1	46.61	-1,402.6	-203.3	863.4	764.1	99.29	8.695	
4,500.0	4,438.8	4,402.8	4,402.8	16.7	88.1	47.50	-1,402.6	-203.3	850.8	749.0	101.71	8.365	
4,600.0	4,537.1	4,501.1	4,501.1	17.1	90.0	48.42	-1,402.6	-203.3	838.3	734.2	104.13	8.051	
4,700.0	4,635.4	4,599.4	4,599.4	17.6	92.0	49.36	-1,402.6	-203.3	826.1	719.6	106.55	7.753	
4,800.0	4,733.7	4,697.7	4,697.7	18.0	94.0	50.33	-1,402.6	-203.3	814.2	705.2	108.99	7.470	
4,900.0	4,832.0	4,796.0	4,796.0	18.4	95.9	51.33	-1,402.6	-203.3	802.4	691.0	111.44	7.201	
5,000.0	4,930.3	4,894.3	4,894.3	18.8	97.9	52.36	-1,402.6	-203.3	791.0	677.1	113.89	6.945	
5,100.0	5,028.6	4,992.6	4,992.6	19.2	99.9	53.42	-1,402.6	-203.3	779.7	663.4	116.35	6.702	
5,200.0	5,126.9	5,090.9	5,090.9	19.7	101.8	54.51	-1,402.6	-203.3	768.8	650.0	118.82	6.470	
5,300.0	5,225.2	5,189.2	5,189.2	20.1	103.8	55.62	-1,402.6	-203.3	758.2	636.9	121.30	6.250	
5,400.0	5,323.5	5,287.5	5,287.5	20.5	105.8	56.66	-1,402.6	-203.3	748.1	624.2	123.84	6.040	
5,500.0	5,422.4	5,386.4	5,386.4	20.7	107.7	57.48	-1,402.6	-203.3	739.9	613.6	126.32	5.857	
5,600.0	5,521.7	5,485.7	5,485.7	20.9	109.7	58.13	-1,402.6	-203.3	733.8	605.1	128.71	5.701	
5,700.0	5,621.4	5,585.4	5,585.4	21.1	111.7	58.58	-1,402.6	-203.3	729.6	598.6	131.01	5.569	
5,800.0	5,721.3	5,685.3	5,685.3	21.3	113.7	58.85	-1,402.6	-203.3	727.2	594.0	133.23	5.459	
5,900.0	5,821.3	5,785.3	5,785.3	21.4	115.7	-138.89	-1,402.6	-203.3	726.7	594.5	132.16	5.499	
6,000.0	5,921.3	5,885.3	5,885.3	21.5	117.7	-138.89	-1,402.6	-203.3	726.7	592.4	134.29	5.411	
6,100.0	6,021.3	5,985.3	5,985.3	21.6	119.7	-48.92	-1,402.6	-203.3	726.5	586.9	139.58	5.205	
6,200.0	6,120.8	6,084.8	6,084.8	21.7	121.7	-49.85	-1,402.6	-203.3	720.2	579.4	140.83	5.114	
6,300.0	6,218.2	6,182.2	6,182.2	21.7	123.6	-52.07	-1,402.6	-203.3	705.9	564.8	141.00	5.006	
6,400.0	6,311.8	6,275.8	6,275.8	21.7	125.5	-55.64	-1,402.6	-203.3	684.3	543.7	140.65	4.865	
6,500.0	6,400.0	6,364.0	6,364.0	21.7	127.3	-60.53	-1,402.6	-203.3	657.3	516.7	140.61	4.675	
6,600.0	6,481.4	6,445.4	6,445.4	21.7	128.9	-66.61	-1,402.6	-203.3	627.1	485.4	141.65	4.427	
6,700.0	6,554.5	6,518.5	6,518.5	21.7	130.4	-73.44	-1,402.6	-203.3	596.8	452.9	143.96	4.146	
6,800.0	6,618.1	6,582.1	6,582.1	21.7	131.6	-80.28	-1,402.6	-203.3	570.5	423.6	146.91	3.884	
6,900.0	6,671.1	6,635.1	6,635.1	21.8	132.7	-86.25	-1,402.6	-203.3	552.7	403.1	149.57	3.695	
6,983.7	6,706.6	6,670.6	6,670.6	21.8	133.4	-90.00	-1,402.6	-203.3	547.5	396.2	151.34	3.618 CC	
7,000.0	6,712.6	6,676.6	6,676.6	21.9	133.5	-90.56	-1,402.6	-203.3	547.7	396.1	151.61	3.613 ES, SF	
7,100.0	6,741.8	6,705.8	6,705.8	22.2	134.1	-92.66	-1,402.6	-203.3	558.6	405.2	153.43	3.641	
7,200.0	6,758.4	6,722.4	6,722.4	23.1	134.4	-92.20	-1,402.6	-203.3	586.1	430.6	155.52	3.769	
7,300.0	6,762.1	6,726.1	6,726.1	24.6	134.5	-89.81	-1,402.6	-203.3	628.8	471.0	157.72	3.987	
7,400.0	6,761.6	6,725.6	6,725.6	26.4	134.5	-89.75	-1,402.6	-203.3	683.5	523.7	159.79	4.278	
7,500.0	6,761.0	6,725.0	6,725.0	28.5	134.5	-89.69	-1,402.6	-203.3	747.6	585.7	161.98	4.616	
7,600.0	6,760.4	6,724.4	6,724.4	30.7	134.5	-89.63	-1,402.6	-203.3	819.0	654.7	164.28	4.985	
7,700.0	6,759.8	6,723.8	6,723.8	33.1	134.5	-89.57	-1,402.6	-203.3	895.9	729.2	166.66	5.375	
7,800.0	6,759.2	6,723.2	6,723.2	35.4	134.5	-89.51	-1,402.6	-203.3	977.0	807.9	169.11	5.777	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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
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	
6,700.0	6,554.5	6,560.4	6,558.9	21.7	12.0	17.08	-654.9	-931.1	985.9	962.3	23.62	41.743		
6,800.0	6,618.1	6,622.9	6,621.3	21.7	12.2	21.51	-654.9	-930.1	909.7	888.1	21.63	42.063		
6,900.0	6,671.1	6,674.6	6,673.0	21.8	12.3	28.46	-654.9	-929.4	826.5	805.9	20.58	40.164		
7,000.0	6,712.6	6,714.7	6,713.1	21.9	12.4	39.59	-654.9	-928.8	738.0	716.1	21.97	33.594		
7,100.0	6,741.8	6,742.5	6,740.9	22.2	12.5	56.57	-654.8	-928.3	646.2	619.4	26.84	24.075		
7,200.0	6,758.4	6,757.6	6,756.0	23.1	12.5	77.53	-654.8	-928.1	553.1	520.5	32.63	16.952		
7,300.0	6,762.1	6,759.9	6,758.3	24.6	12.5	92.44	-654.8	-928.1	461.4	425.6	35.76	12.903		
7,400.0	6,761.6	6,757.8	6,756.2	26.4	12.5	91.84	-654.8	-928.1	373.9	336.0	37.82	9.886		
7,500.0	6,761.0	6,755.7	6,754.1	28.5	12.5	91.25	-654.8	-928.1	294.3	254.3	40.00	7.358		
7,600.0	6,760.4	6,753.6	6,752.0	30.7	12.5	90.66	-654.8	-928.2	231.3	189.0	42.29	5.469		
7,700.0	6,759.8	6,751.6	6,750.0	33.1	12.5	90.07	-654.8	-928.2	200.9	156.2	44.65	4.498		
7,715.7	6,759.7	6,751.2	6,749.6	33.4	12.5	89.97	-654.8	-928.2	200.2	155.2	45.04	4.446 CC, ES, SF		
7,800.0	6,759.2	6,749.5	6,747.9	35.4	12.5	89.47	-654.8	-928.2	217.2	170.2	47.08	4.614		
7,900.0	6,758.7	6,747.4	6,745.8	37.9	12.5	88.88	-654.8	-928.3	272.1	222.5	49.55	5.491		
8,000.0	6,758.1	6,745.3	6,743.7	40.4	12.5	88.29	-654.8	-928.3	347.6	295.6	52.05	6.678		
8,100.0	6,757.5	6,743.3	6,741.7	42.9	12.5	87.69	-654.8	-928.3	433.2	378.6	54.59	7.936		
8,200.0	6,756.9	6,741.2	6,739.6	45.5	12.5	87.10	-654.8	-928.4	523.9	466.8	57.14	9.169		
8,300.0	6,756.4	6,739.1	6,737.5	48.1	12.4	86.51	-654.8	-928.4	617.5	557.8	59.71	10.341		
8,400.0	6,755.8	6,737.0	6,735.5	50.7	12.4	85.92	-654.8	-928.4	712.8	650.5	62.29	11.442		
8,500.0	6,755.2	6,735.0	6,733.4	53.4	12.4	85.33	-654.8	-928.5	809.2	744.3	64.88	12.472		
8,600.0	6,754.6	6,732.9	6,731.3	56.0	12.4	84.74	-654.8	-928.5	906.4	839.0	67.48	13.433		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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		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)
8,100.0	6,757.5	6,894.3	6,740.0	42.9	22.4	88.04	-766.8	-2,260.0	951.7	892.0	59.68	15.947	
8,200.0	6,756.9	6,894.6	6,740.3	45.5	22.4	88.24	-766.8	-2,260.0	852.1	789.8	62.30	13.678	
8,300.0	6,756.4	6,894.9	6,740.7	48.1	22.4	88.44	-766.8	-2,260.0	752.8	687.8	64.95	11.590	
8,400.0	6,755.8	6,895.3	6,741.0	50.7	22.4	88.65	-766.8	-2,260.0	653.5	585.9	67.62	9.665	
8,500.0	6,755.2	6,895.6	6,741.3	53.4	22.4	88.86	-766.8	-2,260.0	554.6	484.3	70.30	7.889	
8,600.0	6,754.6	6,895.9	6,741.6	56.0	22.4	89.08	-766.8	-2,260.0	456.2	383.2	73.00	6.249	
8,700.0	6,754.1	6,896.3	6,742.0	58.7	22.4	89.29	-766.8	-2,260.0	358.6	282.9	75.71	4.736	
8,800.0	6,753.5	6,896.6	6,742.3	61.4	22.4	89.52	-766.8	-2,260.0	262.8	184.4	78.43	3.351	
8,900.0	6,752.9	6,897.0	6,742.7	64.1	22.4	89.75	-766.8	-2,260.0	171.9	90.8	81.16	2.119	
9,000.0	6,752.3	6,897.3	6,743.0	66.8	22.4	89.98	-766.8	-2,260.0	100.3	16.4	83.90	1.195 Level 2	
9,047.5	6,752.1	6,897.5	6,743.2	68.1	22.4	90.09	-766.8	-2,260.0	88.3	3.1	85.20	1.036 Level 2, CC, ES, SF	
9,100.0	6,751.8	6,897.7	6,743.4	69.5	22.4	90.21	-766.8	-2,260.0	102.7	16.0	86.64	1.185 Level 2	
9,200.0	6,751.2	6,898.1	6,743.8	72.2	22.4	90.46	-766.8	-2,260.0	176.1	86.7	89.39	1.970	
9,300.0	6,750.6	6,898.4	6,744.1	74.9	22.4	90.70	-766.8	-2,260.0	267.4	175.3	92.14	2.902	
9,400.0	6,750.0	6,898.8	6,744.5	77.7	22.4	90.95	-766.8	-2,260.0	363.3	268.4	94.89	3.829	
9,500.0	6,749.5	6,899.2	6,744.9	80.4	22.4	91.21	-766.8	-2,260.0	461.0	363.3	97.65	4.720	
9,600.0	6,748.9	6,899.6	6,745.3	83.1	22.4	91.47	-766.8	-2,260.0	559.4	459.0	100.41	5.571	
9,700.0	6,748.3	6,900.0	6,745.7	85.9	22.4	91.74	-766.8	-2,260.0	658.4	555.2	103.17	6.381	
9,800.0	6,747.7	6,900.4	6,746.2	88.6	22.4	92.01	-766.8	-2,260.0	757.6	651.7	105.93	7.152	
9,900.0	6,747.2	6,900.9	6,746.6	91.4	22.4	92.29	-766.8	-2,260.0	857.0	748.3	108.69	7.884	
10,000.0	6,746.6	6,901.3	6,747.0	94.2	22.4	92.57	-766.8	-2,260.0	956.5	845.1	111.45	8.582	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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		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)						
9,500.0	6,749.5	6,738.5	6,738.5	80.4	134.8	92.33	-721.1	-3,660.9	957.9	743.3	214.68	4.462				
9,600.0	6,748.9	6,737.9	6,737.9	83.1	134.8	92.09	-721.1	-3,660.9	859.0	641.6	217.44	3.951				
9,700.0	6,748.3	6,737.3	6,737.3	85.9	134.7	91.84	-721.1	-3,660.9	760.4	540.2	220.21	3.453				
9,800.0	6,747.7	6,736.7	6,736.7	88.6	134.7	91.60	-721.1	-3,660.9	662.2	439.3	222.98	2.970				
9,900.0	6,747.2	6,736.2	6,736.2	91.4	134.7	91.35	-721.1	-3,660.9	564.7	338.9	225.75	2.501				
10,000.0	6,746.6	6,735.6	6,735.6	94.2	134.7	91.10	-721.1	-3,660.9	468.1	239.6	228.51	2.049				
10,100.0	6,746.0	6,735.0	6,735.0	96.9	134.7	90.86	-721.1	-3,660.9	373.4	142.1	231.28	1.615				
10,200.0	6,745.4	6,734.4	6,734.4	99.7	134.7	90.61	-721.1	-3,660.9	282.4	48.3	234.04	1.206	Level 2			
10,300.0	6,744.9	6,733.9	6,733.9	102.4	134.7	90.37	-721.1	-3,660.9	200.1	-36.7	236.80	0.845	Level 1			
10,400.0	6,744.3	6,733.3	6,733.3	105.2	134.7	90.12	-721.1	-3,660.9	142.5	-97.0	239.56	0.595	Level 1			
10,448.5	6,744.0	6,733.0	6,733.0	106.6	134.7	90.00	-721.1	-3,660.9	134.0	-106.9	240.90	0.556	Level 1, CC, ES, SF			
10,500.0	6,743.7	6,732.7	6,732.7	108.0	134.7	89.87	-721.1	-3,660.9	143.6	-98.7	242.32	0.592	Level 1			
10,600.0	6,743.1	6,732.1	6,732.1	110.7	134.6	89.63	-721.1	-3,660.9	202.3	-42.8	245.08	0.825	Level 1			
10,700.0	6,742.5	6,731.5	6,731.5	113.5	134.6	89.38	-721.1	-3,660.9	285.0	37.1	247.83	1.150	Level 2			
10,800.0	6,742.0	6,731.0	6,731.0	116.3	134.6	89.13	-721.1	-3,660.9	376.1	125.6	250.58	1.501				
10,900.0	6,741.4	6,730.4	6,730.4	119.1	134.6	88.89	-721.1	-3,660.9	470.9	217.6	253.33	1.859				
11,000.0	6,740.8	6,729.8	6,729.8	121.9	134.6	88.64	-721.1	-3,660.9	567.5	311.4	256.07	2.216				
11,100.0	6,740.2	6,729.2	6,729.2	124.6	134.6	88.40	-721.1	-3,660.9	665.1	406.3	258.81	2.570				
11,200.0	6,739.7	6,728.7	6,728.7	127.4	134.6	88.15	-721.1	-3,660.9	763.3	501.8	261.54	2.919				
11,300.0	6,739.1	6,728.1	6,728.1	130.2	134.6	87.90	-721.1	-3,660.9	861.9	597.7	264.27	3.262				
11,400.0	6,738.5	6,727.5	6,727.5	133.0	134.6	87.66	-721.1	-3,660.9	960.8	693.8	267.00	3.599				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.1-T5N-R65W - Gatewood 6-1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 100-UNKNOWN												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
8,700.0	6,754.1	6,737.6	6,737.2	58.7	107.2	-90.75	-1,057.6	-2,873.5	982.2	816.9	165.34	5.941	
8,800.0	6,753.5	6,737.1	6,736.7	61.4	107.2	-90.62	-1,057.6	-2,873.5	884.6	716.5	168.04	5.264	
8,900.0	6,752.9	6,736.7	6,736.3	64.1	107.2	-90.49	-1,057.6	-2,873.5	787.6	616.8	170.76	4.612	
9,000.0	6,752.3	6,736.2	6,735.8	66.8	107.2	-90.36	-1,057.6	-2,873.5	691.4	517.9	173.48	3.986	
9,100.0	6,751.8	6,735.8	6,735.4	69.5	107.2	-90.24	-1,057.6	-2,873.5	596.5	420.3	176.21	3.385	
9,200.0	6,751.2	6,735.3	6,734.9	72.2	107.2	-90.11	-1,057.6	-2,873.5	503.6	324.7	178.95	2.814	
9,300.0	6,750.6	6,734.9	6,734.5	74.9	107.2	-89.98	-1,057.6	-2,873.5	414.0	232.3	181.69	2.279	
9,400.0	6,750.0	6,734.4	6,734.0	77.7	107.2	-89.85	-1,057.6	-2,873.5	330.4	146.0	184.43	1.792	
9,500.0	6,749.5	6,734.0	6,733.5	80.4	107.2	-89.72	-1,057.6	-2,873.5	258.8	71.6	187.18	1.382	Level 3
9,600.0	6,748.9	6,733.5	6,733.1	83.1	107.2	-89.59	-1,057.6	-2,873.5	211.5	21.6	189.93	1.114	Level 2
9,661.1	6,748.5	6,733.2	6,732.8	84.8	107.2	-89.51	-1,057.6	-2,873.5	202.5	10.9	191.61	1.057	Level 2, CC, ES, SF
9,700.0	6,748.3	6,733.1	6,732.6	85.9	107.1	-89.46	-1,057.6	-2,873.5	206.2	13.5	192.68	1.070	Level 2
9,800.0	6,747.7	6,732.6	6,732.2	88.6	107.1	-89.34	-1,057.6	-2,873.5	245.5	50.1	195.43	1.256	Level 3
9,900.0	6,747.2	6,732.2	6,731.7	91.4	107.1	-89.21	-1,057.5	-2,873.5	313.2	115.0	198.19	1.580	
10,000.0	6,746.6	6,731.7	6,731.3	94.2	107.1	-89.08	-1,057.5	-2,873.5	394.8	193.8	200.95	1.965	
10,100.0	6,746.0	6,731.2	6,730.8	96.9	107.1	-88.95	-1,057.5	-2,873.5	483.3	279.6	203.71	2.373	
10,200.0	6,745.4	6,730.8	6,730.4	99.7	107.1	-88.82	-1,057.5	-2,873.5	575.7	369.2	206.47	2.788	
10,300.0	6,744.9	6,730.3	6,729.9	102.4	107.1	-88.69	-1,057.5	-2,873.5	670.2	461.0	209.23	3.203	
10,400.0	6,744.3	6,729.9	6,729.5	105.2	107.1	-88.57	-1,057.5	-2,873.5	766.1	554.1	211.99	3.614	
10,500.0	6,743.7	6,729.4	6,729.0	108.0	107.1	-88.44	-1,057.5	-2,873.5	863.0	648.2	214.76	4.018	
10,600.0	6,743.1	6,729.0	6,728.6	110.7	107.1	-88.31	-1,057.5	-2,873.5	960.5	742.9	217.52	4.416	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.2-T5N-R65W - Wagner-Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 7030-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)		
12,400.0	6,732.8	6,728.8	6,728.8	160.9	134.6	-96.40	-906.2	-6,609.1	998.1	704.8	293.29	3.403	
12,500.0	6,732.2	6,728.2	6,728.2	163.7	134.6	-95.77	-906.2	-6,609.1	898.2	601.8	296.41	3.030	
12,600.0	6,731.6	6,727.6	6,727.6	166.4	134.6	-95.13	-906.2	-6,609.1	798.4	498.9	299.51	2.666	
12,700.0	6,731.0	6,727.0	6,727.0	169.2	134.5	-94.49	-906.2	-6,609.1	698.7	396.1	302.57	2.309	
12,800.0	6,730.5	6,726.5	6,726.5	172.0	134.5	-93.84	-906.2	-6,609.1	599.0	293.4	305.61	1.960	
12,900.0	6,729.9	6,725.9	6,725.9	174.8	134.5	-93.20	-906.2	-6,609.1	499.4	190.8	308.61	1.618	
13,000.0	6,729.3	6,725.3	6,725.3	177.6	134.5	-92.56	-906.2	-6,609.1	400.1	88.5	311.58	1.284 Level 3	
13,100.0	6,728.7	6,724.7	6,724.7	180.4	134.5	-91.91	-906.2	-6,609.1	301.2	-13.3	314.51	0.958 Level 1	
13,200.0	6,728.1	6,724.1	6,724.1	183.2	134.5	-91.27	-906.2	-6,609.1	203.3	-114.1	317.41	0.641 Level 1	
13,300.0	6,727.6	6,723.6	6,723.6	186.0	134.5	-90.62	-906.2	-6,609.1	109.5	-210.8	320.27	0.342 Level 1	
13,396.8	6,727.0	6,723.0	6,723.0	188.7	134.5	-90.00	-906.2	-6,609.1	51.2	-271.8	323.00	0.158 Level 1, CC, ES, SF	
13,400.0	6,727.0	6,723.0	6,723.0	188.8	134.5	-89.98	-906.2	-6,609.1	51.3	-271.8	323.09	0.159 Level 1	
13,500.0	6,726.4	6,722.4	6,722.4	191.6	134.4	-89.33	-906.2	-6,609.1	115.2	-210.7	325.87	0.353 Level 1	
13,600.0	6,725.8	6,721.8	6,721.8	194.4	134.4	-88.69	-906.2	-6,609.1	209.5	-119.1	328.62	0.638 Level 1	
13,700.0	6,725.3	6,721.3	6,721.3	197.2	134.4	-88.04	-906.2	-6,609.1	307.5	-23.8	331.32	0.928 Level 1	
13,800.0	6,724.7	6,720.7	6,720.7	200.0	134.4	-87.40	-906.2	-6,609.1	406.4	72.4	333.98	1.217 Level 2	
13,900.0	6,724.1	6,720.1	6,720.1	202.8	134.4	-86.76	-906.2	-6,609.1	505.8	169.2	336.60	1.503	
13,920.2	6,724.0	6,720.0	6,720.0	203.4	134.4	-86.63	-906.2	-6,609.1	525.9	188.7	337.12	1.560	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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	
0.0	0.0	2.0	2.0	0.0	0.0	-44.93	83.8	-83.6	118.4	118.4	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	-44.93	83.8	-83.6	118.4	118.1	0.23	516.286		
200.0	200.0	202.0	202.0	0.3	0.3	-44.93	83.8	-83.6	118.4	117.7	0.68	174.375 CC, ES		
300.0	300.0	302.0	302.0	0.5	0.6	153.06	83.8	-83.6	119.1	118.0	1.11	107.703		
400.0	400.0	402.0	402.0	0.7	0.8	153.61	83.8	-83.6	121.5	119.9	1.53	79.338		
500.0	499.9	501.9	501.9	1.0	1.0	154.47	83.8	-83.6	125.4	123.4	1.97	63.657		
600.0	599.7	601.7	601.7	1.2	1.2	155.60	83.8	-83.6	130.9	128.5	2.42	54.189		
700.0	699.4	701.4	701.4	1.4	1.5	156.92	83.8	-83.6	138.1	135.3	2.87	48.165		
800.0	798.9	800.9	800.9	1.7	1.7	158.35	83.8	-83.6	147.0	143.7	3.32	44.238		
900.0	898.3	900.3	900.3	2.0	1.9	159.83	83.8	-83.6	157.6	153.8	3.78	41.683		
1,000.0	997.4	999.4	999.4	2.3	2.1	161.31	83.8	-83.6	169.9	165.7	4.24	40.071		
1,100.0	1,096.3	1,098.3	1,098.3	2.7	2.4	162.74	83.8	-83.6	184.0	179.3	4.70	39.135		
1,200.0	1,194.9	1,196.9	1,196.9	3.0	2.6	164.10	83.8	-83.6	199.8	194.7	5.16	38.701		
1,300.0	1,293.3	1,295.3	1,295.3	3.4	2.8	165.38	83.8	-83.6	217.3	211.6	5.63	38.606		
1,400.0	1,391.6	1,393.6	1,393.6	3.8	3.0	166.51	83.8	-83.6	235.1	229.0	6.10	38.563		
1,500.0	1,489.9	1,491.9	1,491.9	4.2	3.2	167.48	83.8	-83.6	253.0	246.5	6.57	38.534		
1,600.0	1,588.2	1,590.2	1,590.2	4.6	3.5	168.32	83.8	-83.6	271.0	264.0	7.04	38.513		
1,700.0	1,686.5	1,688.5	1,688.5	5.0	3.7	169.06	83.8	-83.6	289.1	281.6	7.51	38.499		
1,800.0	1,784.8	1,786.8	1,786.8	5.4	3.9	169.71	83.8	-83.6	307.1	299.2	7.98	38.489		
1,900.0	1,883.1	1,885.1	1,885.1	5.8	4.1	170.28	83.8	-83.6	325.2	316.8	8.45	38.483		
2,000.0	1,981.4	1,983.4	1,983.4	6.2	4.3	170.80	83.8	-83.6	343.4	334.5	8.92	38.478		
2,100.0	2,079.7	2,081.7	2,081.7	6.7	4.6	171.27	83.8	-83.6	361.5	352.1	9.40	38.476		
2,200.0	2,178.0	2,180.0	2,180.0	7.1	4.8	171.69	83.8	-83.6	379.7	369.8	9.87	38.474		
2,300.0	2,276.3	2,278.3	2,278.3	7.5	5.0	172.07	83.8	-83.6	397.9	387.6	10.34	38.473		
2,400.0	2,374.5	2,376.5	2,376.5	7.9	5.2	172.42	83.8	-83.6	416.1	405.3	10.82	38.472		
2,500.0	2,472.8	2,474.8	2,474.8	8.3	5.5	172.74	83.8	-83.6	434.4	423.1	11.29	38.472		
2,600.0	2,571.1	2,574.6	2,574.6	8.7	5.7	173.10	83.9	-83.1	452.5	440.7	11.76	38.483		
2,700.0	2,669.4	2,675.0	2,675.0	9.2	5.9	173.63	84.3	-81.0	470.2	458.0	12.21	38.498		
2,800.0	2,767.7	2,775.3	2,775.2	9.6	6.1	174.33	84.9	-77.1	487.6	474.9	12.67	38.491		
2,900.0	2,866.0	2,875.6	2,875.3	10.0	6.3	175.18	85.9	-71.5	504.6	491.5	13.12	38.455		
3,000.0	2,964.3	2,975.7	2,975.1	10.4	6.5	176.16	87.2	-64.2	521.4	507.8	13.58	38.391		
3,100.0	3,062.6	3,075.6	3,074.6	10.8	6.7	177.26	88.8	-55.1	538.0	523.9	14.05	38.301		
3,200.0	3,160.9	3,175.2	3,173.7	11.3	7.0	178.47	90.6	-44.4	554.5	540.0	14.52	38.184		
3,300.0	3,259.2	3,274.4	3,272.1	11.7	7.2	179.77	92.8	-32.1	570.9	555.9	15.01	38.045		
3,400.0	3,357.5	3,372.2	3,369.0	12.1	7.4	-178.94	95.0	-19.3	587.6	572.1	15.50	37.898		
3,500.0	3,455.8	3,469.9	3,465.8	12.5	7.7	-177.73	97.3	-6.5	604.5	588.5	16.01	37.751		
3,600.0	3,554.1	3,567.7	3,562.7	12.9	7.9	-176.58	99.5	6.4	621.7	605.2	16.53	37.605		
3,700.0	3,652.4	3,665.4	3,659.6	13.4	8.2	-175.50	101.7	19.2	639.1	622.1	17.06	37.460		
3,800.0	3,750.7	3,763.2	3,756.5	13.8	8.5	-174.47	104.0	32.0	656.7	639.1	17.60	37.317		
3,900.0	3,849.0	3,861.0	3,853.4	14.2	8.7	-173.49	106.2	44.9	674.6	656.4	18.14	37.177		
4,000.0	3,947.3	3,958.7	3,950.3	14.6	9.0	-172.57	108.4	57.7	692.6	673.9	18.70	37.040		
4,100.0	4,045.6	4,056.5	4,047.1	15.0	9.3	-171.69	110.7	70.5	710.7	691.5	19.26	36.907		
4,200.0	4,143.9	4,154.2	4,144.0	15.5	9.6	-170.85	112.9	83.4	729.1	709.2	19.82	36.777		
4,300.0	4,242.2	4,252.0	4,240.9	15.9	9.9	-170.06	115.2	96.2	747.5	727.1	20.40	36.651		
4,400.0	4,340.5	4,349.7	4,337.8	16.3	10.2	-169.30	117.4	109.0	766.1	745.2	20.97	36.530		
4,500.0	4,438.8	4,447.5	4,434.7	16.7	10.4	-168.58	119.6	121.9	784.9	763.3	21.55	36.413		
4,600.0	4,537.1	4,545.3	4,531.6	17.1	10.7	-167.89	121.9	134.7	803.7	781.6	22.14	36.300		
4,700.0	4,635.4	4,643.0	4,628.5	17.6	11.0	-167.24	124.1	147.5	822.7	799.9	22.73	36.192		
4,800.0	4,733.7	4,740.8	4,725.3	18.0	11.3	-166.61	126.4	160.4	841.7	818.4	23.32	36.087		
4,900.0	4,832.0	4,838.5	4,822.2	18.4	11.6	-166.01	128.6	173.2	860.9	837.0	23.92	35.987		
5,000.0	4,930.3	4,936.3	4,919.1	18.8	11.9	-165.44	130.8	186.0	880.1	855.6	24.52	35.891		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,028.6	5,034.0	5,016.0	19.2	12.2	-164.89	133.1	198.9	899.4	874.3	25.12	35.799	
5,200.0	5,126.9	5,131.8	5,112.9	19.7	12.5	-164.36	135.3	211.7	918.8	893.1	25.73	35.711	
5,300.0	5,225.2	5,229.6	5,209.8	20.1	12.8	-163.86	137.5	224.5	938.3	911.9	26.34	35.626	
5,400.0	5,323.5	5,327.4	5,306.7	20.5	13.1	-163.42	139.8	237.4	957.4	930.4	26.96	35.506	
5,500.0	5,422.4	5,425.7	5,404.1	20.7	13.4	-162.99	142.0	250.3	973.7	946.1	27.56	35.327	
5,600.0	5,521.7	5,529.4	5,507.1	20.9	13.7	-162.55	144.2	262.5	986.5	958.4	28.09	35.118	
5,700.0	5,621.4	5,635.0	5,612.3	21.1	13.9	-162.25	145.7	271.2	995.5	967.0	28.53	34.897 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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	3.0	3.0	0.0	0.0	-45.05		105.7	-105.9	149.6	149.6	0.00	N/A	
100.0	100.0	103.0	103.0	0.1	0.1	-45.05		105.7	-105.9	149.6	149.3	0.23	646.084	
200.0	200.0	203.0	203.0	0.3	0.3	-45.05		105.7	-105.9	149.6	148.9	0.68	219.626 CC, ES	
300.0	300.0	303.0	303.0	0.5	0.6	152.89		105.7	-105.9	150.4	149.2	1.11	135.642	
400.0	400.0	403.0	403.0	0.7	0.8	153.33		105.7	-105.9	152.7	151.2	1.53	99.573	
500.0	499.9	502.9	502.9	1.0	1.0	154.03		105.7	-105.9	156.6	154.6	1.97	79.400	
600.0	599.7	602.7	602.7	1.2	1.2	154.95		105.7	-105.9	162.1	159.7	2.42	67.021	
700.0	699.4	702.4	702.4	1.4	1.5	156.05		105.7	-105.9	169.3	166.4	2.87	58.960	
800.0	798.9	801.9	801.9	1.7	1.7	157.26		105.7	-105.9	178.1	174.7	3.33	53.529	
900.0	898.3	901.3	901.3	2.0	1.9	158.55		105.7	-105.9	188.6	184.8	3.79	49.814	
1,000.0	997.4	1,000.4	1,000.4	2.3	2.1	159.87		105.7	-105.9	200.8	196.5	4.25	47.281	
1,100.0	1,096.3	1,099.3	1,099.3	2.7	2.4	161.18		105.7	-105.9	214.7	210.0	4.71	45.596	
1,200.0	1,194.9	1,197.9	1,197.9	3.0	2.6	162.46		105.7	-105.9	230.4	225.3	5.17	44.540	
1,300.0	1,293.3	1,296.3	1,296.3	3.4	2.8	163.69		105.7	-105.9	247.7	242.1	5.64	43.920	
1,400.0	1,391.6	1,394.6	1,394.6	3.8	3.0	164.80		105.7	-105.9	265.5	259.3	6.11	43.432	
1,500.0	1,489.9	1,492.6	1,492.6	4.2	3.2	165.92		106.1	-105.2	283.3	276.7	6.58	43.078	
1,600.0	1,588.2	1,590.4	1,590.4	4.6	3.4	167.23		107.5	-103.3	301.4	294.3	7.03	42.846	
1,700.0	1,686.5	1,687.9	1,687.8	5.0	3.7	168.70		109.8	-99.9	319.7	312.2	7.49	42.691	
1,800.0	1,784.8	1,785.1	1,784.8	5.4	3.9	170.28		113.1	-95.3	338.5	330.5	7.95	42.599	
1,900.0	1,883.1	1,881.8	1,881.3	5.8	4.1	171.95		117.2	-89.3	357.7	349.3	8.41	42.559 SF	
2,000.0	1,981.4	1,978.1	1,977.1	6.2	4.3	173.69		122.3	-82.0	377.6	368.7	8.87	42.561	
2,100.0	2,079.7	2,073.9	2,072.4	6.7	4.6	175.48		128.3	-73.4	398.0	388.7	9.34	42.595	
2,200.0	2,178.0	2,170.3	2,168.0	7.1	4.8	177.28		135.0	-63.7	419.2	409.4	9.83	42.642	
2,300.0	2,276.3	2,267.2	2,264.2	7.5	5.1	178.93		141.8	-54.0	440.8	430.4	10.33	42.671	
2,400.0	2,374.5	2,364.1	2,360.3	7.9	5.3	-179.57		148.6	-44.2	462.6	451.8	10.83	42.704	
2,500.0	2,472.8	2,461.0	2,456.5	8.3	5.6	-178.21		155.5	-34.4	484.8	473.5	11.35	42.727	
2,600.0	2,571.1	2,557.9	2,552.6	8.7	5.9	-176.97		162.3	-24.6	507.2	495.3	11.87	42.745	
2,700.0	2,669.4	2,654.7	2,648.8	9.2	6.1	-175.83		169.1	-14.9	529.8	517.4	12.39	42.760	
2,800.0	2,767.7	2,751.6	2,744.9	9.6	6.4	-174.78		175.9	-5.1	552.6	539.7	12.92	42.772	
2,900.0	2,866.0	2,848.5	2,841.1	10.0	6.7	-173.82		182.7	4.7	575.5	562.1	13.45	42.781	
3,000.0	2,964.3	2,945.4	2,937.2	10.4	7.0	-172.93		189.5	14.5	598.6	584.6	13.99	42.789	
3,100.0	3,062.6	3,042.3	3,033.4	10.8	7.3	-172.10		196.3	24.2	621.9	607.3	14.53	42.796	
3,200.0	3,160.9	3,139.2	3,129.6	11.3	7.5	-171.34		203.1	34.0	645.2	630.1	15.07	42.801	
3,300.0	3,259.2	3,236.1	3,225.7	11.7	7.8	-170.63		209.9	43.8	668.6	653.0	15.62	42.806	
3,400.0	3,357.5	3,333.0	3,321.9	12.1	8.1	-169.96		216.7	53.6	692.2	676.0	16.17	42.811	
3,500.0	3,455.8	3,429.8	3,418.0	12.5	8.4	-169.34		223.6	63.3	715.8	699.1	16.72	42.814	
3,600.0	3,554.1	3,526.7	3,514.2	12.9	8.7	-168.76		230.4	73.1	739.5	722.2	17.27	42.818	
3,700.0	3,652.4	3,623.6	3,610.3	13.4	9.0	-168.21		237.2	82.9	763.2	745.4	17.82	42.821	
3,800.0	3,750.7	3,720.5	3,706.5	13.8	9.3	-167.70		244.0	92.7	787.0	768.7	18.38	42.824	
3,900.0	3,849.0	3,817.4	3,802.6	14.2	9.6	-167.22		250.8	102.4	810.9	792.0	18.93	42.826	
4,000.0	3,947.3	3,914.3	3,898.8	14.6	9.9	-166.76		257.6	112.2	834.8	815.3	19.49	42.829	
4,100.0	4,045.6	4,011.2	3,994.9	15.0	10.2	-166.33		264.4	122.0	858.8	838.7	20.05	42.832	
4,200.0	4,143.9	4,108.1	4,091.1	15.5	10.5	-165.93		271.2	131.8	882.8	862.2	20.61	42.834	
4,300.0	4,242.2	4,204.9	4,187.2	15.9	10.8	-165.54		278.0	141.5	906.9	885.7	21.17	42.837	
4,400.0	4,340.5	4,301.8	4,283.4	16.3	11.1	-165.18		284.9	151.3	931.0	909.2	21.73	42.839	
4,500.0	4,438.8	4,398.7	4,379.5	16.7	11.4	-164.83		291.7	161.1	955.1	932.8	22.29	42.841	
4,600.0	4,537.1	4,495.6	4,475.7	17.1	11.7	-164.50		298.5	170.9	979.2	956.4	22.86	42.843	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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)	+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	-43.73	-43.73	43.7	-41.8	60.5	60.5	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-43.73	-43.73	43.7	-41.8	60.5	60.3	0.23	266.596	
200.0	200.0	201.0	201.0	0.3	0.3	-43.73	-43.73	43.7	-41.8	60.5	59.8	0.68	89.456 CC, ES	
300.0	300.0	301.0	301.0	0.5	0.6	154.42	154.42	43.7	-41.8	61.3	60.2	1.10	55.532	
400.0	400.0	401.0	401.0	0.7	0.8	155.43	155.43	43.7	-41.8	63.7	62.1	1.53	41.646	
500.0	499.9	500.9	500.9	1.0	1.0	156.95	156.95	43.7	-41.8	67.7	65.7	1.97	34.391	
600.0	599.7	600.7	600.7	1.2	1.2	158.80	158.80	43.7	-41.8	73.3	70.9	2.41	30.384	
700.0	699.4	700.4	700.4	1.4	1.5	160.79	160.79	43.7	-41.8	80.7	77.8	2.86	28.183	
800.0	798.9	799.9	799.9	1.7	1.7	162.77	162.77	43.7	-41.8	89.8	86.5	3.32	27.084	
900.0	898.3	899.3	899.3	2.0	1.9	164.65	164.65	43.7	-41.8	100.7	96.9	3.77	26.705	
1,000.0	997.4	998.4	998.4	2.3	2.1	166.37	166.37	43.7	-41.8	113.3	109.1	4.23	26.819	
1,100.0	1,096.3	1,099.5	1,099.5	2.7	2.3	167.98	167.98	43.0	-41.3	126.9	122.2	4.66	27.237	
1,200.0	1,194.9	1,200.8	1,200.8	3.0	2.5	169.53	169.53	40.9	-39.7	140.5	135.5	5.07	27.701	
1,300.0	1,293.3	1,302.4	1,302.3	3.4	2.7	171.03	171.03	37.4	-37.0	154.1	148.6	5.50	28.018	
1,400.0	1,391.6	1,404.4	1,404.1	3.8	2.9	172.44	172.44	32.4	-33.2	166.3	160.4	5.94	28.001	
1,500.0	1,489.9	1,506.8	1,506.1	4.2	3.1	173.79	173.79	25.9	-28.3	176.9	170.5	6.39	27.690	
1,600.0	1,588.2	1,609.4	1,608.3	4.6	3.4	175.12	175.12	17.9	-22.3	185.8	178.9	6.84	27.146	
1,700.0	1,686.5	1,712.4	1,710.5	5.0	3.6	176.48	176.48	8.5	-15.1	193.1	185.8	7.31	26.418	
1,800.0	1,784.8	1,812.2	1,809.6	5.4	3.9	177.78	177.78	-1.5	-7.6	199.5	191.7	7.78	25.654	
1,900.0	1,883.1	1,911.9	1,908.5	5.8	4.2	179.00	179.00	-11.4	-0.1	206.0	197.8	8.25	24.969	
2,000.0	1,981.4	2,011.6	2,007.4	6.2	4.4	-179.85	-179.85	-21.4	7.4	212.7	203.9	8.73	24.353	
2,100.0	2,079.7	2,111.3	2,106.4	6.7	4.7	-178.77	-178.77	-31.3	15.0	219.3	210.1	9.22	23.792	
2,200.0	2,178.0	2,211.0	2,205.3	7.1	5.0	-177.76	-177.76	-41.2	22.5	226.1	216.4	9.71	23.281	
2,300.0	2,276.3	2,310.7	2,304.2	7.5	5.3	-176.81	-176.81	-51.2	30.0	232.9	222.7	10.21	22.813	
2,400.0	2,374.5	2,410.4	2,403.1	7.9	5.6	-175.91	-175.91	-61.1	37.5	239.8	229.1	10.72	22.383	
2,500.0	2,472.8	2,510.1	2,502.0	8.3	5.9	-175.07	-175.07	-71.0	45.0	246.8	235.6	11.22	21.987	
2,600.0	2,571.1	2,609.8	2,600.9	8.7	6.2	-174.26	-174.26	-81.0	52.6	253.8	242.0	11.74	21.620	
2,700.0	2,669.4	2,709.5	2,699.8	9.2	6.5	-173.51	-173.51	-90.9	60.1	260.8	248.6	12.26	21.280	
2,800.0	2,767.7	2,809.2	2,798.7	9.6	6.8	-172.79	-172.79	-100.8	67.6	267.9	255.1	12.78	20.964	
2,900.0	2,866.0	2,908.9	2,897.6	10.0	7.2	-172.11	-172.11	-110.8	75.1	275.1	261.7	13.31	20.670	
3,000.0	2,964.3	3,008.6	2,996.6	10.4	7.5	-171.46	-171.46	-120.7	82.7	282.2	268.4	13.84	20.394	
3,100.0	3,062.6	3,108.3	3,095.5	10.8	7.8	-170.85	-170.85	-130.6	90.2	289.4	275.0	14.37	20.137	
3,200.0	3,160.9	3,207.9	3,194.4	11.3	8.1	-170.26	-170.26	-140.6	97.7	296.6	281.7	14.91	19.895	
3,300.0	3,259.2	3,307.6	3,293.3	11.7	8.4	-169.70	-169.70	-150.5	105.2	303.9	288.5	15.45	19.668	
3,400.0	3,357.5	3,407.3	3,392.2	12.1	8.7	-169.17	-169.17	-160.4	112.7	311.2	295.2	16.00	19.454	
3,500.0	3,455.8	3,507.0	3,491.1	12.5	9.1	-168.67	-168.67	-170.4	120.3	318.5	302.0	16.54	19.252	
3,600.0	3,554.1	3,606.7	3,590.0	12.9	9.4	-168.18	-168.18	-180.3	127.8	325.8	308.8	17.09	19.062	
3,700.0	3,652.4	3,706.4	3,688.9	13.4	9.7	-167.72	-167.72	-190.3	135.3	333.2	315.6	17.65	18.882	
3,800.0	3,750.7	3,806.1	3,787.9	13.8	10.0	-167.28	-167.28	-200.2	142.8	340.6	322.4	18.20	18.711	
3,900.0	3,849.0	3,905.8	3,886.8	14.2	10.3	-166.85	-166.85	-210.1	150.3	348.0	329.2	18.76	18.549	
4,000.0	3,947.3	4,005.5	3,985.7	14.6	10.7	-166.45	-166.45	-220.1	157.9	355.4	336.1	19.32	18.396	
4,100.0	4,045.6	4,105.2	4,084.6	15.0	11.0	-166.06	-166.06	-230.0	165.4	362.8	343.0	19.88	18.250	
4,200.0	4,143.9	4,204.9	4,183.5	15.5	11.3	-165.69	-165.69	-239.9	172.9	370.3	349.8	20.44	18.112	
4,300.0	4,242.2	4,304.6	4,282.4	15.9	11.6	-165.33	-165.33	-249.9	180.4	377.8	356.7	21.01	17.979	
4,400.0	4,340.5	4,404.3	4,381.3	16.3	12.0	-164.98	-164.98	-259.8	188.0	385.2	363.7	21.58	17.854	
4,500.0	4,438.8	4,504.0	4,480.2	16.7	12.3	-164.65	-164.65	-269.7	195.5	392.7	370.6	22.15	17.733	
4,600.0	4,537.1	4,603.7	4,579.1	17.1	12.6	-164.33	-164.33	-279.7	203.0	400.2	377.5	22.72	17.619	
4,700.0	4,635.4	4,703.3	4,678.1	17.6	12.9	-164.02	-164.02	-289.6	210.5	407.8	384.5	23.29	17.509	
4,800.0	4,733.7	4,803.0	4,777.0	18.0	13.3	-163.73	-163.73	-299.5	218.0	415.3	391.4	23.86	17.404	
4,900.0	4,832.0	4,902.7	4,875.9	18.4	13.6	-163.44	-163.44	-309.5	225.6	422.8	398.4	24.44	17.303	
5,000.0	4,930.3	5,002.4	4,974.8	18.8	13.9	-163.16	-163.16	-319.4	233.1	430.4	405.4	25.01	17.207	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,100.0	5,028.6	5,102.1	5,073.7	19.2	14.2	-162.90	-329.3	240.6	437.9	412.3	25.59	17.114	
5,200.0	5,126.9	5,201.8	5,172.6	19.7	14.6	-162.64	-339.3	248.1	445.5	419.3	26.17	17.025	
5,300.0	5,225.2	5,301.5	5,271.5	20.1	14.9	-162.39	-349.2	255.7	453.1	426.3	26.75	16.940	
5,400.0	5,323.5	5,398.0	5,367.2	20.5	15.2	-162.17	-358.7	262.9	460.3	433.0	27.31	16.855	
5,500.0	5,422.4	5,486.3	5,455.2	20.7	15.4	-162.05	-365.8	268.2	466.5	438.8	27.74	16.815	
5,600.0	5,521.7	5,574.7	5,543.3	20.9	15.6	-162.00	-370.8	272.0	471.9	443.7	28.12	16.782	
5,700.0	5,621.4	5,663.0	5,631.5	21.1	15.7	-162.04	-373.6	274.1	476.3	447.9	28.43	16.756	
5,800.0	5,721.3	5,753.8	5,722.3	21.3	15.9	-162.15	-374.2	274.6	479.9	451.2	28.69	16.726	
5,900.0	5,821.3	5,853.8	5,822.3	21.4	16.0	0.01	-374.2	274.6	480.9	445.0	35.88	13.402	
6,000.0	5,921.3	5,953.8	5,922.3	21.5	16.2	0.01	-374.2	274.6	480.9	444.7	36.14	13.305	
6,060.7	5,982.0	6,014.4	5,983.0	21.6	16.3	90.07	-374.2	274.6	480.9	451.4	29.50	16.300	
6,100.0	6,021.3	6,053.8	6,022.3	21.6	16.3	90.05	-374.2	274.6	480.9	451.3	29.63	16.232	
6,200.0	6,120.8	6,154.0	6,122.2	21.7	16.4	90.35	-374.2	267.6	480.9	451.0	29.90	16.081	
6,300.0	6,218.2	6,254.5	6,220.6	21.7	16.5	90.65	-374.2	247.5	480.9	450.9	30.05	16.006	
6,400.0	6,311.8	6,355.4	6,315.8	21.7	16.5	90.94	-374.2	214.5	480.9	450.8	30.10	15.980	
6,500.0	6,400.0	6,456.5	6,406.2	21.7	16.5	91.21	-374.2	169.1	481.0	450.8	30.14	15.957	
6,600.0	6,481.4	6,558.0	6,490.0	21.7	16.4	91.47	-374.2	112.0	481.0	450.7	30.31	15.870	
6,700.0	6,554.5	6,659.7	6,565.7	21.7	16.4	91.69	-374.2	44.2	481.1	450.3	30.77	15.636	
6,800.0	6,618.1	6,761.7	6,631.8	21.7	16.4	91.89	-374.2	-33.4	481.1	449.4	31.69	15.181	
6,900.0	6,671.1	6,864.0	6,687.2	21.8	16.4	92.05	-374.2	-119.2	481.2	447.9	33.24	14.476	
7,000.0	6,712.6	6,966.3	6,730.7	21.9	17.3	92.18	-374.2	-211.8	481.2	445.7	35.49	13.561	
7,100.0	6,741.8	7,068.8	6,761.4	22.2	18.8	92.27	-374.2	-309.5	481.3	442.8	38.41	12.529	
7,200.0	6,758.4	7,171.4	6,778.8	23.1	20.6	92.33	-374.2	-410.6	481.3	439.4	41.92	11.482	
7,300.0	6,762.1	7,273.6	6,782.7	24.6	22.6	92.33	-374.2	-512.6	481.3	435.5	45.83	10.502	
7,400.0	6,761.6	7,373.6	6,781.8	26.4	24.7	92.29	-374.2	-612.6	481.3	431.3	50.01	9.624	
7,500.0	6,761.0	7,473.6	6,781.0	28.5	27.0	92.26	-374.2	-712.6	481.3	426.8	54.43	8.842	
7,600.0	6,760.4	7,573.6	6,780.1	30.7	29.3	92.22	-374.2	-812.6	481.2	422.2	59.06	8.148	
7,700.0	6,759.8	7,673.6	6,779.2	33.1	31.7	92.19	-374.2	-912.6	481.2	417.4	63.85	7.537	
7,800.0	6,759.2	7,773.6	6,778.3	35.4	34.2	92.15	-374.2	-1,012.6	481.2	412.5	68.76	6.998	
7,900.0	6,758.7	7,873.6	6,777.5	37.9	36.7	92.12	-374.2	-1,112.6	481.2	407.4	73.78	6.523	
8,000.0	6,758.1	7,973.6	6,776.6	40.4	39.3	92.08	-374.2	-1,212.6	481.2	402.3	78.87	6.101	
8,100.0	6,757.5	8,073.6	6,775.7	42.9	41.8	92.05	-374.2	-1,312.6	481.2	397.2	84.03	5.726	
8,200.0	6,756.9	8,173.6	6,774.8	45.5	44.5	92.01	-374.2	-1,412.6	481.2	391.9	89.25	5.391	
8,300.0	6,756.4	8,273.6	6,774.0	48.1	47.1	91.98	-374.2	-1,512.6	481.2	386.7	94.51	5.091	
8,400.0	6,755.8	8,373.6	6,773.1	50.7	49.7	91.94	-374.2	-1,612.6	481.2	381.3	99.82	4.820	
8,500.0	6,755.2	8,473.6	6,772.2	53.4	52.4	91.91	-374.2	-1,712.6	481.1	376.0	105.15	4.576	
8,600.0	6,754.6	8,573.6	6,771.4	56.0	55.1	91.87	-374.2	-1,812.6	481.1	370.6	110.51	4.354	
8,700.0	6,754.1	8,673.6	6,770.5	58.7	57.8	91.84	-374.2	-1,912.6	481.1	365.2	115.90	4.151	
8,800.0	6,753.5	8,773.6	6,769.6	61.4	60.5	91.80	-374.2	-2,012.6	481.1	359.8	121.31	3.966	
8,900.0	6,752.9	8,873.6	6,768.7	64.1	63.2	91.77	-374.2	-2,112.5	481.1	354.4	126.74	3.796	
9,000.0	6,752.3	8,973.6	6,767.9	66.8	65.9	91.73	-374.2	-2,212.5	481.1	348.9	132.18	3.640	
9,100.0	6,751.8	9,073.6	6,767.0	69.5	68.7	91.69	-374.2	-2,312.5	481.1	343.5	137.64	3.495	
9,200.0	6,751.2	9,173.6	6,766.1	72.2	71.4	91.66	-374.2	-2,412.5	481.1	338.0	143.11	3.362	
9,300.0	6,750.6	9,273.6	6,765.2	74.9	74.1	91.62	-374.2	-2,512.5	481.1	332.5	148.59	3.238	
9,400.0	6,750.0	9,373.6	6,764.4	77.7	76.9	91.59	-374.2	-2,612.5	481.1	327.0	154.08	3.122	
9,500.0	6,749.5	9,473.6	6,763.5	80.4	79.6	91.55	-374.2	-2,712.5	481.1	321.5	159.58	3.015	
9,600.0	6,748.9	9,573.6	6,762.6	83.1	82.4	91.52	-374.2	-2,812.5	481.0	316.0	165.09	2.914	
9,700.0	6,748.3	9,673.6	6,761.8	85.9	85.2	91.48	-374.2	-2,912.5	481.0	310.4	170.60	2.820	
9,800.0	6,747.7	9,773.6	6,760.9	88.6	87.9	91.45	-374.2	-3,012.5	481.0	304.9	176.13	2.731	
9,900.0	6,747.2	9,873.6	6,760.0	91.4	90.7	91.41	-374.2	-3,112.5	481.0	299.4	181.66	2.648	
10,000.0	6,746.6	9,973.6	6,759.1	94.2	93.4	91.38	-374.2	-3,212.5	481.0	293.8	187.19	2.570	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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 (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	
10,100.0	6,746.0	10,073.6	6,758.3	96.9	96.2	91.34	-374.2	-3,312.5	481.0	288.3	192.73	2.496	
10,200.0	6,745.4	10,173.6	6,757.4	99.7	99.0	91.31	-374.2	-3,412.5	481.0	282.7	198.27	2.426	
10,300.0	6,744.9	10,273.6	6,756.5	102.4	101.8	91.27	-374.2	-3,512.5	481.0	277.2	203.82	2.360	
10,400.0	6,744.3	10,373.6	6,755.6	105.2	104.5	91.24	-374.2	-3,612.5	481.0	271.6	209.37	2.297	
10,500.0	6,743.7	10,473.6	6,754.8	108.0	107.3	91.20	-374.2	-3,712.5	481.0	266.1	214.93	2.238	
10,600.0	6,743.1	10,573.6	6,753.9	110.7	110.1	91.16	-374.2	-3,812.5	481.0	260.5	220.49	2.181	
10,700.0	6,742.5	10,673.6	6,753.0	113.5	112.9	91.13	-374.2	-3,912.5	481.0	254.9	226.05	2.128	
10,800.0	6,742.0	10,773.6	6,752.2	116.3	115.7	91.09	-374.2	-4,012.5	481.0	249.4	231.61	2.077	
10,900.0	6,741.4	10,873.6	6,751.3	119.1	118.4	91.06	-374.2	-4,112.5	481.0	243.8	237.18	2.028	
11,000.0	6,740.8	10,973.6	6,750.4	121.9	121.2	91.02	-374.2	-4,212.5	481.0	238.2	242.75	1.981	
11,100.0	6,740.2	11,073.6	6,749.5	124.6	124.0	90.99	-374.2	-4,312.5	481.0	232.6	248.32	1.937	
11,200.0	6,739.7	11,173.6	6,748.7	127.4	126.8	90.95	-374.2	-4,412.5	480.9	227.1	253.90	1.894	
11,300.0	6,739.1	11,273.6	6,747.8	130.2	129.6	90.92	-374.2	-4,512.4	480.9	221.5	259.47	1.854	
11,400.0	6,738.5	11,373.6	6,746.9	133.0	132.4	90.88	-374.2	-4,612.4	480.9	215.9	265.05	1.815	
11,500.0	6,737.9	11,473.6	6,746.0	135.8	135.2	90.85	-374.2	-4,712.4	480.9	210.3	270.63	1.777	
11,600.0	6,737.4	11,573.6	6,745.2	138.5	138.0	90.81	-374.2	-4,812.4	480.9	204.7	276.21	1.741	
11,700.0	6,736.8	11,673.6	6,744.3	141.3	140.7	90.78	-374.2	-4,912.4	480.9	199.1	281.80	1.707	
11,800.0	6,736.2	11,773.6	6,743.4	144.1	143.5	90.74	-374.2	-5,012.4	480.9	193.5	287.38	1.673	
11,900.0	6,735.6	11,873.6	6,742.6	146.9	146.3	90.71	-374.2	-5,112.4	480.9	188.0	292.97	1.642	
12,000.0	6,735.1	11,973.6	6,741.7	149.7	149.1	90.67	-374.2	-5,212.4	480.9	182.4	298.55	1.611	
12,100.0	6,734.5	12,073.6	6,740.8	152.5	151.9	90.63	-374.2	-5,312.4	480.9	176.8	304.14	1.581	
12,200.0	6,733.9	12,173.6	6,739.9	155.3	154.7	90.60	-374.2	-5,412.4	480.9	171.2	309.73	1.553	
12,300.0	6,733.3	12,273.6	6,739.1	158.1	157.5	90.56	-374.2	-5,512.4	480.9	165.6	315.32	1.525	
12,400.0	6,732.8	12,373.6	6,738.2	160.9	160.3	90.53	-374.2	-5,612.4	480.9	160.0	320.91	1.499 Level 3	
12,500.0	6,732.2	12,473.6	6,737.3	163.7	163.1	90.49	-374.2	-5,712.4	480.9	154.4	326.51	1.473 Level 3	
12,600.0	6,731.6	12,573.6	6,736.4	166.4	165.9	90.46	-374.2	-5,812.4	480.9	148.8	332.10	1.448 Level 3	
12,700.0	6,731.0	12,673.6	6,735.6	169.2	168.7	90.42	-374.2	-5,912.4	480.9	143.2	337.69	1.424 Level 3	
12,800.0	6,730.5	12,773.6	6,734.7	172.0	171.5	90.39	-374.2	-6,012.4	480.9	137.6	343.29	1.401 Level 3	
12,900.0	6,729.9	12,873.6	6,733.8	174.8	174.3	90.35	-374.2	-6,112.4	480.9	132.0	348.89	1.378 Level 3	
13,000.0	6,729.3	12,973.6	6,733.0	177.6	177.1	90.32	-374.2	-6,212.4	480.9	126.4	354.48	1.357 Level 3	
13,100.0	6,728.7	13,073.6	6,732.1	180.4	179.9	90.28	-374.2	-6,312.4	480.9	120.8	360.08	1.335 Level 3	
13,200.0	6,728.1	13,173.6	6,731.2	183.2	182.7	90.25	-374.2	-6,412.4	480.9	115.2	365.68	1.315 Level 3	
13,300.0	6,727.6	13,273.6	6,730.3	186.0	185.5	90.21	-374.2	-6,512.4	480.9	109.6	371.28	1.295 Level 3	
13,400.0	6,727.0	13,373.6	6,729.5	188.8	188.3	90.18	-374.2	-6,612.4	480.9	104.0	376.88	1.276 Level 3	
13,500.0	6,726.4	13,473.6	6,728.6	191.6	191.1	90.14	-374.2	-6,712.4	480.9	98.4	382.47	1.257 Level 3	
13,600.0	6,725.8	13,573.6	6,727.7	194.4	193.9	90.10	-374.2	-6,812.3	480.9	92.8	388.07	1.239 Level 2	
13,700.0	6,725.3	13,673.6	6,726.8	197.2	196.7	90.07	-374.2	-6,912.3	480.9	87.2	393.67	1.222 Level 2	
13,800.0	6,724.7	13,773.6	6,726.0	200.0	199.5	90.03	-374.2	-7,012.3	480.9	81.6	399.28	1.204 Level 2	
13,895.2	6,724.1	13,868.8	6,725.1	202.7	201.5	90.00	-374.2	-7,107.5	480.9	77.0	403.92	1.191 Level 2	
13,900.0	6,724.1	13,873.6	6,725.1	202.8	201.6	90.00	-374.2	-7,112.3	480.9	76.7	404.14	1.190 Level 2	
13,903.0	6,724.1	13,876.6	6,725.1	202.9	201.6	90.00	-374.2	-7,115.3	480.9	76.6	404.28	1.189 Level 2	
13,920.2	6,724.0	13,885.3	6,725.0	203.4	201.8	89.99	-374.2	-7,124.0	481.0	76.0	404.92	1.188 Level 2, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-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	1.0	1.0	0.0	0.0	-41.82	-41.82	21.9	-19.6	29.3	29.3	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-41.82	-41.82	21.9	-19.6	29.3	29.1	0.23	129.262	
200.0	200.0	201.0	201.0	0.3	0.3	-41.82	-41.82	21.9	-19.6	29.3	28.7	0.68	43.374 CC	
300.0	300.0	301.0	301.0	0.5	0.6	156.65	156.65	21.9	-19.6	30.1	29.0	1.10	27.302	
400.0	400.0	401.0	401.0	0.7	0.8	158.47	158.47	21.9	-19.6	32.6	31.0	1.53	21.298	
500.0	499.9	501.5	501.5	1.0	1.0	160.70	160.70	21.1	-19.2	35.8	33.8	1.94	18.431	
600.0	599.7	602.1	602.0	1.2	1.2	162.91	162.91	18.7	-18.0	39.0	36.6	2.35	16.602	
700.0	699.4	702.7	702.6	1.4	1.4	165.11	165.11	14.7	-16.1	42.2	39.4	2.77	15.219	
800.0	798.9	803.4	803.1	1.7	1.6	167.30	167.30	9.1	-13.4	45.4	42.2	3.20	14.155	
900.0	898.3	904.2	903.5	2.0	1.8	169.49	169.49	1.9	-9.9	48.6	44.9	3.65	13.317	
1,000.0	997.4	1,005.0	1,003.9	2.3	2.1	171.68	171.68	-6.9	-5.7	51.8	47.7	4.10	12.647	
1,100.0	1,096.3	1,105.9	1,104.1	2.7	2.4	173.87	173.87	-17.2	-0.7	55.1	50.5	4.55	12.099	
1,200.0	1,194.9	1,206.7	1,204.0	3.0	2.7	176.04	176.04	-29.2	5.1	58.4	53.4	5.02	11.646	
1,300.0	1,293.3	1,306.6	1,303.0	3.4	3.0	178.09	178.09	-41.7	11.2	62.7	57.2	5.49	11.415	
1,400.0	1,391.6	1,406.5	1,401.9	3.8	3.3	179.87	179.87	-54.2	17.2	67.3	61.3	5.97	11.260	
1,500.0	1,489.9	1,506.3	1,500.8	4.2	3.7	-178.57	-178.57	-66.7	23.3	71.9	65.5	6.47	11.126	
1,600.0	1,588.2	1,606.2	1,599.7	4.6	4.0	-177.20	-177.20	-79.2	29.4	76.7	69.7	6.96	11.009	
1,700.0	1,686.5	1,706.1	1,698.6	5.0	4.3	-176.00	-176.00	-91.8	35.4	81.4	73.9	7.47	10.905	
1,800.0	1,784.8	1,806.0	1,797.5	5.4	4.7	-174.92	-174.92	-104.3	41.5	86.2	78.2	7.97	10.811	
1,900.0	1,883.1	1,905.8	1,896.4	5.8	5.0	-173.96	-173.96	-116.8	47.5	91.0	82.5	8.49	10.725	
2,000.0	1,981.4	2,005.7	1,995.3	6.2	5.3	-173.10	-173.10	-129.3	53.6	95.8	86.8	9.00	10.647	
2,100.0	2,079.7	2,105.6	2,094.2	6.7	5.7	-172.32	-172.32	-141.8	59.6	100.7	91.2	9.52	10.576	
2,200.0	2,178.0	2,205.5	2,193.1	7.1	6.0	-171.61	-171.61	-154.3	65.7	105.6	95.5	10.04	10.510	
2,300.0	2,276.3	2,305.3	2,292.0	7.5	6.4	-170.97	-170.97	-166.9	71.8	110.5	99.9	10.57	10.449	
2,400.0	2,374.5	2,405.2	2,390.9	7.9	6.7	-170.38	-170.38	-179.4	77.8	115.4	104.3	11.10	10.393	
2,500.0	2,472.8	2,505.1	2,489.8	8.3	7.1	-169.83	-169.83	-191.9	83.9	120.3	108.6	11.63	10.340	
2,600.0	2,571.1	2,604.9	2,588.7	8.7	7.4	-169.33	-169.33	-204.4	89.9	125.2	113.0	12.16	10.291	
2,700.0	2,669.4	2,704.8	2,687.6	9.2	7.8	-168.87	-168.87	-216.9	96.0	130.1	117.4	12.70	10.246	
2,800.0	2,767.7	2,804.7	2,786.5	9.6	8.1	-168.44	-168.44	-229.4	102.0	135.1	121.8	13.24	10.203	
2,900.0	2,866.0	2,904.6	2,885.4	10.0	8.5	-168.04	-168.04	-242.0	108.1	140.0	126.2	13.78	10.163	
3,000.0	2,964.3	3,004.4	2,984.3	10.4	8.8	-167.67	-167.67	-254.5	114.2	145.0	130.6	14.32	10.125	
3,100.0	3,062.6	3,104.3	3,083.2	10.8	9.2	-167.33	-167.33	-267.0	120.2	149.9	135.1	14.86	10.089	
3,200.0	3,160.9	3,204.2	3,182.1	11.3	9.5	-167.00	-167.00	-279.5	126.3	154.9	139.5	15.40	10.055	
3,300.0	3,259.2	3,304.1	3,281.0	11.7	9.9	-166.70	-166.70	-292.0	132.3	159.8	143.9	15.95	10.024	
3,400.0	3,357.5	3,403.9	3,379.9	12.1	10.2	-166.41	-166.41	-304.6	138.4	164.8	148.3	16.49	9.993	
3,500.0	3,455.8	3,503.8	3,478.8	12.5	10.6	-166.14	-166.14	-317.1	144.4	169.8	152.7	17.04	9.965	
3,600.0	3,554.1	3,603.7	3,577.7	12.9	10.9	-165.89	-165.89	-329.6	150.5	174.8	157.2	17.59	9.938	
3,700.0	3,652.4	3,703.5	3,676.6	13.4	11.3	-165.65	-165.65	-342.1	156.6	179.7	161.6	18.13	9.912	
3,800.0	3,750.7	3,803.4	3,775.5	13.8	11.6	-165.42	-165.42	-354.6	162.6	184.7	166.0	18.68	9.888	
3,900.0	3,849.0	3,903.3	3,874.4	14.2	12.0	-165.21	-165.21	-367.1	168.7	189.7	170.5	19.23	9.864	
4,000.0	3,947.3	4,003.2	3,973.3	14.6	12.3	-165.00	-165.00	-379.7	174.7	194.7	174.9	19.78	9.842	
4,100.0	4,045.6	4,103.0	4,072.2	15.0	12.7	-164.81	-164.81	-392.2	180.8	199.7	179.4	20.33	9.821	
4,200.0	4,143.9	4,202.9	4,171.1	15.5	13.0	-164.62	-164.62	-404.7	186.8	204.7	183.8	20.88	9.801	
4,300.0	4,242.2	4,302.8	4,270.0	15.9	13.4	-164.45	-164.45	-417.2	192.9	209.7	188.2	21.44	9.782	
4,400.0	4,340.5	4,402.7	4,368.9	16.3	13.7	-164.28	-164.28	-429.7	199.0	214.7	192.7	21.99	9.763	
4,500.0	4,438.8	4,502.5	4,467.8	16.7	14.1	-164.12	-164.12	-442.2	205.0	219.7	197.1	22.54	9.745	
4,600.0	4,537.1	4,602.4	4,566.7	17.1	14.4	-163.97	-163.97	-454.8	211.1	224.7	201.6	23.10	9.728	
4,700.0	4,635.4	4,702.3	4,665.6	17.6	14.8	-163.82	-163.82	-467.3	217.1	229.7	206.0	23.65	9.712	
4,800.0	4,733.7	4,802.2	4,764.5	18.0	15.1	-163.68	-163.68	-479.8	223.2	234.7	210.5	24.20	9.697	
4,900.0	4,832.0	4,902.0	4,863.4	18.4	15.5	-163.55	-163.55	-492.3	229.2	239.7	214.9	24.76	9.681	
5,000.0	4,930.3	5,001.9	4,962.3	18.8	15.8	-163.42	-163.42	-504.8	235.3	244.7	219.4	25.31	9.667	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-304 - Wellbore #1 - Plan #2 (4-30-15)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,100.0	5,028.6	5,101.8	5,061.2	19.2	16.2	-163.30	-517.4	241.4	249.7	223.8	25.87	9.653	
5,200.0	5,126.9	5,201.6	5,160.1	19.7	16.5	-163.18	-529.9	247.4	254.7	228.3	26.42	9.640	
5,300.0	5,225.2	5,301.5	5,259.0	20.1	16.9	-163.07	-542.4	253.5	259.7	232.8	26.98	9.627	
5,400.0	5,323.5	5,401.4	5,357.9	20.5	17.2	-162.94	-554.9	259.5	264.3	236.8	27.54	9.599	
5,500.0	5,422.4	5,497.0	5,452.6	20.7	17.5	-162.68	-566.5	265.1	266.4	238.4	28.03	9.505	
5,600.0	5,521.7	5,589.2	5,544.3	20.9	17.7	-162.48	-575.2	269.4	267.9	239.4	28.42	9.424	
5,700.0	5,621.4	5,681.4	5,636.3	21.1	17.9	-162.33	-581.3	272.3	268.9	240.1	28.76	9.349	
5,800.0	5,721.3	5,773.6	5,728.4	21.3	18.0	-162.25	-584.7	273.9	269.4	240.4	29.03	9.281	
5,900.0	5,821.3	5,867.6	5,822.3	21.4	18.2	-0.04	-585.5	274.3	269.6	231.3	38.31	7.038	
6,000.0	5,921.3	5,967.6	5,922.3	21.5	18.3	-0.04	-585.5	274.3	269.6	231.0	38.54	6.994	
6,066.3	5,987.6	6,033.9	5,988.6	21.6	18.4	90.11	-585.5	274.3	269.6	239.7	29.85	9.033	
6,100.0	6,021.3	6,067.6	6,022.3	21.6	18.4	90.04	-585.5	274.3	269.6	239.6	29.94	9.004	
6,200.0	6,120.8	6,167.7	6,122.4	21.7	18.5	91.52	-585.5	271.8	269.7	239.3	30.43	8.862	
6,300.0	6,218.2	6,268.8	6,222.3	21.7	18.6	93.17	-585.5	256.8	270.0	239.2	30.81	8.763	
6,400.0	6,311.8	6,371.1	6,320.5	21.7	18.6	94.77	-585.5	228.4	270.5	239.5	31.05	8.713	
6,500.0	6,400.0	6,474.4	6,414.9	21.7	18.6	96.28	-585.5	186.7	271.2	240.0	31.19	8.696	
6,600.0	6,481.4	6,578.7	6,503.6	21.7	18.6	97.69	-585.5	132.0	272.0	240.7	31.34	8.682	
6,700.0	6,554.5	6,683.9	6,584.8	21.7	18.6	98.96	-585.5	65.2	272.9	241.3	31.65	8.623	
6,800.0	6,618.1	6,790.1	6,656.6	21.7	18.5	100.07	-585.5	-12.9	273.8	241.5	32.35	8.465	
6,900.0	6,671.1	6,897.0	6,717.2	21.8	18.5	101.00	-585.5	-100.9	274.6	241.0	33.63	8.166	
7,000.0	6,712.6	7,004.6	6,765.3	21.9	18.6	101.72	-585.5	-197.0	275.3	239.7	35.66	7.721	
7,100.0	6,741.8	7,112.7	6,799.5	22.2	19.4	102.24	-585.5	-299.5	275.9	237.4	38.47	7.171	
7,200.0	6,758.4	7,221.1	6,818.9	23.1	21.2	102.53	-585.5	-406.0	276.2	234.2	41.98	6.578	
7,300.0	6,762.1	7,328.0	6,823.4	24.6	23.2	102.60	-585.5	-512.8	276.2	230.3	45.98	6.009	
7,400.0	6,761.6	7,428.0	6,822.8	26.4	25.3	102.60	-585.5	-612.8	276.2	226.2	50.04	5.521	
7,500.0	6,761.0	7,528.0	6,822.2	28.5	27.5	102.59	-585.5	-712.8	276.2	221.9	54.35	5.083	
7,600.0	6,760.4	7,628.0	6,821.6	30.7	29.8	102.58	-585.5	-812.8	276.2	217.4	58.86	4.693	
7,700.0	6,759.8	7,728.0	6,821.0	33.1	32.2	102.57	-585.5	-912.8	276.2	212.7	63.52	4.348	
7,800.0	6,759.2	7,828.0	6,820.3	35.4	34.7	102.57	-585.5	-1,012.8	276.2	207.9	68.31	4.044	
7,900.0	6,758.7	7,928.0	6,819.7	37.9	37.2	102.56	-585.5	-1,112.8	276.2	203.0	73.19	3.773	
8,000.0	6,758.1	8,028.0	6,819.1	40.4	39.7	102.55	-585.5	-1,212.8	276.2	198.0	78.16	3.533	
8,100.0	6,757.5	8,128.0	6,818.5	42.9	42.3	102.55	-585.5	-1,312.8	276.2	193.0	83.20	3.320	
8,200.0	6,756.9	8,228.0	6,817.9	45.5	44.9	102.54	-585.5	-1,412.8	276.2	187.9	88.29	3.128	
8,300.0	6,756.4	8,328.0	6,817.3	48.1	47.5	102.53	-585.5	-1,512.8	276.2	182.7	93.42	2.956	
8,400.0	6,755.8	8,428.0	6,816.7	50.7	50.1	102.53	-585.5	-1,612.8	276.2	177.6	98.60	2.801	
8,500.0	6,755.2	8,528.0	6,816.1	53.4	52.8	102.52	-585.5	-1,712.8	276.2	172.3	103.81	2.660	
8,600.0	6,754.6	8,628.0	6,815.5	56.0	55.5	102.51	-585.5	-1,812.8	276.1	167.1	109.04	2.532	
8,700.0	6,754.1	8,728.0	6,814.9	58.7	58.2	102.50	-585.5	-1,912.8	276.1	161.8	114.30	2.416	
8,800.0	6,753.5	8,828.0	6,814.2	61.4	60.9	102.50	-585.5	-2,012.8	276.1	156.5	119.59	2.309	
8,900.0	6,752.9	8,928.0	6,813.6	64.1	63.6	102.49	-585.5	-2,112.8	276.1	151.2	124.89	2.211	
9,000.0	6,752.3	9,028.0	6,813.0	66.8	66.3	102.48	-585.5	-2,212.8	276.1	145.9	130.21	2.121	
9,100.0	6,751.8	9,128.0	6,812.4	69.5	69.0	102.48	-585.5	-2,312.8	276.1	140.6	135.54	2.037	
9,200.0	6,751.2	9,228.0	6,811.8	72.2	71.7	102.47	-585.5	-2,412.8	276.1	135.2	140.88	1.960	
9,300.0	6,750.6	9,328.0	6,811.2	74.9	74.5	102.46	-585.5	-2,512.8	276.1	129.9	146.24	1.888	
9,400.0	6,750.0	9,428.0	6,810.6	77.7	77.2	102.45	-585.5	-2,612.8	276.1	124.5	151.61	1.821	
9,500.0	6,749.5	9,528.0	6,810.0	80.4	80.0	102.45	-585.5	-2,712.8	276.1	119.1	156.98	1.759	
9,600.0	6,748.9	9,628.0	6,809.4	83.1	82.7	102.44	-585.5	-2,812.8	276.1	113.7	162.37	1.700	
9,700.0	6,748.3	9,728.0	6,808.7	85.9	85.5	102.43	-585.5	-2,912.8	276.1	108.3	167.76	1.646	
9,800.0	6,747.7	9,828.0	6,808.1	88.6	88.2	102.43	-585.5	-3,012.8	276.1	102.9	173.16	1.594	
9,900.0	6,747.2	9,928.0	6,807.5	91.4	91.0	102.42	-585.5	-3,112.8	276.0	97.5	178.57	1.546	
10,000.0	6,746.6	10,028.0	6,806.9	94.2	93.7	102.41	-585.5	-3,212.8	276.0	92.1	183.98	1.500	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,746.0	10,128.0	6,806.3	96.9	96.5	102.41		-585.5	-3,312.8	276.0	86.6	189.40	1.457	Level 3
10,200.0	6,745.4	10,228.0	6,805.7	99.7	99.3	102.40		-585.5	-3,412.8	276.0	81.2	194.82	1.417	Level 3
10,300.0	6,744.9	10,328.0	6,805.1	102.4	102.0	102.39		-585.5	-3,512.8	276.0	75.8	200.24	1.378	Level 3
10,400.0	6,744.3	10,428.0	6,804.5	105.2	104.8	102.38		-585.5	-3,612.8	276.0	70.3	205.68	1.342	Level 3
10,500.0	6,743.7	10,528.0	6,803.9	108.0	107.6	102.38		-585.5	-3,712.8	276.0	64.9	211.11	1.307	Level 3
10,600.0	6,743.1	10,628.0	6,803.2	110.7	110.4	102.37		-585.5	-3,812.8	276.0	59.4	216.55	1.275	Level 3
10,700.0	6,742.5	10,728.0	6,802.6	113.5	113.1	102.36		-585.5	-3,912.8	276.0	54.0	221.99	1.243	Level 2
10,800.0	6,742.0	10,828.0	6,802.0	116.3	115.9	102.36		-585.5	-4,012.7	276.0	48.5	227.43	1.213	Level 2
10,900.0	6,741.4	10,928.0	6,801.4	119.1	118.7	102.35		-585.5	-4,112.7	276.0	43.1	232.88	1.185	Level 2
11,000.0	6,740.8	11,028.0	6,800.8	121.9	121.5	102.34		-585.5	-4,212.7	276.0	37.6	238.33	1.158	Level 2
11,100.0	6,740.2	11,128.0	6,800.2	124.6	124.3	102.33		-585.5	-4,312.7	276.0	32.2	243.79	1.132	Level 2
11,200.0	6,739.7	11,228.0	6,799.6	127.4	127.1	102.33		-585.5	-4,412.7	275.9	26.7	249.24	1.107	Level 2
11,300.0	6,739.1	11,328.0	6,799.0	130.2	129.8	102.32		-585.5	-4,512.7	275.9	21.2	254.70	1.083	Level 2
11,400.0	6,738.5	11,428.0	6,798.4	133.0	132.6	102.31		-585.5	-4,612.7	275.9	15.8	260.16	1.061	Level 2
11,500.0	6,737.9	11,528.0	6,797.7	135.8	135.4	102.31		-585.5	-4,712.7	275.9	10.3	265.62	1.039	Level 2
11,600.0	6,737.4	11,628.0	6,797.1	138.5	138.2	102.30		-585.5	-4,812.7	275.9	4.8	271.08	1.018	Level 2
11,700.0	6,736.8	11,728.0	6,796.5	141.3	141.0	102.29		-585.5	-4,912.7	275.9	-0.6	276.55	0.998	Level 1
11,800.0	6,736.2	11,828.0	6,795.9	144.1	143.8	102.28		-585.5	-5,012.7	275.9	-6.1	282.02	0.978	Level 1
11,900.0	6,735.6	11,928.0	6,795.3	146.9	146.6	102.28		-585.5	-5,112.7	275.9	-11.6	287.49	0.960	Level 1
12,000.0	6,735.1	12,028.0	6,794.7	149.7	149.4	102.27		-585.5	-5,212.7	275.9	-17.1	292.96	0.942	Level 1
12,100.0	6,734.5	12,128.0	6,794.1	152.5	152.2	102.26		-585.5	-5,312.7	275.9	-22.6	298.43	0.924	Level 1
12,200.0	6,733.9	12,228.0	6,793.5	155.3	155.0	102.26		-585.5	-5,412.7	275.9	-28.0	303.91	0.908	Level 1
12,300.0	6,733.3	12,328.0	6,792.9	158.1	157.7	102.25		-585.5	-5,512.7	275.9	-33.5	309.38	0.892	Level 1
12,400.0	6,732.8	12,428.0	6,792.2	160.9	160.5	102.24		-585.5	-5,612.7	275.9	-39.0	314.86	0.876	Level 1
12,500.0	6,732.2	12,528.0	6,791.6	163.7	163.3	102.24		-585.5	-5,712.7	275.9	-44.5	320.34	0.861	Level 1
12,600.0	6,731.6	12,628.0	6,791.0	166.4	166.1	102.23		-585.5	-5,812.7	275.8	-50.0	325.81	0.847	Level 1
12,700.0	6,731.0	12,728.0	6,790.4	169.2	168.9	102.22		-585.5	-5,912.7	275.8	-55.5	331.29	0.833	Level 1
12,800.0	6,730.5	12,828.0	6,789.8	172.0	171.7	102.21		-585.5	-6,012.7	275.8	-60.9	336.78	0.819	Level 1
12,900.0	6,729.9	12,928.0	6,789.2	174.8	174.5	102.21		-585.5	-6,112.7	275.8	-66.4	342.26	0.806	Level 1
13,000.0	6,729.3	13,028.0	6,788.6	177.6	177.3	102.20		-585.5	-6,212.7	275.8	-71.9	347.74	0.793	Level 1
13,100.0	6,728.7	13,128.0	6,788.0	180.4	180.1	102.19		-585.5	-6,312.7	275.8	-77.4	353.23	0.781	Level 1
13,200.0	6,728.1	13,228.0	6,787.4	183.2	182.9	102.19		-585.5	-6,412.7	275.8	-82.9	358.71	0.769	Level 1
13,300.0	6,727.6	13,328.0	6,786.8	186.0	185.7	102.18		-585.5	-6,512.7	275.8	-88.4	364.20	0.757	Level 1
13,400.0	6,727.0	13,428.0	6,786.1	188.8	188.5	102.17		-585.5	-6,612.7	275.8	-93.9	369.69	0.746	Level 1
13,500.0	6,726.4	13,528.0	6,785.5	191.6	191.3	102.16		-585.5	-6,712.7	275.8	-99.4	375.18	0.735	Level 1
13,600.0	6,725.8	13,628.0	6,784.9	194.4	194.1	102.16		-585.5	-6,812.7	275.8	-104.9	380.66	0.724	Level 1
13,700.0	6,725.3	13,728.0	6,784.3	197.2	196.9	102.15		-585.5	-6,912.7	275.8	-110.4	386.15	0.714	Level 1
13,800.0	6,724.7	13,828.0	6,783.7	200.0	199.7	102.14		-585.5	-7,012.7	275.8	-115.9	391.65	0.704	Level 1
13,900.0	6,724.1	13,928.0	6,783.1	202.8	202.5	102.14		-585.5	-7,112.7	275.7	-121.4	397.14	0.694	Level 1
13,914.1	6,724.0	13,942.1	6,783.0	203.2	202.9	102.14		-585.5	-7,126.8	275.7	-122.2	397.91	0.693	Level 1
13,920.2	6,724.0	13,942.2	6,783.0	203.4	202.9	102.14		-585.5	-7,126.9	275.8	-122.3	398.08	0.693	Level 1, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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-MWDD													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	
0.0	0.0	1.0	1.0	0.0	0.0	-43.08	65.6	-61.3	89.8	89.8	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	-43.08	65.6	-61.3	89.8	89.6	0.23	395.525		
200.0	200.0	201.0	201.0	0.3	0.3	-43.08	65.6	-61.3	89.8	89.1	0.68	132.718 CC, ES		
300.0	300.0	301.0	301.0	0.5	0.6	154.95	65.6	-61.3	90.6	89.5	1.10	82.045		
400.0	400.0	401.0	401.0	0.7	0.8	155.63	65.6	-61.3	93.0	91.4	1.53	60.795		
500.0	499.9	500.9	500.9	1.0	1.0	156.68	65.6	-61.3	96.9	95.0	1.97	49.271		
600.0	599.7	600.7	600.7	1.2	1.2	158.00	65.6	-61.3	102.6	100.2	2.41	42.504		
700.0	699.4	700.4	700.4	1.4	1.5	159.51	65.6	-61.3	109.9	107.0	2.86	38.373		
800.0	798.9	799.9	799.9	1.7	1.7	161.10	65.6	-61.3	118.9	115.6	3.32	35.849		
900.0	898.3	899.3	899.3	2.0	1.9	162.68	65.6	-61.3	129.7	125.9	3.77	34.374		
1,000.0	997.4	998.4	998.4	2.3	2.1	164.21	65.6	-61.3	142.2	138.0	4.23	33.619		
1,100.0	1,096.3	1,097.3	1,097.3	2.7	2.4	165.65	65.6	-61.3	156.5	151.8	4.69	33.379		
1,200.0	1,194.9	1,195.9	1,195.9	3.0	2.6	166.97	65.6	-61.3	172.6	167.4	5.15	33.519		
1,300.0	1,293.3	1,294.3	1,294.3	3.4	2.8	168.18	65.6	-61.3	190.2	184.6	5.61	33.906		
1,400.0	1,391.6	1,392.6	1,392.6	3.8	3.0	169.21	65.6	-61.3	208.3	202.2	6.08	34.268		
1,500.0	1,489.9	1,490.9	1,490.9	4.2	3.2	170.08	65.6	-61.3	226.3	219.8	6.55	34.580		
1,600.0	1,588.2	1,589.2	1,589.2	4.6	3.5	170.82	65.6	-61.3	244.5	237.5	7.01	34.852		
1,700.0	1,686.5	1,691.2	1,691.2	5.0	3.7	171.56	65.2	-60.7	262.0	254.6	7.47	35.075		
1,800.0	1,784.8	1,794.1	1,794.1	5.4	3.9	172.38	63.6	-58.7	278.1	270.1	7.91	35.169		
1,900.0	1,883.1	1,897.5	1,897.4	5.8	4.1	173.29	61.0	-55.1	292.6	284.2	8.35	35.054		
2,000.0	1,981.4	2,001.3	2,000.9	6.2	4.3	174.29	57.2	-50.1	305.6	296.8	8.79	34.756		
2,100.0	2,079.7	2,105.3	2,104.7	6.7	4.5	175.38	52.3	-43.5	317.1	307.9	9.25	34.301		
2,200.0	2,178.0	2,209.6	2,208.5	7.1	4.7	176.56	46.2	-35.3	327.3	317.6	9.71	33.713		
2,300.0	2,276.3	2,313.8	2,312.0	7.5	4.9	177.85	39.1	-25.7	336.0	325.8	10.18	33.012		
2,400.0	2,374.5	2,413.2	2,410.6	7.9	5.2	179.09	31.7	-15.9	344.2	333.5	10.65	32.320		
2,500.0	2,472.8	2,512.6	2,509.2	8.3	5.4	-179.72	24.4	-6.0	352.5	341.4	11.13	31.676		
2,600.0	2,571.1	2,612.0	2,607.9	8.7	5.7	-178.59	17.1	3.8	361.0	349.4	11.62	31.076		
2,700.0	2,669.4	2,711.4	2,706.5	9.2	6.0	-177.52	9.7	13.6	369.6	357.5	12.11	30.514		
2,800.0	2,767.7	2,810.8	2,805.1	9.6	6.2	-176.49	2.4	23.5	378.3	365.7	12.62	29.987		
2,900.0	2,866.0	2,910.2	2,903.8	10.0	6.5	-175.51	-4.9	33.3	387.2	374.1	13.13	29.493		
3,000.0	2,964.3	3,009.6	3,002.4	10.4	6.8	-174.57	-12.3	43.2	396.2	382.5	13.65	29.028		
3,100.0	3,062.6	3,109.0	3,101.0	10.8	7.1	-173.67	-19.6	53.0	405.2	391.1	14.17	28.591		
3,200.0	3,160.9	3,208.3	3,199.7	11.3	7.4	-172.82	-26.9	62.8	414.4	399.7	14.71	28.179		
3,300.0	3,259.2	3,307.7	3,298.3	11.7	7.7	-172.00	-34.3	72.7	423.6	408.4	15.25	27.789		
3,400.0	3,357.5	3,407.1	3,396.9	12.1	8.0	-171.21	-41.6	82.5	433.0	417.2	15.79	27.421		
3,500.0	3,455.8	3,506.5	3,495.6	12.5	8.3	-170.46	-48.9	92.3	442.4	426.0	16.34	27.074		
3,600.0	3,554.1	3,605.9	3,594.2	12.9	8.6	-169.74	-56.3	102.2	451.9	435.0	16.90	26.744		
3,700.0	3,652.4	3,705.3	3,692.8	13.4	8.9	-169.05	-63.6	112.0	461.4	444.0	17.46	26.432		
3,800.0	3,750.7	3,804.7	3,791.4	13.8	9.2	-168.39	-70.9	121.9	471.0	453.0	18.02	26.136		
3,900.0	3,849.0	3,904.1	3,890.1	14.2	9.5	-167.76	-78.3	131.7	480.7	462.1	18.59	25.855		
4,000.0	3,947.3	4,003.5	3,988.7	14.6	9.8	-167.14	-85.6	141.5	490.4	471.3	19.17	25.588		
4,100.0	4,045.6	4,102.9	4,087.3	15.0	10.1	-166.56	-92.9	151.4	500.2	480.5	19.75	25.334		
4,200.0	4,143.9	4,202.3	4,186.0	15.5	10.4	-165.99	-100.3	161.2	510.1	489.7	20.33	25.092		
4,300.0	4,242.2	4,301.7	4,284.6	15.9	10.7	-165.45	-107.6	171.1	519.9	499.0	20.91	24.862		
4,400.0	4,340.5	4,401.1	4,383.2	16.3	11.0	-164.93	-114.9	180.9	529.9	508.4	21.50	24.643		
4,500.0	4,438.8	4,500.4	4,481.9	16.7	11.3	-164.42	-122.3	190.7	539.8	517.7	22.09	24.433		
4,600.0	4,537.1	4,599.8	4,580.5	17.1	11.6	-163.94	-129.6	200.6	549.8	527.1	22.69	24.233		
4,700.0	4,635.4	4,699.2	4,679.1	17.6	12.0	-163.47	-136.9	210.4	559.9	536.6	23.29	24.043		
4,800.0	4,733.7	4,798.6	4,777.8	18.0	12.3	-163.02	-144.3	220.2	570.0	546.1	23.89	23.860		
4,900.0	4,832.0	4,898.0	4,876.4	18.4	12.6	-162.58	-151.6	230.1	580.1	555.6	24.49	23.686		
5,000.0	4,930.3	4,997.4	4,975.0	18.8	12.9	-162.16	-158.9	239.9	590.2	565.1	25.10	23.519		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	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			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	5,028.6	5,096.8	5,073.7	19.2	13.2	-161.76	-166.3	249.8	600.4	574.7	25.70	23.359		
5,200.0	5,126.9	5,193.3	5,169.4	19.7	13.5	-161.38	-173.3	259.2	610.7	584.4	26.30	23.223		
5,300.0	5,225.2	5,281.4	5,257.1	20.1	13.7	-161.20	-178.6	266.3	622.3	595.5	26.79	23.224		
5,400.0	5,323.5	5,369.3	5,344.7	20.5	13.9	-161.25	-182.2	271.2	635.2	608.0	27.26	23.306		
5,500.0	5,422.4	5,457.0	5,432.4	20.7	14.1	-161.46	-184.3	273.9	647.1	619.5	27.64	23.413		
5,600.0	5,521.7	5,547.3	5,522.7	20.9	14.2	-161.75	-184.8	274.6	657.4	629.5	27.97	23.506		
5,700.0	5,621.4	5,647.0	5,622.4	21.1	14.4	-162.02	-184.8	274.6	665.0	636.7	28.28	23.514		
5,800.0	5,721.3	5,746.9	5,722.3	21.3	14.6	-162.16	-184.8	274.6	669.3	640.7	28.57	23.424		
5,900.0	5,821.3	5,846.9	5,822.3	21.4	14.7	0.01	-184.8	274.6	670.3	636.0	34.30	19.543		
6,000.0	5,921.3	5,946.9	5,922.3	21.5	14.9	0.01	-184.8	274.6	670.3	635.7	34.59	19.379		
6,061.4	5,982.7	6,008.3	5,983.7	21.6	15.0	90.06	-184.8	274.6	670.3	640.9	29.42	22.782		
6,100.0	6,021.3	6,046.9	6,022.3	21.6	15.1	90.04	-184.8	274.6	670.3	640.8	29.55	22.683		
6,200.0	6,120.8	6,146.6	6,122.0	21.7	15.2	90.82	-184.8	274.3	670.4	640.5	29.94	22.393		
6,300.0	6,218.2	6,247.9	6,222.8	21.7	15.4	91.97	-184.8	265.1	670.7	640.5	30.23	22.184		
6,400.0	6,311.8	6,351.1	6,323.3	21.7	15.4	93.09	-184.8	242.2	671.3	640.9	30.40	22.081		
6,500.0	6,400.0	6,456.1	6,421.5	21.7	15.4	94.16	-184.8	205.0	672.1	641.6	30.50	22.037		
6,600.0	6,481.4	6,563.2	6,515.4	21.7	15.4	95.17	-184.8	153.8	673.1	642.5	30.63	21.973		
6,700.0	6,554.5	6,672.1	6,602.6	21.7	15.4	96.09	-184.8	88.7	674.2	643.2	30.97	21.770		
6,800.0	6,618.1	6,782.7	6,680.8	21.7	15.6	96.91	-184.8	10.5	675.3	643.6	31.71	21.295		
6,900.0	6,671.1	6,895.0	6,747.7	21.8	16.0	97.60	-184.8	-79.5	676.3	643.2	33.06	20.454		
7,000.0	6,712.6	7,008.6	6,801.4	21.9	17.0	98.14	-184.8	-179.5	677.2	642.0	35.19	19.243		
7,100.0	6,741.8	7,123.3	6,839.9	22.2	18.6	98.53	-184.8	-287.4	677.8	639.7	38.12	17.783		
7,200.0	6,758.4	7,238.7	6,861.9	23.1	20.5	98.75	-184.8	-400.6	678.2	636.5	41.74	16.248		
7,300.0	6,762.1	7,351.9	6,866.8	24.6	22.7	98.79	-184.8	-513.6	678.3	632.5	45.83	14.799		
7,400.0	6,761.6	7,451.9	6,865.7	26.4	24.8	98.75	-184.8	-613.6	678.2	628.3	49.96	13.576		
7,500.0	6,761.0	7,551.9	6,864.6	28.5	27.0	98.70	-184.8	-713.6	678.1	623.8	54.32	12.483		
7,600.0	6,760.4	7,651.9	6,863.5	30.7	29.3	98.66	-184.8	-813.6	678.0	619.2	58.89	11.513		
7,700.0	6,759.8	7,751.9	6,862.3	33.1	31.7	98.61	-184.8	-913.6	678.0	614.3	63.62	10.656		
7,800.0	6,759.2	7,851.9	6,861.2	35.4	34.2	98.57	-184.8	-1,013.6	677.9	609.4	68.48	9.899		
7,900.0	6,758.7	7,951.9	6,860.1	37.9	36.7	98.52	-184.8	-1,113.6	677.8	604.4	73.44	9.230		
8,000.0	6,758.1	8,051.9	6,859.0	40.4	39.2	98.48	-184.8	-1,213.6	677.7	599.2	78.48	8.636		
8,100.0	6,757.5	8,151.9	6,857.9	42.9	41.8	98.43	-184.8	-1,313.5	677.6	594.1	83.58	8.107		
8,200.0	6,756.9	8,251.9	6,856.8	45.5	44.4	98.39	-184.8	-1,413.5	677.6	588.8	88.75	7.635		
8,300.0	6,756.4	8,351.9	6,855.6	48.1	47.0	98.34	-184.8	-1,513.5	677.5	583.5	93.96	7.210		
8,400.0	6,755.8	8,451.9	6,854.5	50.7	49.7	98.30	-184.8	-1,613.5	677.4	578.2	99.21	6.828		
8,500.0	6,755.2	8,551.9	6,853.4	53.4	52.4	98.25	-184.8	-1,713.5	677.3	572.8	104.50	6.482		
8,600.0	6,754.6	8,651.9	6,852.3	56.0	55.0	98.20	-184.8	-1,813.5	677.3	567.4	109.82	6.167		
8,700.0	6,754.1	8,751.9	6,851.2	58.7	57.7	98.16	-184.8	-1,913.5	677.2	562.0	115.16	5.880		
8,800.0	6,753.5	8,851.9	6,850.1	61.4	60.4	98.11	-184.8	-2,013.5	677.1	556.6	120.52	5.618		
8,900.0	6,752.9	8,951.9	6,848.9	64.1	63.2	98.07	-184.8	-2,113.5	677.0	551.1	125.91	5.377		
9,000.0	6,752.3	9,051.9	6,847.8	66.8	65.9	98.02	-184.8	-2,213.5	676.9	545.6	131.31	5.155		
9,100.0	6,751.8	9,151.9	6,846.7	69.5	68.6	97.98	-184.8	-2,313.5	676.9	540.1	136.72	4.951		
9,200.0	6,751.2	9,251.9	6,845.6	72.2	71.3	97.93	-184.8	-2,413.5	676.8	534.6	142.15	4.761		
9,300.0	6,750.6	9,351.9	6,844.5	74.9	74.1	97.89	-184.8	-2,513.5	676.7	529.1	147.59	4.585		
9,400.0	6,750.0	9,451.9	6,843.4	77.7	76.8	97.84	-184.8	-2,613.4	676.6	523.6	153.05	4.421		
9,500.0	6,749.5	9,551.9	6,842.2	80.4	79.6	97.80	-184.8	-2,713.4	676.6	518.1	158.51	4.268		
9,600.0	6,748.9	9,651.9	6,841.1	83.1	82.3	97.75	-184.8	-2,813.4	676.5	512.5	163.98	4.125		
9,700.0	6,748.3	9,751.9	6,840.0	85.9	85.1	97.71	-184.8	-2,913.4	676.4	507.0	169.46	3.992		
9,800.0	6,747.7	9,851.9	6,838.9	88.6	87.9	97.66	-184.8	-3,013.4	676.4	501.4	174.95	3.866		
9,900.0	6,747.2	9,951.9	6,837.8	91.4	90.6	97.62	-184.8	-3,113.4	676.3	495.8	180.45	3.748		
10,000.0	6,746.6	10,051.9	6,836.7	94.2	93.4	97.57	-184.8	-3,213.4	676.2	490.3	185.95	3.637		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1U Pad Sec.1-T5N-R65W - LDS 1V-314 - Wellbore #1 - Plan #2 (4-30-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,746.0	10,151.9	6,835.5	96.9	96.2	97.52	97.52	-184.8	-3,313.4	676.1	484.7	191.46	3.532	
10,200.0	6,745.4	10,251.9	6,834.4	99.7	98.9	97.48	97.48	-184.8	-3,413.4	676.1	479.1	196.97	3.432	
10,300.0	6,744.9	10,351.9	6,833.3	102.4	101.7	97.43	97.43	-184.8	-3,513.4	676.0	473.5	202.49	3.338	
10,400.0	6,744.3	10,451.9	6,832.2	105.2	104.5	97.39	97.39	-184.8	-3,613.4	675.9	467.9	208.01	3.249	
10,500.0	6,743.7	10,551.9	6,831.1	108.0	107.3	97.34	97.34	-184.8	-3,713.4	675.9	462.3	213.54	3.165	
10,600.0	6,743.1	10,651.9	6,830.0	110.7	110.0	97.30	97.30	-184.8	-3,813.3	675.8	456.7	219.07	3.085	
10,700.0	6,742.5	10,751.9	6,828.8	113.5	112.8	97.25	97.25	-184.8	-3,913.3	675.7	451.1	224.61	3.008	
10,800.0	6,742.0	10,851.9	6,827.7	116.3	115.6	97.21	97.21	-184.8	-4,013.3	675.7	445.5	230.15	2.936	
10,900.0	6,741.4	10,951.9	6,826.6	119.1	118.4	97.16	97.16	-184.8	-4,113.3	675.6	439.9	235.69	2.866	
11,000.0	6,740.8	11,051.9	6,825.5	121.9	121.2	97.11	97.11	-184.8	-4,213.3	675.5	434.3	241.24	2.800	
11,100.0	6,740.2	11,151.9	6,824.4	124.6	124.0	97.07	97.07	-184.8	-4,313.3	675.5	428.7	246.79	2.737	
11,200.0	6,739.7	11,251.9	6,823.2	127.4	126.7	97.02	97.02	-184.8	-4,413.3	675.4	423.0	252.34	2.676	
11,300.0	6,739.1	11,351.9	6,822.1	130.2	129.5	96.98	96.98	-184.8	-4,513.3	675.3	417.4	257.90	2.619	
11,400.0	6,738.5	11,451.9	6,821.0	133.0	132.3	96.93	96.93	-184.8	-4,613.3	675.3	411.8	263.46	2.563	
11,500.0	6,737.9	11,551.9	6,819.9	135.8	135.1	96.89	96.89	-184.8	-4,713.3	675.2	406.2	269.02	2.510	
11,600.0	6,737.4	11,651.9	6,818.8	138.5	137.9	96.84	96.84	-184.8	-4,813.3	675.1	400.5	274.58	2.459	
11,700.0	6,736.8	11,751.9	6,817.7	141.3	140.7	96.80	96.80	-184.8	-4,913.3	675.1	394.9	280.15	2.410	
11,800.0	6,736.2	11,851.9	6,816.5	144.1	143.5	96.75	96.75	-184.8	-5,013.3	675.0	389.3	285.72	2.362	
11,900.0	6,735.6	11,951.9	6,815.4	146.9	146.3	96.70	96.70	-184.8	-5,113.2	674.9	383.6	291.29	2.317	
12,000.0	6,735.1	12,051.9	6,814.3	149.7	149.1	96.66	96.66	-184.8	-5,213.2	674.9	378.0	296.87	2.273	
12,100.0	6,734.5	12,151.9	6,813.2	152.5	151.9	96.61	96.61	-184.8	-5,313.2	674.8	372.4	302.44	2.231	
12,200.0	6,733.9	12,251.9	6,812.1	155.3	154.7	96.57	96.57	-184.8	-5,413.2	674.7	366.7	308.02	2.191	
12,300.0	6,733.3	12,351.9	6,811.0	158.1	157.5	96.52	96.52	-184.8	-5,513.2	674.7	361.1	313.60	2.151	
12,400.0	6,732.8	12,451.9	6,809.8	160.9	160.2	96.48	96.48	-184.8	-5,613.2	674.6	355.4	319.18	2.114	
12,500.0	6,732.2	12,551.9	6,808.7	163.7	163.0	96.43	96.43	-184.8	-5,713.2	674.6	349.8	324.76	2.077	
12,600.0	6,731.6	12,651.8	6,807.6	166.4	165.8	96.39	96.39	-184.8	-5,813.2	674.5	344.2	330.35	2.042	
12,700.0	6,731.0	12,751.8	6,806.5	169.2	168.6	96.34	96.34	-184.8	-5,913.2	674.4	338.5	335.93	2.008	
12,800.0	6,730.5	12,851.8	6,805.4	172.0	171.4	96.29	96.29	-184.8	-6,013.2	674.4	332.9	341.52	1.975	
12,900.0	6,729.9	12,951.8	6,804.3	174.8	174.2	96.25	96.25	-184.8	-6,113.2	674.3	327.2	347.11	1.943	
13,000.0	6,729.3	13,051.8	6,803.1	177.6	177.0	96.20	96.20	-184.8	-6,213.2	674.3	321.6	352.70	1.912	
13,100.0	6,728.7	13,151.8	6,802.0	180.4	179.8	96.16	96.16	-184.8	-6,313.2	674.2	315.9	358.29	1.882	
13,200.0	6,728.1	13,251.8	6,800.9	183.2	182.6	96.11	96.11	-184.8	-6,413.1	674.1	310.3	363.89	1.853	
13,300.0	6,727.6	13,351.8	6,799.8	186.0	185.4	96.07	96.07	-184.8	-6,513.1	674.1	304.6	369.48	1.824	
13,400.0	6,727.0	13,451.8	6,798.7	188.8	188.2	96.02	96.02	-184.8	-6,613.1	674.0	299.0	375.08	1.797	
13,500.0	6,726.4	13,551.8	6,797.6	191.6	191.0	95.97	95.97	-184.8	-6,713.1	674.0	293.3	380.68	1.770	
13,600.0	6,725.8	13,651.8	6,796.4	194.4	193.8	95.93	95.93	-184.8	-6,813.1	673.9	287.6	386.28	1.745	
13,700.0	6,725.3	13,751.8	6,795.3	197.2	196.6	95.88	95.88	-184.8	-6,913.1	673.9	282.0	391.88	1.720	
13,800.0	6,724.7	13,851.8	6,794.2	200.0	199.4	95.84	95.84	-184.8	-7,013.1	673.8	276.3	397.48	1.695	
13,900.0	6,724.1	13,951.8	6,793.1	202.8	202.2	95.79	95.79	-184.8	-7,113.1	673.8	270.7	403.08	1.672	
13,908.4	6,724.1	13,959.9	6,793.0	203.0	202.5	95.79	95.79	-184.8	-7,121.2	673.8	270.2	403.54	1.670	
13,920.2	6,724.0	13,959.9	6,793.0	203.4	202.5	95.79	95.79	-184.8	-7,121.2	673.9	270.0	403.87	1.668 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design												LDS 5N65W1W Pad Sec.1-T5N-R65W - LDS 1V-334 - 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)					
2,900.0	2,866.0	2,966.8	2,953.9	10.0	7.5	19.50	-1,364.1	104.9	990.5	976.5	14.06	70.446				
3,000.0	2,964.3	3,062.7	3,049.0	10.4	7.8	19.46	-1,353.4	111.7	962.2	947.6	14.58	65.987				
3,100.0	3,062.6	3,158.6	3,144.0	10.8	8.1	19.41	-1,342.7	118.6	933.8	918.7	15.10	61.832				
3,200.0	3,160.9	3,254.4	3,239.1	11.3	8.4	19.36	-1,332.1	125.4	905.4	889.8	15.62	57.952				
3,300.0	3,259.2	3,350.3	3,334.1	11.7	8.8	19.30	-1,321.4	132.3	877.0	860.8	16.14	54.321				
3,400.0	3,357.5	3,446.2	3,429.1	12.1	9.1	19.24	-1,310.7	139.1	848.6	831.9	16.67	50.915				
3,500.0	3,455.8	3,542.1	3,524.2	12.5	9.4	19.18	-1,300.0	146.0	820.2	803.0	17.19	47.716				
3,600.0	3,554.1	3,638.0	3,619.2	12.9	9.7	19.11	-1,289.3	152.8	791.8	774.1	17.71	44.705				
3,700.0	3,652.4	3,733.8	3,714.2	13.4	10.0	19.04	-1,278.6	159.7	763.4	745.2	18.24	41.866				
3,800.0	3,750.7	3,829.7	3,809.3	13.8	10.3	18.96	-1,267.9	166.5	735.1	716.3	18.76	39.185				
3,900.0	3,849.0	3,925.6	3,904.3	14.2	10.6	18.88	-1,257.2	173.3	706.7	687.4	19.28	36.649				
4,000.0	3,947.3	4,021.5	3,999.4	14.6	10.9	18.79	-1,246.5	180.2	678.3	658.5	19.81	34.248				
4,100.0	4,045.6	4,117.4	4,094.4	15.0	11.2	18.69	-1,235.9	187.0	649.9	629.6	20.33	31.970				
4,200.0	4,143.9	4,213.3	4,189.4	15.5	11.5	18.58	-1,225.2	193.9	621.5	600.7	20.85	29.806				
4,300.0	4,242.2	4,309.1	4,284.5	15.9	11.8	18.46	-1,214.5	200.7	593.2	571.8	21.38	27.749				
4,400.0	4,340.5	4,405.0	4,379.5	16.3	12.2	18.33	-1,203.8	207.6	564.8	542.9	21.90	25.790				
4,500.0	4,438.8	4,500.9	4,474.6	16.7	12.5	18.18	-1,193.1	214.4	536.4	514.0	22.42	23.924				
4,600.0	4,537.1	4,596.8	4,569.6	17.1	12.8	18.02	-1,182.4	221.3	508.0	485.1	22.94	22.142				
4,700.0	4,635.4	4,692.7	4,664.6	17.6	13.1	17.84	-1,171.7	228.1	479.7	456.2	23.47	20.441				
4,800.0	4,733.7	4,788.6	4,759.7	18.0	13.4	17.64	-1,161.0	235.0	451.3	427.3	23.99	18.815				
4,900.0	4,832.0	4,884.4	4,854.7	18.4	13.7	17.41	-1,150.3	241.8	423.0	398.5	24.51	17.258				
5,000.0	4,930.3	4,980.3	4,949.7	18.8	14.0	17.15	-1,139.6	248.7	394.6	369.6	25.03	15.767				
5,100.0	5,028.6	5,076.2	5,044.8	19.2	14.3	16.85	-1,129.0	255.5	366.3	340.7	25.55	14.337				
5,200.0	5,126.9	5,170.4	5,138.1	19.7	14.6	16.50	-1,118.5	262.2	338.0	312.0	26.06	12.973				
5,300.0	5,225.2	5,258.5	5,225.7	20.1	14.9	16.33	-1,110.3	267.5	311.4	284.9	26.50	11.750				
5,400.0	5,323.5	5,348.0	5,314.9	20.5	15.1	16.35	-1,104.2	271.3	287.7	260.7	26.97	10.665				
5,500.0	5,422.4	5,438.9	5,405.7	20.7	15.2	16.53	-1,100.5	273.7	269.4	242.0	27.42	9.823				
5,600.0	5,521.7	5,531.1	5,497.9	20.9	15.4	16.94	-1,099.2	274.6	257.0	229.2	27.83	9.235				
5,700.0	5,621.4	5,630.6	5,597.4	21.1	15.5	17.42	-1,099.2	274.6	249.4	221.2	28.24	8.831				
5,800.0	5,721.3	5,730.5	5,697.3	21.3	15.7	17.71	-1,099.2	274.6	245.1	216.5	28.62	8.564				
5,900.0	5,821.3	5,830.5	5,797.3	21.4	15.9	17.98	-1,099.2	274.6	244.1	208.1	35.95	6.790				
6,000.0	5,921.3	5,930.5	5,897.3	21.5	16.1	17.98	-1,099.2	274.6	244.1	207.9	36.24	6.736 CC				
6,061.5	5,982.8	5,992.0	5,958.8	21.6	16.2	-90.15	-1,099.2	274.6	244.1	214.6	29.54	8.262				
6,100.0	6,021.3	6,030.5	5,997.3	21.6	16.2	-90.10	-1,099.2	274.6	244.1	214.4	29.68	8.224				
6,200.0	6,120.8	6,130.7	6,097.4	21.7	16.4	-91.73	-1,099.2	272.0	244.2	214.3	29.90	8.166				
6,300.0	6,218.2	6,231.9	6,197.4	21.7	16.5	-93.55	-1,099.2	257.0	244.6	214.6	30.01	8.150				
6,400.0	6,311.8	6,334.1	6,295.5	21.7	16.5	-95.32	-1,099.2	228.6	245.2	215.1	30.04	8.160				
6,500.0	6,400.0	6,437.4	6,390.0	21.7	16.5	-96.99	-1,099.2	186.9	245.9	215.9	30.08	8.176				
6,600.0	6,481.4	6,541.8	6,478.7	21.7	16.5	-98.53	-1,099.2	132.2	246.8	216.6	30.22	8.168				
6,700.0	6,554.5	6,647.1	6,559.9	21.7	16.4	-99.93	-1,099.2	65.3	247.8	217.2	30.61	8.097				
6,800.0	6,618.1	6,753.3	6,631.7	21.7	16.4	-101.14	-1,099.2	-12.8	248.8	217.4	31.42	7.920				
6,900.0	6,671.1	6,860.2	6,692.4	21.8	16.5	-102.15	-1,099.2	-100.8	249.7	216.9	32.81	7.611				
7,000.0	6,712.6	6,967.8	6,740.4	21.9	17.7	-102.94	-1,099.2	-197.0	250.5	215.6	34.88	7.181				
7,100.0	6,741.8	7,075.9	6,774.6	22.2	19.3	-103.50	-1,099.2	-299.5	251.0	213.4	37.63	6.671				
7,200.0	6,758.4	7,184.3	6,794.0	23.1	21.2	-103.81	-1,099.2	-406.0	251.4	210.4	41.00	6.131				
7,300.0	6,762.1	7,291.3	6,798.5	24.6	23.2	-103.88	-1,099.2	-512.8	251.4	206.6	44.80	5.612				
7,400.0	6,761.6	7,391.3	6,797.8	26.4	25.3	-103.87	-1,099.2	-612.8	251.4	202.6	48.86	5.146				
7,500.0	6,761.0	7,491.3	6,797.2	28.5	27.6	-103.87	-1,099.2	-712.8	251.4	198.3	53.17	4.728				
7,600.0	6,760.4	7,591.3	6,796.6	30.7	29.9	-103.86	-1,099.2	-812.8	251.4	193.7	57.68	4.359				
7,700.0	6,759.8	7,691.3	6,796.0	33.1	32.3	-103.85	-1,099.2	-912.8	251.4	189.1	62.34	4.033				
7,800.0	6,759.2	7,791.3	6,795.4	35.4	34.7	-103.84	-1,099.2	-1,012.8	251.4	184.3	67.12	3.745				

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1W Pad Sec.1-T5N-R65W - LDS 1V-334 - 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
7,900.0	6,758.7	7,891.3	6,794.8	37.9	37.2	-103.84	-103.84	-1,099.2	-1,112.8	251.4	179.4	72.01	3.491	
8,000.0	6,758.1	7,991.3	6,794.2	40.4	39.8	-103.83	-103.83	-1,099.2	-1,212.8	251.4	174.4	76.97	3.266	
8,100.0	6,757.5	8,091.3	6,793.6	42.9	42.3	-103.82	-103.82	-1,099.2	-1,312.8	251.4	169.4	82.00	3.066	
8,200.0	6,756.9	8,191.3	6,793.0	45.5	44.9	-103.81	-103.81	-1,099.2	-1,412.8	251.4	164.3	87.08	2.887	
8,300.0	6,756.4	8,291.3	6,792.3	48.1	47.6	-103.81	-103.81	-1,099.2	-1,512.8	251.4	159.1	92.21	2.726	
8,400.0	6,755.8	8,391.3	6,791.7	50.7	50.2	-103.80	-103.80	-1,099.2	-1,612.8	251.3	154.0	97.37	2.581	
8,500.0	6,755.2	8,491.3	6,791.1	53.4	52.9	-103.79	-103.79	-1,099.2	-1,712.8	251.3	148.8	102.57	2.450	
8,600.0	6,754.6	8,591.3	6,790.5	56.0	55.6	-103.78	-103.78	-1,099.2	-1,812.8	251.3	143.5	107.80	2.332	
8,700.0	6,754.1	8,691.3	6,789.9	58.7	58.2	-103.77	-103.77	-1,099.2	-1,912.8	251.3	138.3	113.05	2.223	
8,800.0	6,753.5	8,791.3	6,789.3	61.4	60.9	-103.77	-103.77	-1,099.2	-2,012.8	251.3	133.0	118.32	2.124	
8,900.0	6,752.9	8,891.3	6,788.7	64.1	63.7	-103.76	-103.76	-1,099.2	-2,112.8	251.3	127.7	123.60	2.033	
9,000.0	6,752.3	8,991.3	6,788.1	66.8	66.4	-103.75	-103.75	-1,099.2	-2,212.8	251.3	122.4	128.91	1.949	
9,100.0	6,751.8	9,091.3	6,787.5	69.5	69.1	-103.74	-103.74	-1,099.2	-2,312.8	251.3	117.1	134.23	1.872	
9,200.0	6,751.2	9,191.3	6,786.8	72.2	71.8	-103.74	-103.74	-1,099.2	-2,412.8	251.3	111.7	139.56	1.801	
9,300.0	6,750.6	9,291.3	6,786.2	74.9	74.6	-103.73	-103.73	-1,099.2	-2,512.8	251.3	106.4	144.90	1.734	
9,400.0	6,750.0	9,391.3	6,785.6	77.7	77.3	-103.72	-103.72	-1,099.2	-2,612.8	251.3	101.0	150.25	1.672	
9,500.0	6,749.5	9,491.3	6,785.0	80.4	80.1	-103.71	-103.71	-1,099.2	-2,712.8	251.3	95.6	155.61	1.615	
9,600.0	6,748.9	9,591.3	6,784.4	83.1	82.8	-103.70	-103.70	-1,099.2	-2,812.8	251.2	90.3	160.98	1.561	
9,700.0	6,748.3	9,691.3	6,783.8	85.9	85.6	-103.70	-103.70	-1,099.2	-2,912.8	251.2	84.9	166.36	1.510	
9,800.0	6,747.7	9,791.3	6,783.2	88.6	88.3	-103.69	-103.69	-1,099.2	-3,012.8	251.2	79.5	171.74	1.463 Level 3	
9,900.0	6,747.2	9,891.3	6,782.6	91.4	91.1	-103.68	-103.68	-1,099.2	-3,112.8	251.2	74.1	177.13	1.418 Level 3	
10,000.0	6,746.6	9,991.3	6,782.0	94.2	93.8	-103.67	-103.67	-1,099.2	-3,212.8	251.2	68.7	182.53	1.376 Level 3	
10,100.0	6,746.0	10,091.3	6,781.4	96.9	96.6	-103.67	-103.67	-1,099.2	-3,312.8	251.2	63.3	187.93	1.337 Level 3	
10,200.0	6,745.4	10,191.3	6,780.7	99.7	99.4	-103.66	-103.66	-1,099.2	-3,412.8	251.2	57.9	193.34	1.299 Level 3	
10,300.0	6,744.9	10,291.3	6,780.1	102.4	102.2	-103.65	-103.65	-1,099.2	-3,512.8	251.2	52.4	198.75	1.264 Level 3	
10,400.0	6,744.3	10,391.3	6,779.5	105.2	104.9	-103.64	-103.64	-1,099.2	-3,612.8	251.2	47.0	204.16	1.230 Level 2	
10,500.0	6,743.7	10,491.3	6,778.9	108.0	107.7	-103.63	-103.63	-1,099.2	-3,712.8	251.2	41.6	209.58	1.198 Level 2	
10,600.0	6,743.1	10,591.3	6,778.3	110.7	110.5	-103.63	-103.63	-1,099.2	-3,812.8	251.2	36.2	215.00	1.168 Level 2	
10,700.0	6,742.5	10,691.3	6,777.7	113.5	113.3	-103.62	-103.62	-1,099.2	-3,912.8	251.2	30.7	220.42	1.139 Level 2	
10,800.0	6,742.0	10,791.3	6,777.1	116.3	116.0	-103.61	-103.61	-1,099.2	-4,012.7	251.1	25.3	225.85	1.112 Level 2	
10,900.0	6,741.4	10,891.3	6,776.5	119.1	118.8	-103.60	-103.60	-1,099.2	-4,112.7	251.1	19.9	231.28	1.086 Level 2	
11,000.0	6,740.8	10,991.3	6,775.9	121.9	121.6	-103.60	-103.60	-1,099.2	-4,212.7	251.1	14.4	236.72	1.061 Level 2	
11,100.0	6,740.2	11,091.3	6,775.2	124.6	124.4	-103.59	-103.59	-1,099.2	-4,312.7	251.1	9.0	242.15	1.037 Level 2	
11,200.0	6,739.7	11,191.3	6,774.6	127.4	127.2	-103.58	-103.58	-1,099.2	-4,412.7	251.1	3.5	247.59	1.014 Level 2	
11,300.0	6,739.1	11,291.3	6,774.0	130.2	130.0	-103.57	-103.57	-1,099.2	-4,512.7	251.1	-1.9	253.03	0.992 Level 1	
11,400.0	6,738.5	11,391.3	6,773.4	133.0	132.7	-103.57	-103.57	-1,099.2	-4,612.7	251.1	-7.4	258.47	0.971 Level 1	
11,500.0	6,737.9	11,491.3	6,772.8	135.8	135.5	-103.56	-103.56	-1,099.2	-4,712.7	251.1	-12.8	263.92	0.951 Level 1	
11,600.0	6,737.4	11,591.3	6,772.2	138.5	138.3	-103.55	-103.55	-1,099.2	-4,812.7	251.1	-18.3	269.37	0.932 Level 1	
11,700.0	6,736.8	11,691.3	6,771.6	141.3	141.1	-103.54	-103.54	-1,099.2	-4,912.7	251.1	-23.7	274.82	0.914 Level 1	
11,800.0	6,736.2	11,791.3	6,771.0	144.1	143.9	-103.53	-103.53	-1,099.2	-5,012.7	251.1	-29.2	280.27	0.896 Level 1	
11,900.0	6,735.6	11,891.3	6,770.4	146.9	146.7	-103.53	-103.53	-1,099.2	-5,112.7	251.1	-34.7	285.72	0.879 Level 1	
12,000.0	6,735.1	11,991.3	6,769.7	149.7	149.5	-103.52	-103.52	-1,099.2	-5,212.7	251.0	-40.1	291.17	0.862 Level 1	
12,100.0	6,734.5	12,091.3	6,769.1	152.5	152.3	-103.51	-103.51	-1,099.2	-5,312.7	251.0	-45.6	296.63	0.846 Level 1	
12,200.0	6,733.9	12,191.3	6,768.5	155.3	155.1	-103.50	-103.50	-1,099.2	-5,412.7	251.0	-51.1	302.08	0.831 Level 1	
12,300.0	6,733.3	12,291.3	6,767.9	158.1	157.9	-103.50	-103.50	-1,099.2	-5,512.7	251.0	-56.5	307.54	0.816 Level 1	
12,400.0	6,732.8	12,391.3	6,767.3	160.9	160.7	-103.49	-103.49	-1,099.2	-5,612.7	251.0	-62.0	313.00	0.802 Level 1	
12,500.0	6,732.2	12,491.3	6,766.7	163.7	163.5	-103.48	-103.48	-1,099.2	-5,712.7	251.0	-67.5	318.46	0.788 Level 1	
12,600.0	6,731.6	12,591.3	6,766.1	166.4	166.3	-103.47	-103.47	-1,099.2	-5,812.7	251.0	-72.9	323.92	0.775 Level 1	
12,700.0	6,731.0	12,691.3	6,765.5	169.2	169.1	-103.46	-103.46	-1,099.2	-5,912.7	251.0	-78.4	329.39	0.762 Level 1	
12,800.0	6,730.5	12,791.3	6,764.9	172.0	171.9	-103.46	-103.46	-1,099.2	-6,012.7	251.0	-83.9	334.85	0.750 Level 1	
12,900.0	6,729.9	12,891.3	6,764.2	174.8	174.6	-103.45	-103.45	-1,099.2	-6,112.7	251.0	-89.3	340.32	0.737 Level 1	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design LDS 5N65W1W Pad Sec.1-T5N-R65W - LDS 1V-334 - 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	
13,000.0	6,729.3	12,991.3	6,763.6	177.6	177.4	-103.44	-1,099.2	-6,212.7	251.0	-94.8	345.78	0.726	Level 1	
13,100.0	6,728.7	13,091.3	6,763.0	180.4	180.2	-103.43	-1,099.2	-6,312.7	251.0	-100.3	351.25	0.714	Level 1	
13,200.0	6,728.1	13,191.3	6,762.4	183.2	183.0	-103.43	-1,099.2	-6,412.7	251.0	-105.8	356.72	0.703	Level 1	
13,300.0	6,727.6	13,291.3	6,761.8	186.0	185.8	-103.42	-1,099.2	-6,512.7	250.9	-111.2	362.19	0.693	Level 1	
13,400.0	6,727.0	13,391.3	6,761.2	188.8	188.6	-103.41	-1,099.2	-6,612.7	250.9	-116.7	367.66	0.683	Level 1	
13,500.0	6,726.4	13,491.3	6,760.6	191.6	191.4	-103.40	-1,099.2	-6,712.7	250.9	-122.2	373.13	0.672	Level 1	
13,600.0	6,725.8	13,591.3	6,760.0	194.4	194.2	-103.39	-1,099.2	-6,812.7	250.9	-127.7	378.60	0.663	Level 1	
13,700.0	6,725.3	13,691.3	6,759.4	197.2	197.0	-103.39	-1,099.2	-6,912.7	250.9	-133.2	384.08	0.653	Level 1	
13,800.0	6,724.7	13,791.3	6,758.7	200.0	199.8	-103.38	-1,099.2	-7,012.7	250.9	-138.6	389.55	0.644	Level 1	
13,900.0	6,724.1	13,891.3	6,758.1	202.8	202.6	-103.37	-1,099.2	-7,112.7	250.9	-144.1	395.02	0.635	Level 1	
13,920.2	6,724.0	13,911.5	6,758.0	203.4	203.2	-103.37	-1,099.2	-7,132.9	250.9	-145.2	396.13	0.633	Level 1, ES, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 2C (Vert.) - Wellbore #1 - Design #1												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
12,000.0	6,735.1	6,745.1	6,745.1	149.7	15.0	90.77	-472.8	-6,106.8	972.7	808.2	164.53	5.912	
12,100.0	6,734.5	6,744.5	6,744.5	152.5	15.0	90.69	-472.8	-6,106.8	881.6	714.3	167.32	5.269	
12,200.0	6,733.9	6,743.9	6,743.9	155.3	15.0	90.60	-472.8	-6,106.8	792.7	622.6	170.12	4.660	
12,300.0	6,733.3	6,743.3	6,743.3	158.1	15.0	90.51	-472.8	-6,106.8	706.7	533.8	172.91	4.087	
12,400.0	6,732.8	6,742.8	6,742.8	160.9	15.0	90.43	-472.8	-6,106.8	625.0	449.3	175.70	3.557	
12,500.0	6,732.2	6,742.2	6,742.2	163.7	15.0	90.34	-472.8	-6,106.8	549.3	370.8	178.50	3.077	
12,600.0	6,731.6	6,741.6	6,741.6	166.4	15.0	90.25	-472.8	-6,106.8	482.5	301.2	181.29	2.662	
12,700.0	6,731.0	6,741.0	6,741.0	169.2	15.0	90.17	-472.8	-6,106.8	428.9	244.8	184.08	2.330	
12,800.0	6,730.5	6,740.5	6,740.5	172.0	15.0	90.08	-472.8	-6,106.8	393.7	206.9	186.88	2.107	
12,894.5	6,729.9	6,739.9	6,739.9	174.7	15.0	90.00	-472.8	-6,106.8	382.2	192.7	189.52	2.017 CC	
12,900.0	6,729.9	6,739.9	6,739.9	174.8	15.0	90.00	-472.8	-6,106.8	382.3	192.6	189.67	2.016 ES, SF	
13,000.0	6,729.3	6,739.3	6,739.3	177.6	15.0	89.91	-472.8	-6,106.8	396.5	204.1	192.47	2.060	
13,100.0	6,728.7	6,738.7	6,738.7	180.4	15.0	89.82	-472.8	-6,106.8	434.0	238.7	195.26	2.223	
13,200.0	6,728.1	6,738.1	6,738.1	183.2	15.0	89.74	-472.8	-6,106.8	489.3	291.3	198.06	2.471	
13,300.0	6,727.6	6,737.6	6,737.6	186.0	15.0	89.65	-472.8	-6,106.8	557.3	356.4	200.85	2.775	
13,400.0	6,727.0	6,737.0	6,737.0	188.8	15.0	89.56	-472.8	-6,106.8	633.8	430.1	203.64	3.112	
13,500.0	6,726.4	6,736.4	6,736.4	191.6	15.0	89.48	-472.8	-6,106.8	716.1	509.6	206.44	3.469	
13,600.0	6,725.8	6,735.8	6,735.8	194.4	15.0	89.39	-472.8	-6,106.8	802.4	593.2	209.23	3.835	
13,700.0	6,725.3	6,735.3	6,735.3	197.2	15.0	89.30	-472.8	-6,106.8	891.6	679.6	212.03	4.205	
13,800.0	6,724.7	6,734.7	6,734.7	200.0	15.0	89.22	-472.8	-6,106.8	982.9	768.1	214.82	4.575	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:		0.0 ft	
Survey Program: 700-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)				
10,900.0	6,741.4	6,900.6	6,766.7	119.1	23.2	98.89	-722.2	-5,057.5	954.6	814.2	140.37	6.800			
11,000.0	6,740.8	6,898.2	6,764.4	121.9	23.2	97.91	-722.2	-5,057.6	855.7	712.3	143.41	5.967			
11,100.0	6,740.2	6,896.0	6,762.2	124.6	23.2	96.95	-722.2	-5,057.6	757.1	610.7	146.43	5.170			
11,200.0	6,739.7	6,893.8	6,760.0	127.4	23.2	96.02	-722.2	-5,057.6	658.9	509.5	149.42	4.410			
11,300.0	6,739.1	6,891.6	6,757.8	130.2	23.2	95.10	-722.2	-5,057.7	561.3	409.0	152.37	3.684			
11,400.0	6,738.5	6,889.6	6,755.7	133.0	23.2	94.21	-722.1	-5,057.7	464.8	309.5	155.30	2.993			
11,500.0	6,737.9	6,887.5	6,753.7	135.8	23.2	93.34	-722.1	-5,057.7	370.1	211.9	158.19	2.340			
11,600.0	6,737.4	6,885.5	6,751.7	138.5	23.2	92.49	-722.1	-5,057.8	279.1	118.1	161.06	1.733			
11,700.0	6,736.8	6,883.6	6,749.8	141.3	23.2	91.65	-722.1	-5,057.8	197.1	33.2	163.89	1.202 Level 2			
11,800.0	6,736.2	6,881.7	6,747.9	144.1	23.2	90.84	-722.1	-5,057.8	140.6	-26.1	166.70	0.843 Level 1			
11,845.4	6,735.9	6,880.9	6,747.1	145.4	23.2	90.48	-722.1	-5,057.8	133.0	-35.0	167.97	0.792 Level 1, CC, ES, SF			
11,900.0	6,735.6	6,879.9	6,746.1	146.9	23.2	90.05	-722.1	-5,057.8	143.8	-25.7	169.48	0.848 Level 1			
12,000.0	6,735.1	6,878.1	6,744.3	149.7	23.2	89.28	-722.0	-5,057.9	203.9	31.7	172.23	1.184 Level 2			
12,100.0	6,734.5	6,876.4	6,742.5	152.5	23.2	88.53	-722.0	-5,057.9	287.2	112.2	174.96	1.641			
12,200.0	6,733.9	6,874.7	6,740.8	155.3	23.2	87.80	-722.0	-5,057.9	378.6	201.0	177.66	2.131			
12,300.0	6,733.3	6,873.0	6,739.2	158.1	23.2	87.08	-722.0	-5,057.9	473.5	293.2	180.34	2.626			
12,400.0	6,732.8	6,871.4	6,737.5	160.9	23.2	86.38	-722.0	-5,057.9	570.2	387.2	182.99	3.116			
12,500.0	6,732.2	6,869.8	6,735.9	163.7	23.2	85.70	-722.0	-5,058.0	667.8	482.2	185.61	3.598			
12,600.0	6,731.6	6,868.2	6,734.4	166.4	23.2	85.04	-722.0	-5,058.0	766.1	577.9	188.22	4.070			
12,700.0	6,731.0	6,866.7	6,732.9	169.2	23.2	84.39	-721.9	-5,058.0	864.7	673.9	190.80	4.532			
12,800.0	6,730.5	6,865.2	6,731.4	172.0	23.2	83.76	-721.9	-5,058.0	963.6	770.3	193.36	4.984			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Offset Design Noffsinger Pad Sec.2-T5N-R65W - Noffsinger 32-2D - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 668-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	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)					
12,900.0	6,729.9	6,884.0	6,718.9	174.8	25.7	-88.11	-1,340.6	-6,975.0	990.1	794.4	195.77	5.058	
13,000.0	6,729.3	6,884.0	6,718.9	177.6	25.7	-88.11	-1,340.6	-6,975.0	904.3	705.8	198.56	4.554	
13,100.0	6,728.7	6,884.0	6,718.9	180.4	25.7	-88.11	-1,340.6	-6,975.0	821.7	620.4	201.36	4.081	
13,200.0	6,728.1	6,884.0	6,718.9	183.2	25.7	-88.11	-1,340.6	-6,975.0	743.4	539.3	204.16	3.641	
13,300.0	6,727.6	6,884.0	6,718.9	186.0	25.7	-88.11	-1,340.6	-6,975.0	670.9	464.0	206.96	3.242	
13,400.0	6,727.0	6,884.0	6,718.9	188.8	25.7	-88.11	-1,340.6	-6,975.0	606.3	396.5	209.75	2.891	
13,500.0	6,726.4	6,884.0	6,718.9	191.6	25.7	-88.11	-1,340.6	-6,975.0	552.3	339.8	212.55	2.598	
13,600.0	6,725.8	6,884.0	6,718.9	194.4	25.7	-88.11	-1,340.6	-6,975.0	512.3	297.0	215.35	2.379	
13,700.0	6,725.3	6,884.0	6,718.9	197.2	25.7	-88.11	-1,340.6	-6,975.0	489.8	271.7	218.15	2.245	
13,762.7	6,724.9	6,884.0	6,718.9	199.0	25.7	-88.11	-1,340.6	-6,975.0	485.8	265.9	219.91	2.209 CC, ES	
13,800.0	6,724.7	6,884.0	6,718.9	200.0	25.7	-88.11	-1,340.6	-6,975.0	487.2	266.3	220.95	2.205 SF	
13,900.0	6,724.1	6,884.0	6,718.9	202.8	25.7	-88.11	-1,340.6	-6,975.0	504.8	281.1	223.75	2.256	
13,920.2	6,724.0	6,884.0	6,718.9	203.4	25.7	-88.11	-1,340.6	-6,975.0	510.7	286.4	224.31	2.277	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4650.0ft (RKB - 13')

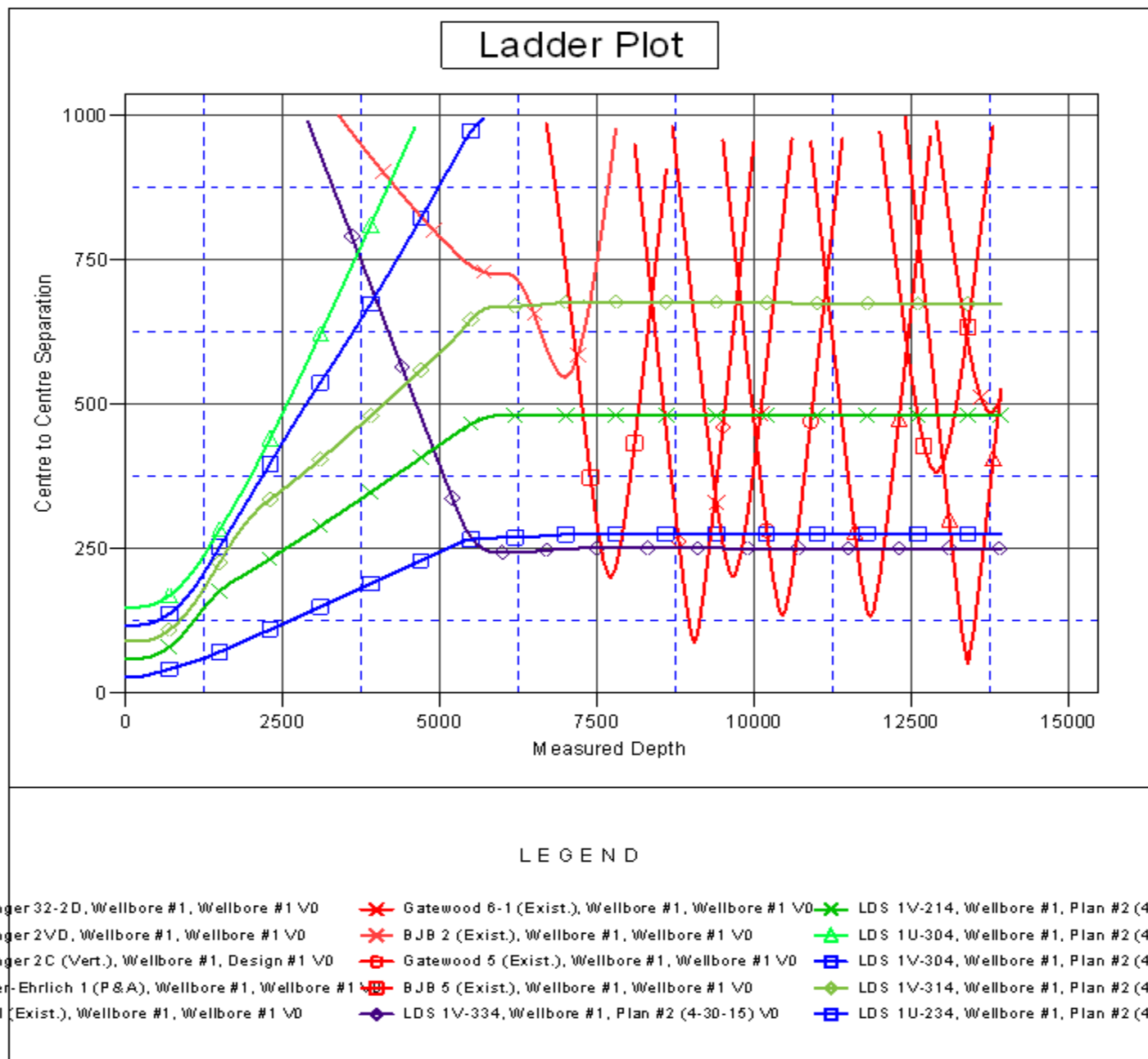
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1V-204

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LDS 1V-204
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4650.0ft (RKB - 13')
Reference Site:	LDS 5N65W1U Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4650.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LDS 1V-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (4-30-15)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4650.0ft (RKB - 13')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: LDS 1V-204
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.58°

