

**PETROLEUM DEVELOPMENT CORP Weld County CO**

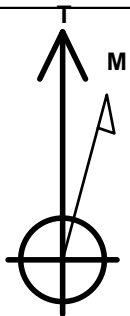
Well Name: **Chesnut 28R-203**

Surface Location: Chesnut 28M-HZ Pad Sec.28-T5N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4620.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1381330.45	3264736.50	40.376260	-104.549770	
Ensign 121 RKB - 13.5' WELL @ 4633.5ft (Ensign 121 RKB - 13.5')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 466'FNL, 1260'FEL, SEC.28	1.0	0.0	0.0	Point
BHL 2133'FNL, 1589'FEL, SEC.33	6624.0	-6951.0	-303.9	Point



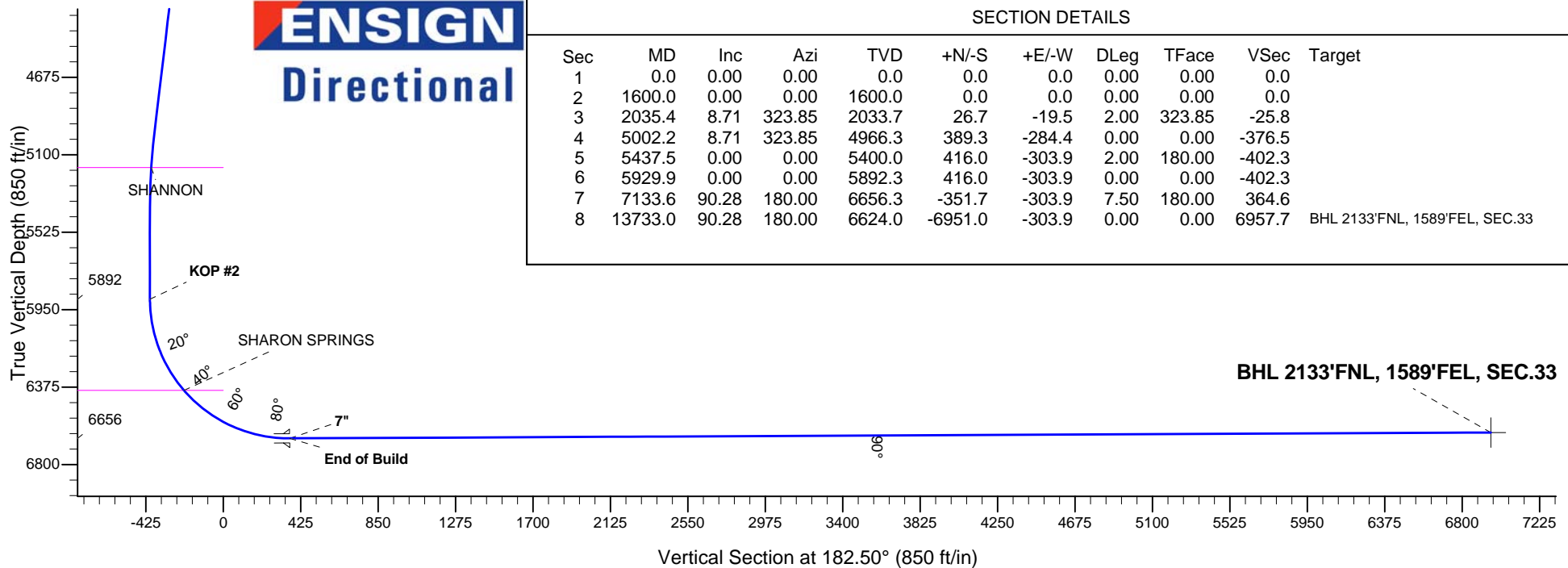
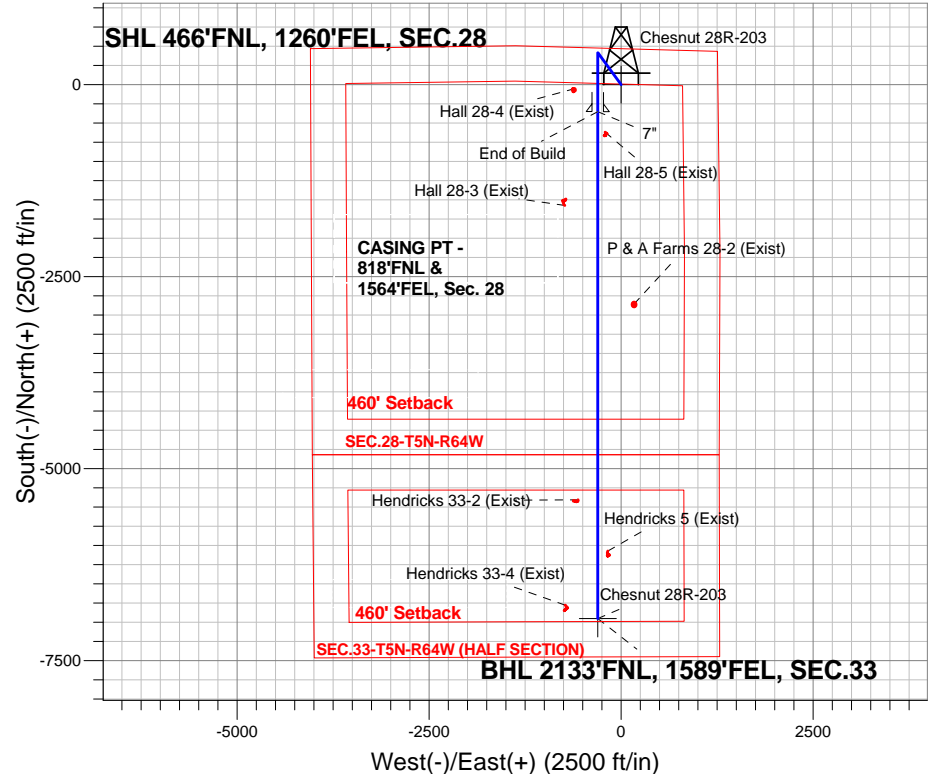
Azimuths to True North  
Magnetic North:  $8.33^\circ$

Magnetic Field  
Strength: 52817.6snT  
Dip Angle: 66.96°  
Date: 7/17/2014  
Model: IGRF2010

Chesnut 28M-HZ Pad Sec.28-T5N-R64W  
Chesnut 28R-203  
Plan #3 (7-17-14)

## ANNOTATIONS

TVD	MD	Annotation
1600.0	1600.0	KOP #1
5892.4	5929.9	KOP #2
6656.3	7133.6	End of Build





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T5N-R64W**

**Chesnut 28M-HZ Pad Sec.28-T5N-R64W**

**Chesnut 28R-203**

**Wellbore #1**

**Plan: Plan #3 (7-17-14)**

## **Standard Planning Report**

**17 July, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Project:</b>	SEC.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-17-14)		

<b>Project</b>	SEC.28-T5N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,381,420.67 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,264,654.74 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.376510
		<b>Longitude:</b>	-104.550060
		<b>Grid Convergence:</b>	0.61 °

<b>Well</b>	Chesnut 28R-203		
<b>Well Position</b>	<b>+N/-S</b>	-91.1 ft	<b>Northing:</b>
	<b>+E/-W</b>	80.8 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			40.376260
			<b>Longitude:</b>
			-104.549770
			<b>Ground Level:</b>
			4,620.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/17/2014	8.33	66.96	52,818

<b>Design</b>	Plan #3 (7-17-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	182.50

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,035.4	8.71	323.85	2,033.7	26.7	-19.5	2.00	2.00	0.00	323.85	
5,002.2	8.71	323.85	4,966.3	389.3	-284.4	0.00	0.00	0.00	0.00	
5,437.5	0.00	0.00	5,400.0	416.0	-303.9	2.00	-2.00	0.00	180.00	
5,929.9	0.00	0.00	5,892.3	416.0	-303.9	0.00	0.00	0.00	0.00	
7,133.6	90.28	180.00	6,656.3	-351.7	-303.9	7.50	7.50	0.00	180.00	
13,733.0	90.28	180.00	6,624.0	-6,951.0	-303.9	0.00	0.00	0.00	0.00	BHL 2133°FNL, 158

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Project:</b>	SEC.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-17-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
1,700.0	2.00	323.85	1,700.0	1.4	-1.0	-1.4	2.00	2.00	0.00
1,800.0	4.00	323.85	1,799.8	5.6	-4.1	-5.4	2.00	2.00	0.00
1,900.0	6.00	323.85	1,899.5	12.7	-9.3	-12.3	2.00	2.00	0.00
2,000.0	8.00	323.85	1,998.7	22.5	-16.4	-21.8	2.00	2.00	0.00
2,035.4	8.71	323.85	2,033.7	26.7	-19.5	-25.8	2.00	2.00	0.00
2,100.0	8.71	323.85	2,097.6	34.6	-25.2	-33.4	0.00	0.00	0.00
2,200.0	8.71	323.85	2,196.4	46.8	-34.2	-45.2	0.00	0.00	0.00
2,300.0	8.71	323.85	2,295.3	59.0	-43.1	-57.1	0.00	0.00	0.00
2,400.0	8.71	323.85	2,394.1	71.2	-52.0	-68.9	0.00	0.00	0.00
2,500.0	8.71	323.85	2,493.0	83.5	-61.0	-80.7	0.00	0.00	0.00
2,600.0	8.71	323.85	2,591.8	95.7	-69.9	-92.5	0.00	0.00	0.00
2,700.0	8.71	323.85	2,690.7	107.9	-78.8	-104.4	0.00	0.00	0.00
2,800.0	8.71	323.85	2,789.5	120.1	-87.8	-116.2	0.00	0.00	0.00
2,900.0	8.71	323.85	2,888.4	132.4	-96.7	-128.0	0.00	0.00	0.00
3,000.0	8.71	323.85	2,987.2	144.6	-105.6	-139.8	0.00	0.00	0.00
3,100.0	8.71	323.85	3,086.1	156.8	-114.6	-151.7	0.00	0.00	0.00
3,200.0	8.71	323.85	3,184.9	169.0	-123.5	-163.5	0.00	0.00	0.00
3,300.0	8.71	323.85	3,283.8	181.3	-132.4	-175.3	0.00	0.00	0.00
3,400.0	8.71	323.85	3,382.6	193.5	-141.3	-187.1	0.00	0.00	0.00
3,500.0	8.71	323.85	3,481.4	205.7	-150.3	-198.9	0.00	0.00	0.00
3,569.4	8.71	323.85	3,550.0	214.2	-156.5	-207.1	0.00	0.00	0.00
<b>PARKMAN</b>									
3,600.0	8.71	323.85	3,580.3	217.9	-159.2	-210.8	0.00	0.00	0.00
3,700.0	8.71	323.85	3,679.1	230.2	-168.1	-222.6	0.00	0.00	0.00
3,800.0	8.71	323.85	3,778.0	242.4	-177.1	-234.4	0.00	0.00	0.00
3,900.0	8.71	323.85	3,876.8	254.6	-186.0	-246.2	0.00	0.00	0.00
4,000.0	8.71	323.85	3,975.7	266.8	-194.9	-258.1	0.00	0.00	0.00
4,100.0	8.71	323.85	4,074.5	279.1	-203.9	-269.9	0.00	0.00	0.00
4,191.5	8.71	323.85	4,165.0	290.2	-212.0	-280.7	0.00	0.00	0.00
<b>SUSSEX</b>									
4,200.0	8.71	323.85	4,173.4	291.3	-212.8	-281.7	0.00	0.00	0.00
4,300.0	8.71	323.85	4,272.2	303.5	-221.7	-293.5	0.00	0.00	0.00
4,400.0	8.71	323.85	4,371.1	315.7	-230.6	-305.3	0.00	0.00	0.00
4,500.0	8.71	323.85	4,469.9	328.0	-239.6	-317.2	0.00	0.00	0.00
4,600.0	8.71	323.85	4,568.8	340.2	-248.5	-329.0	0.00	0.00	0.00

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<b>Project:</b>	SEC.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-17-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,700.0	8.71	323.85	4,667.6	352.4	-257.4	-340.8	0.00	0.00	0.00
4,800.0	8.71	323.85	4,766.5	364.6	-266.4	-352.6	0.00	0.00	0.00
4,900.0	8.71	323.85	4,865.3	376.8	-275.3	-364.5	0.00	0.00	0.00
5,000.0	8.71	323.85	4,964.2	389.1	-284.2	-376.3	0.00	0.00	0.00
5,002.2	8.71	323.85	4,966.3	389.3	-284.4	-376.5	0.00	0.00	0.00
5,100.0	6.75	323.85	5,063.2	400.0	-292.2	-386.8	2.00	-2.00	0.00
5,200.0	4.75	323.85	5,162.7	408.1	-298.1	-394.6	2.00	-2.00	0.00
5,207.3	4.60	323.85	5,170.0	408.5	-298.4	-395.1	2.00	-2.00	0.00
<b>SHANNON</b>									
5,300.0	2.75	323.85	5,262.5	413.3	-302.0	-399.8	2.00	-2.00	0.00
5,400.0	0.75	323.85	5,362.5	415.8	-303.8	-402.1	2.00	-2.00	0.00
5,437.5	0.00	0.00	5,400.0	416.0	-303.9	-402.3	2.00	-2.00	0.00
5,500.0	0.00	0.00	5,462.5	416.0	-303.9	-402.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,562.5	416.0	-303.9	-402.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,662.5	416.0	-303.9	-402.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,762.5	416.0	-303.9	-402.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,862.5	416.0	-303.9	-402.3	0.00	0.00	0.00
5,929.9	0.00	0.00	5,892.4	416.0	-303.9	-402.3	0.00	0.00	0.00
<b>KOP #2</b>									
6,000.0	5.26	180.00	5,962.4	412.8	-303.9	-399.1	7.50	7.50	0.00
6,100.0	12.76	180.00	6,061.1	397.1	-303.9	-383.5	7.50	7.50	0.00
6,200.0	20.26	180.00	6,156.9	368.7	-303.9	-355.1	7.50	7.50	0.00
6,300.0	27.76	180.00	6,248.1	328.1	-303.9	-314.5	7.50	7.50	0.00
6,400.0	35.26	180.00	6,333.3	275.8	-303.9	-262.3	7.50	7.50	0.00
6,475.9	40.95	180.00	6,393.0	229.1	-303.9	-215.6	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
6,500.0	42.76	180.00	6,411.0	212.9	-303.9	-199.5	7.50	7.50	0.00
6,600.0	50.26	180.00	6,479.8	140.4	-303.9	-127.0	7.50	7.50	0.00
6,700.0	57.76	180.00	6,538.5	59.6	-303.9	-46.3	7.50	7.50	0.00
6,800.0	65.26	180.00	6,586.1	-28.2	-303.9	41.5	7.50	7.50	0.00
6,900.0	72.76	180.00	6,621.9	-121.5	-303.9	134.7	7.50	7.50	0.00
7,000.0	80.26	180.00	6,645.2	-218.7	-303.9	231.8	7.50	7.50	0.00
7,100.0	87.76	180.00	6,655.7	-318.1	-303.9	331.1	7.50	7.50	0.00
7,133.6	90.28	180.00	6,656.3	-351.7	-303.9	364.6	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,200.0	90.28	180.00	6,655.9	-418.1	-303.9	431.0	0.00	0.00	0.00
7,300.0	90.28	180.00	6,655.4	-518.1	-303.9	530.9	0.00	0.00	0.00
7,400.0	90.28	180.00	6,654.9	-618.1	-303.9	630.8	0.00	0.00	0.00
7,500.0	90.28	180.00	6,654.5	-718.1	-303.9	730.7	0.00	0.00	0.00
7,600.0	90.28	180.00	6,654.0	-818.1	-303.9	830.6	0.00	0.00	0.00
7,700.0	90.28	180.00	6,653.5	-918.1	-303.9	930.5	0.00	0.00	0.00
7,800.0	90.28	180.00	6,653.0	-1,018.1	-303.9	1,030.4	0.00	0.00	0.00
7,900.0	90.28	180.00	6,652.5	-1,118.1	-303.9	1,130.3	0.00	0.00	0.00
8,000.0	90.28	180.00	6,652.0	-1,218.1	-303.9	1,230.2	0.00	0.00	0.00
8,100.0	90.28	180.00	6,651.5	-1,318.1	-303.9	1,330.1	0.00	0.00	0.00
8,200.0	90.28	180.00	6,651.0	-1,418.1	-303.9	1,430.0	0.00	0.00	0.00
8,300.0	90.28	180.00	6,650.6	-1,518.1	-303.9	1,529.9	0.00	0.00	0.00
8,400.0	90.28	180.00	6,650.1	-1,618.1	-303.9	1,629.8	0.00	0.00	0.00
8,500.0	90.28	180.00	6,649.6	-1,718.1	-303.9	1,729.7	0.00	0.00	0.00
8,600.0	90.28	180.00	6,649.1	-1,818.1	-303.9	1,829.6	0.00	0.00	0.00
8,700.0	90.28	180.00	6,648.6	-1,918.1	-303.9	1,929.5	0.00	0.00	0.00
8,800.0	90.28	180.00	6,648.1	-2,018.1	-303.9	2,029.4	0.00	0.00	0.00
8,900.0	90.28	180.00	6,647.6	-2,118.1	-303.9	2,129.3	0.00	0.00	0.00

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<b>Project:</b>	SEC.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-17-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,000.0	90.28	180.00	6,647.1	-2,218.1	-303.9	2,229.2	0.00	0.00	0.00
9,100.0	90.28	180.00	6,646.6	-2,318.1	-303.9	2,329.1	0.00	0.00	0.00
9,200.0	90.28	180.00	6,646.2	-2,418.1	-303.9	2,429.0	0.00	0.00	0.00
9,300.0	90.28	180.00	6,645.7	-2,518.1	-303.9	2,528.9	0.00	0.00	0.00
9,400.0	90.28	180.00	6,645.2	-2,618.1	-303.9	2,628.8	0.00	0.00	0.00
9,500.0	90.28	180.00	6,644.7	-2,718.1	-303.9	2,728.7	0.00	0.00	0.00
9,600.0	90.28	180.00	6,644.2	-2,818.1	-303.9	2,828.6	0.00	0.00	0.00
9,700.0	90.28	180.00	6,643.7	-2,918.1	-303.9	2,928.5	0.00	0.00	0.00
9,800.0	90.28	180.00	6,643.2	-3,018.1	-303.9	3,028.4	0.00	0.00	0.00
9,900.0	90.28	180.00	6,642.7	-3,118.1	-303.9	3,128.4	0.00	0.00	0.00
10,000.0	90.28	180.00	6,642.2	-3,218.1	-303.9	3,228.3	0.00	0.00	0.00
10,100.0	90.28	180.00	6,641.8	-3,318.1	-303.9	3,328.2	0.00	0.00	0.00
10,200.0	90.28	180.00	6,641.3	-3,418.0	-303.9	3,428.1	0.00	0.00	0.00
10,300.0	90.28	180.00	6,640.8	-3,518.0	-303.9	3,528.0	0.00	0.00	0.00
10,400.0	90.28	180.00	6,640.3	-3,618.0	-303.9	3,627.9	0.00	0.00	0.00
10,500.0	90.28	180.00	6,639.8	-3,718.0	-303.9	3,727.8	0.00	0.00	0.00
10,600.0	90.28	180.00	6,639.3	-3,818.0	-303.9	3,827.7	0.00	0.00	0.00
10,700.0	90.28	180.00	6,638.8	-3,918.0	-303.9	3,927.6	0.00	0.00	0.00
10,800.0	90.28	180.00	6,638.3	-4,018.0	-303.9	4,027.5	0.00	0.00	0.00
10,900.0	90.28	180.00	6,637.8	-4,118.0	-303.9	4,127.4	0.00	0.00	0.00
11,000.0	90.28	180.00	6,637.4	-4,218.0	-303.9	4,227.3	0.00	0.00	0.00
11,100.0	90.28	180.00	6,636.9	-4,318.0	-303.9	4,327.2	0.00	0.00	0.00
11,200.0	90.28	180.00	6,636.4	-4,418.0	-303.9	4,427.1	0.00	0.00	0.00
11,300.0	90.28	180.00	6,635.9	-4,518.0	-303.9	4,527.0	0.00	0.00	0.00
11,400.0	90.28	180.00	6,635.4	-4,618.0	-303.9	4,626.9	0.00	0.00	0.00
11,500.0	90.28	180.00	6,634.9	-4,718.0	-303.9	4,726.8	0.00	0.00	0.00
11,600.0	90.28	180.00	6,634.4	-4,818.0	-303.9	4,826.7	0.00	0.00	0.00
11,700.0	90.28	180.00	6,633.9	-4,918.0	-303.9	4,926.6	0.00	0.00	0.00
11,800.0	90.28	180.00	6,633.4	-5,018.0	-303.9	5,026.5	0.00	0.00	0.00
11,900.0	90.28	180.00	6,633.0	-5,118.0	-303.9	5,126.4	0.00	0.00	0.00
12,000.0	90.28	180.00	6,632.5	-5,218.0	-303.9	5,226.3	0.00	0.00	0.00
12,100.0	90.28	180.00	6,632.0	-5,318.0	-303.9	5,326.2	0.00	0.00	0.00
12,200.0	90.28	180.00	6,631.5	-5,418.0	-303.9	5,426.1	0.00	0.00	0.00
12,300.0	90.28	180.00	6,631.0	-5,518.0	-303.9	5,526.0	0.00	0.00	0.00
12,400.0	90.28	180.00	6,630.5	-5,618.0	-303.9	5,625.9	0.00	0.00	0.00
12,500.0	90.28	180.00	6,630.0	-5,718.0	-303.9	5,725.8	0.00	0.00	0.00
12,600.0	90.28	180.00	6,629.5	-5,818.0	-303.9	5,825.7	0.00	0.00	0.00
12,700.0	90.28	180.00	6,629.0	-5,918.0	-303.9	5,925.6	0.00	0.00	0.00
12,800.0	90.28	180.00	6,628.6	-6,018.0	-303.9	6,025.5	0.00	0.00	0.00
12,900.0	90.28	180.00	6,628.1	-6,118.0	-303.9	6,125.5	0.00	0.00	0.00
13,000.0	90.28	180.00	6,627.6	-6,218.0	-303.9	6,225.4	0.00	0.00	0.00
13,100.0	90.28	180.00	6,627.1	-6,318.0	-303.9	6,325.3	0.00	0.00	0.00
13,200.0	90.28	180.00	6,626.6	-6,418.0	-303.9	6,425.2	0.00	0.00	0.00
13,300.0	90.28	180.00	6,626.1	-6,518.0	-303.9	6,525.1	0.00	0.00	0.00
13,400.0	90.28	180.00	6,625.6	-6,618.0	-303.9	6,625.0	0.00	0.00	0.00
13,500.0	90.28	180.00	6,625.1	-6,718.0	-303.9	6,724.9	0.00	0.00	0.00
13,600.0	90.28	180.00	6,624.6	-6,818.0	-303.9	6,824.8	0.00	0.00	0.00
13,700.0	90.28	180.00	6,624.2	-6,918.0	-303.9	6,924.7	0.00	0.00	0.00
13,733.0	90.28	180.00	6,624.0	-6,951.0	-303.9	6,957.7	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Project:</b>	SEC.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-17-14)		

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,133.6	6,656.3	7"	7	7-1/2

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,569.4	3,550.0	PARKMAN			
4,191.5	4,165.0	SUSSEX			
5,207.3	5,170.0	SHANNON			
6,475.9	6,393.0	SHARON SPRINGS			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,600.0	1,600.0	0.0	0.0	KOP #1
5,929.9	5,892.4	416.0	-303.9	KOP #2
7,133.6	6,656.3	-351.7	-303.9	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T5N-R64W**

**Chesnut 28M-HZ Pad Sec.28-T5N-R64W**

**Chesnut 28R-203**

**Wellbore #1**

**Plan #3 (7-17-14)**

## **Anticollision Report**

**17 July, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #3 (7-17-14)
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria
<b>Interpolation Method:</b>	MD Interval 100.0ft
<b>Depth Range:</b>	Unlimited
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft
<b>Warning Levels Evaluated at:</b>	2.00 Sigma
<b>Error Model:</b>	ISCWSA
<b>Scan Method:</b>	Closest Approach 3D
<b>Error Surface:</b>	Elliptical Conic

Survey Tool Program		Date	7/17/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	13,733.0	Plan #3 (7-17-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Chesnut 28M-HZ Pad Sec.28-T5N-R64W						
Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)	200.0	200.0	121.7	121.1	180.558	CC, ES
Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)	13,733.0	13,856.8	994.8	721.3	3.637	SF
Chesnut 28M-323 - Wellbore #1 - Plan #3 (7-17-14)	1,000.0	1,000.0	63.2	58.9	14.790	CC, ES
Chesnut 28M-323 - Wellbore #1 - Plan #3 (7-17-14)	13,733.0	13,866.4	533.9	264.0	1.978	SF
Chesnut 28M-423 - Wellbore #1 - Plan #3 (7-17-14)	400.0	400.0	92.5	90.9	58.767	CC, ES
Chesnut 28M-423 - Wellbore #1 - Plan #3 (7-17-14)	13,733.0	13,952.4	756.2	491.9	2.862	SF
Chesnut 28R-443 - Wellbore #1 - Plan #3 (7-17-14)	1,200.0	1,200.0	32.1	26.9	6.211	CC, ES
Chesnut 28R-443 - Wellbore #1 - Plan #3 (7-17-14)	13,733.0	13,896.6	281.1	74.1	1.358	Level 3, SF
Existing Wells - Chesnut Pads - Sec.28-T5N-R64W						
Hall 28-3 (Exist) - Wellbore #1 - Wellbore #1	8,353.0	6,664.0	432.4	382.7	8.695	CC, ES
Hall 28-3 (Exist) - Wellbore #1 - Wellbore #1	8,400.0	6,665.6	435.0	384.4	8.606	SF
Hall 28-4 (Exist) - Wellbore #1 - Wellbore #1	6,788.7	6,500.0	308.7	282.3	11.720	CC, ES
Hall 28-4 (Exist) - Wellbore #1 - Wellbore #1	6,800.0	6,500.0	308.8	282.5	11.720	SF
Hall 28-5 (Exist) - Wellbore #1 - Wellbore #1	7,403.4	6,649.9	99.9	67.5	3.087	CC, ES, SF
Hendricks 33-2 (Exist) - Wellbore #1 - Wellbore #1	12,189.9	6,643.1	258.1	136.9	2.129	CC, ES
Hendricks 33-2 (Exist) - Wellbore #1 - Wellbore #1	12,200.0	6,643.0	258.3	136.9	2.127	SF
Hendricks 33-4 (Exist) - Wellbore #1 - Wellbore #1	13,567.8	6,643.4	417.5	272.7	2.884	CC, ES
Hendricks 33-4 (Exist) - Wellbore #1 - Wellbore #1	13,600.0	6,641.7	418.7	273.4	2.881	SF
Hendricks 5 (Exist) - Wellbore #1 - Wellbore #1	12,867.4	6,640.7	127.9	-88.1	0.592	Level 1, CC, ES, SF
P & A Farms 28-2 (Exist) - Wellbore #1 - Wellbore #1	9,638.1	6,644.5	473.9	282.5	2.476	CC, ES, SF

<b>Offset Design</b>												
Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)												
Survey Program: 0-MWD												
Reference												
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.0	0.0	0.0	0.0	0.0	0.0	-41.58	91.1	-80.8	121.7			
100.0	100.0	100.0	100.0	0.1	0.1	-41.58	91.1	-80.8	121.7	121.5	0.22	541.673
200.0	200.0	200.0	200.0	0.3	0.3	-41.58	91.1	-80.8	121.7	121.1	0.67	180.558 CC, ES
300.0	300.0	296.5	296.5	0.6	0.5	-41.99	91.5	-82.4	123.2	122.1	1.11	110.996
400.0	400.0	392.8	392.7	0.8	0.8	-43.18	92.8	-87.1	127.4	125.9	1.55	82.065
500.0	500.0	488.7	488.2	1.0	1.0	-44.99	94.9	-94.8	134.7	132.6	2.02	66.762

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
600.0	600.0	584.0	582.8	1.2	1.3	-47.20		97.8	-105.6	144.9	142.4	2.51	57.820	
700.0	700.0	678.3	676.1	1.5	1.6	-49.60		101.5	-119.3	158.4	155.4	3.02	52.374	
800.0	800.0	771.7	767.9	1.7	1.9	-52.02		105.9	-135.7	175.1	171.5	3.57	49.040	
900.0	900.0	863.8	857.9	1.9	2.3	-54.32		111.1	-154.7	195.1	190.9	4.14	47.074	
1,000.0	1,000.0	955.4	946.7	2.1	2.8	-56.45		117.0	-176.3	218.2	213.5	4.74	46.039	
1,100.0	1,100.0	1,052.1	1,040.1	2.4	3.3	-58.35		123.5	-200.3	242.8	237.4	5.37	45.201	
1,200.0	1,200.0	1,148.7	1,133.5	2.6	3.8	-59.91		129.9	-224.2	267.5	261.5	6.00	44.591	
1,300.0	1,300.0	1,245.4	1,226.9	2.8	4.3	-61.20		136.4	-248.2	292.5	285.8	6.63	44.123	
1,400.0	1,400.0	1,342.0	1,320.3	3.0	4.8	-62.29		142.9	-272.1	317.5	310.3	7.26	43.759	
1,500.0	1,500.0	1,438.7	1,413.8	3.3	5.3	-63.22		149.4	-296.0	342.6	334.8	7.88	43.471	
1,600.0	1,600.0	1,535.3	1,507.2	3.5	5.8	-64.03		155.9	-320.0	367.8	359.3	8.51	43.241	
1,700.0	1,700.0	1,632.3	1,600.9	3.7	6.4	-28.47		162.4	-344.0	391.6	383.8	7.81	50.156	
1,800.0	1,799.8	1,729.9	1,695.2	3.9	6.9	-29.24		168.9	-368.2	412.5	404.2	8.30	49.725	
1,900.0	1,899.5	1,827.9	1,789.9	4.2	7.4	-30.17		175.5	-392.5	430.5	421.7	8.78	49.047	
2,000.0	1,998.7	1,926.2	1,885.0	4.4	8.0	-31.27		182.1	-416.8	445.8	436.5	9.26	48.159	
2,100.0	2,097.6	2,024.8	1,980.3	4.7	8.5	-32.58		188.7	-441.2	458.9	449.1	9.74	47.109	
2,200.0	2,196.4	2,123.4	2,075.5	4.9	9.1	-33.87		195.4	-465.6	472.1	461.8	10.24	46.112	
2,300.0	2,295.3	2,221.9	2,170.8	5.2	9.6	-35.10		202.0	-490.1	485.5	474.7	10.74	45.188	
2,400.0	2,394.1	2,320.5	2,266.1	5.5	10.1	-36.26		208.6	-514.5	499.1	487.8	11.26	44.327	
2,500.0	2,493.0	2,419.1	2,361.3	5.8	10.7	-37.36		215.2	-538.9	512.9	501.1	11.79	43.522	
2,600.0	2,591.8	2,517.6	2,456.6	6.1	11.2	-38.40		221.8	-563.3	526.9	514.6	12.32	42.767	
2,700.0	2,690.7	2,616.2	2,551.9	6.4	11.8	-39.38		228.4	-587.7	541.1	528.2	12.87	42.056	
2,800.0	2,789.5	2,714.8	2,647.1	6.7	12.3	-40.32		235.0	-612.1	555.4	542.0	13.42	41.386	
2,900.0	2,888.4	2,813.4	2,742.4	7.0	12.9	-41.21		241.7	-636.6	569.8	555.8	13.98	40.754	
3,000.0	2,987.2	2,911.9	2,837.7	7.4	13.4	-42.06		248.3	-661.0	584.4	569.8	14.55	40.156	
3,100.0	3,086.1	3,010.5	2,933.0	7.7	13.9	-42.86		254.9	-685.4	599.1	584.0	15.13	39.590	
3,200.0	3,184.9	3,109.1	3,028.2	8.0	14.5	-43.63		261.5	-709.8	613.9	598.2	15.72	39.054	
3,300.0	3,283.8	3,207.6	3,123.5	8.4	15.0	-44.36		268.1	-734.2	628.8	612.5	16.31	38.546	
3,400.0	3,382.6	3,306.2	3,218.8	8.7	15.6	-45.06		274.7	-758.6	643.8	626.9	16.91	38.063	
3,500.0	3,481.4	3,404.8	3,314.0	9.0	16.1	-45.72		281.4	-783.0	658.9	641.4	17.52	37.605	
3,600.0	3,580.3	3,503.3	3,409.3	9.4	16.7	-46.36		288.0	-807.5	674.1	655.9	18.14	37.169	
3,700.0	3,679.1	3,601.9	3,504.6	9.7	17.2	-46.97		294.6	-831.9	689.3	670.6	18.75	36.755	
3,800.0	3,778.0	3,700.5	3,599.8	10.0	17.8	-47.55		301.2	-856.3	704.7	685.3	19.38	36.361	
3,900.0	3,876.8	3,799.1	3,695.1	10.4	18.3	-48.11		307.8	-880.7	720.1	700.0	20.01	35.986	
4,000.0	3,975.7	3,897.6	3,790.4	10.7	18.8	-48.64		314.4	-905.1	735.5	714.9	20.64	35.628	
4,100.0	4,074.5	3,996.2	3,885.6	11.1	19.4	-49.15		321.0	-929.5	751.0	729.7	21.28	35.287	
4,200.0	4,173.4	4,094.8	3,980.9	11.4	19.9	-49.64		327.7	-953.9	766.6	744.7	21.93	34.962	
4,300.0	4,272.2	4,193.3	4,076.2	11.8	20.5	-50.11		334.3	-978.4	782.2	759.7	22.57	34.651	
4,400.0	4,371.1	4,291.9	4,171.4	12.1	21.0	-50.57		340.9	-1,002.8	797.9	774.7	23.23	34.354	
4,500.0	4,469.9	4,390.5	4,266.7	12.5	21.6	-51.00		347.5	-1,027.2	813.6	789.8	23.88	34.071	
4,600.0	4,568.8	4,489.0	4,362.0	12.8	22.1	-51.42		354.1	-1,051.6	829.4	804.9	24.54	33.800	
4,700.0	4,667.6	4,587.6	4,457.3	13.2	22.7	-51.83		360.7	-1,076.0	845.2	820.0	25.20	33.540	
4,800.0	4,766.5	4,686.2	4,552.5	13.5	23.2	-52.21		367.4	-1,100.4	861.1	835.2	25.86	33.291	
4,900.0	4,865.3	4,784.7	4,647.8	13.9	23.7	-52.59		374.0	-1,124.9	877.0	850.4	26.53	33.053	
5,000.0	4,964.2	4,883.3	4,743.1	14.2	24.3	-52.95		380.6	-1,149.3	892.9	865.7	27.20	32.824	
5,100.0	5,063.2	4,981.8	4,838.2	14.5	24.8	-53.48		387.2	-1,173.7	909.8	882.0	27.82	32.703	
5,200.0	5,162.7	5,079.9	4,933.1	14.7	25.4	-53.87		393.8	-1,198.0	928.8	900.5	28.36	32.752	
5,300.0	5,262.5	5,208.2	5,057.4	14.9	26.0	-54.09		402.0	-1,228.2	948.8	919.9	28.90	32.830	
5,400.0	5,362.5	5,353.4	5,199.7	15.1	26.5	-54.12		409.6	-1,256.2	966.3	936.9	29.36	32.915	
5,500.0	5,462.5	5,500.6	5,345.2	15.3	26.9	-90.04		415.3	-1,277.4	980.5	950.8	29.76	32.946	
5,600.0	5,562.5	5,649.6	5,493.5	15.4	27.2	-89.82		419.1	-1,291.5	990.0	959.8	30.18	32.807	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,700.0	5,662.5	5,799.8	5,643.5	15.6	27.4	-89.72		420.9	-1,298.2	994.5	963.9	30.58	32.517	
5,800.0	5,762.5	5,918.7	5,762.5	15.8	27.5	-89.71		421.1	-1,298.7	994.8	963.9	30.94	32.149	
5,900.0	5,862.5	6,018.7	5,862.5	16.0	27.6	-89.71		421.1	-1,298.7	994.8	963.5	31.29	31.796	
6,000.0	5,962.4	6,119.2	5,962.8	16.1	27.7	90.29		417.8	-1,298.7	994.8	963.3	31.56	31.524	
6,100.0	6,061.1	6,219.8	6,062.2	16.1	27.7	90.29		402.0	-1,298.7	994.8	963.2	31.65	31.433	
6,200.0	6,156.9	6,320.5	6,158.5	16.1	27.7	90.28		373.2	-1,298.7	994.8	963.2	31.60	31.483	
6,300.0	6,248.1	6,421.1	6,250.3	16.0	27.7	90.26		332.1	-1,298.7	994.8	963.4	31.46	31.625	
6,400.0	6,333.3	6,521.7	6,335.8	15.9	27.6	90.24		279.2	-1,298.7	994.8	963.5	31.29	31.793	
6,500.0	6,411.0	6,622.2	6,413.5	15.7	27.6	90.22		215.7	-1,298.7	994.8	963.6	31.18	31.901	
6,600.0	6,479.8	6,722.7	6,482.3	15.6	27.5	90.19		142.5	-1,298.7	994.8	963.6	31.23	31.855	
6,700.0	6,538.5	6,823.0	6,540.8	15.4	27.5	90.16		61.0	-1,298.7	994.8	963.3	31.51	31.567	
6,800.0	6,586.1	6,923.4	6,588.1	15.3	27.6	90.12		-27.4	-1,298.7	994.8	962.7	32.11	30.980	
6,900.0	6,621.9	7,023.6	6,623.4	15.5	27.7	90.09		-121.1	-1,298.7	994.8	961.7	33.06	30.087	
7,000.0	6,645.2	7,123.8	6,646.1	16.2	27.8	90.05		-218.6	-1,298.7	994.8	960.4	34.38	28.933	
7,100.0	6,655.7	7,223.8	6,655.9	17.1	28.1	90.01		-318.1	-1,298.7	994.8	958.8	36.04	27.601	
7,104.4	6,655.8	7,228.2	6,656.0	17.1	28.1	90.01		-322.4	-1,298.7	994.8	958.7	36.12	27.538	
7,200.0	6,655.9	7,323.8	6,655.9	18.1	28.5	90.00		-418.1	-1,298.7	994.8	956.8	38.00	26.177	
7,300.0	6,655.4	7,423.8	6,655.5	19.2	29.1	90.00		-518.1	-1,298.7	994.8	954.6	40.23	24.730	
7,400.0	6,654.9	7,523.8	6,655.0	20.5	29.8	90.00		-618.1	-1,298.7	994.8	952.1	42.68	23.308	
7,500.0	6,654.5	7,623.8	6,654.5	21.8	30.6	90.00		-718.1	-1,298.7	994.8	949.5	45.33	21.946	
7,600.0	6,654.0	7,723.8	6,654.0	23.2	31.5	90.00		-818.1	-1,298.7	994.8	946.7	48.14	20.666	
7,700.0	6,653.5	7,823.8	6,653.5	24.7	32.6	90.00		-918.1	-1,298.7	994.8	943.7	51.08	19.474	
7,800.0	6,653.0	7,923.8	6,653.0	26.3	33.8	90.00		-1,018.1	-1,298.7	994.8	940.7	54.14	18.375	
7,900.0	6,652.5	8,023.8	6,652.5	27.9	35.0	90.00		-1,118.1	-1,298.7	994.8	937.5	57.29	17.364	
8,000.0	6,652.0	8,123.8	6,652.0	29.5	36.3	90.00		-1,218.1	-1,298.7	994.8	934.3	60.52	16.437	
8,100.0	6,651.5	8,223.8	6,651.5	31.1	37.7	90.00		-1,318.1	-1,298.7	994.8	931.0	63.82	15.587	
8,200.0	6,651.0	8,323.8	6,651.1	32.8	39.1	90.00		-1,418.1	-1,298.7	994.8	927.6	67.18	14.809	
8,300.0	6,650.6	8,423.8	6,650.6	34.5	40.6	90.00		-1,518.1	-1,298.7	994.8	924.2	70.58	14.094	
8,400.0	6,650.1	8,523.8	6,650.1	36.3	42.1	90.00		-1,618.1	-1,298.7	994.8	920.8	74.03	13.438	
8,500.0	6,649.6	8,623.8	6,649.6	38.0	43.6	90.00		-1,718.1	-1,298.7	994.8	917.3	77.52	12.833	
8,600.0	6,649.1	8,723.8	6,649.1	39.8	45.2	90.00		-1,818.1	-1,298.7	994.8	913.8	81.03	12.276	
8,700.0	6,648.6	8,823.8	6,648.6	41.6	46.8	90.00		-1,918.1	-1,298.7	994.8	910.2	84.58	11.762	
8,800.0	6,648.1	8,923.8	6,648.1	43.3	48.5	90.00		-2,018.1	-1,298.7	994.8	906.7	88.15	11.285	
8,900.0	6,647.6	9,023.8	6,647.6	45.1	50.1	90.00		-2,118.1	-1,298.7	994.8	903.1	91.74	10.843	
9,000.0	6,647.1	9,123.8	6,647.1	47.0	51.8	90.00		-2,218.1	-1,298.7	994.8	899.4	95.36	10.433	
9,100.0	6,646.6	9,223.8	6,646.7	48.8	53.5	90.00		-2,318.1	-1,298.7	994.8	895.8	98.98	10.050	
9,200.0	6,646.2	9,323.8	6,646.2	50.6	55.2	90.00		-2,418.1	-1,298.7	994.8	892.2	102.63	9.693	
9,300.0	6,645.7	9,423.8	6,645.7	52.4	57.0	90.00		-2,518.1	-1,298.7	994.8	888.5	106.29	9.360	
9,400.0	6,645.2	9,523.8	6,645.2	54.3	58.7	90.00		-2,618.1	-1,298.7	994.8	884.8	109.96	9.047	
9,500.0	6,644.7	9,623.8	6,644.7	56.1	60.4	90.00		-2,718.1	-1,298.7	994.8	881.2	113.64	8.754	
9,600.0	6,644.2	9,723.8	6,644.2	58.0	62.2	90.00		-2,818.1	-1,298.7	994.8	877.5	117.33	8.479	
9,700.0	6,643.7	9,823.8	6,643.7	59.8	64.0	90.00		-2,918.1	-1,298.7	994.8	873.8	121.03	8.219	
9,800.0	6,643.2	9,923.8	6,643.2	61.7	65.7	90.00		-3,018.1	-1,298.7	994.8	870.1	124.74	7.975	
9,900.0	6,642.7	10,023.8	6,642.7	63.5	67.5	90.00		-3,118.1	-1,298.7	994.8	866.3	128.46	7.744	
10,000.0	6,642.2	10,123.8	6,642.3	65.4	69.3	90.00		-3,218.0	-1,298.7	994.8	862.6	132.19	7.526	
10,100.0	6,641.8	10,223.8	6,641.8	67.3	71.1	90.00		-3,318.0	-1,298.7	994.8	858.9	135.92	7.319	
10,200.0	6,641.3	10,323.8	6,641.3	69.1	72.9	90.00		-3,418.0	-1,298.7	994.8	855.2	139.65	7.123	
10,300.0	6,640.8	10,423.8	6,640.8	71.0	74.7	90.00		-3,518.0	-1,298.7	994.8	851.4	143.40	6.937	
10,400.0	6,640.3	10,523.8	6,640.3	72.9	76.6	90.00		-3,618.0	-1,298.7	994.8	847.7	147.15	6.761	
10,500.0	6,639.8	10,623.8	6,639.8	74.8	78.4	90.00		-3,718.0	-1,298.7	994.8	843.9	150.90	6.593	
10,600.0	6,639.3	10,723.8	6,639.3	76.6	80.2	90.00		-3,818.0	-1,298.7	994.8	840.2	154.65	6.432	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-203 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
10,700.0	6,638.8	10,823.8	6,638.8	78.5	82.0	90.00	-3,918.0	-1,298.7	994.8	836.4	158.42	6.280		
10,800.0	6,638.3	10,923.8	6,638.4	80.4	83.9	90.00	-4,018.0	-1,298.7	994.8	832.6	162.18	6.134		
10,900.0	6,637.8	11,023.8	6,637.9	82.3	85.7	90.00	-4,118.0	-1,298.7	994.8	828.9	165.95	5.995		
11,000.0	6,637.4	11,123.8	6,637.4	84.2	87.6	90.00	-4,218.0	-1,298.7	994.8	825.1	169.72	5.861		
11,100.0	6,636.9	11,223.8	6,636.9	86.1	89.4	90.00	-4,318.0	-1,298.7	994.8	821.3	173.49	5.734		
11,200.0	6,636.4	11,323.8	6,636.4	88.0	91.2	90.00	-4,418.0	-1,298.7	994.8	817.5	177.27	5.612		
11,300.0	6,635.9	11,423.8	6,635.9	89.8	93.1	90.00	-4,518.0	-1,298.7	994.8	813.8	181.05	5.495		
11,400.0	6,635.4	11,523.8	6,635.4	91.7	94.9	90.00	-4,618.0	-1,298.7	994.8	810.0	184.83	5.382		
11,500.0	6,634.9	11,623.8	6,634.9	93.6	96.8	90.00	-4,718.0	-1,298.7	994.8	806.2	188.62	5.274		
11,600.0	6,634.4	11,723.8	6,634.4	95.5	98.7	90.00	-4,818.0	-1,298.7	994.8	802.4	192.41	5.170		
11,700.0	6,633.9	11,823.8	6,634.0	97.4	100.5	90.00	-4,918.0	-1,298.7	994.8	798.6	196.20	5.070		
11,800.0	6,633.4	11,923.8	6,633.5	99.3	102.4	90.00	-5,018.0	-1,298.7	994.8	794.8	199.99	4.974		
11,900.0	6,633.0	12,023.8	6,633.0	101.2	104.3	90.00	-5,118.0	-1,298.7	994.8	791.0	203.78	4.882		
12,000.0	6,632.5	12,123.8	6,632.5	103.1	106.1	90.00	-5,218.0	-1,298.7	994.8	787.2	207.57	4.793		
12,100.0	6,632.0	12,223.8	6,632.0	105.0	108.0	90.00	-5,318.0	-1,298.7	994.8	783.4	211.37	4.706		
12,200.0	6,631.5	12,323.8	6,631.5	106.9	109.9	90.00	-5,418.0	-1,298.7	994.8	779.6	215.17	4.623		
12,300.0	6,631.0	12,423.8	6,631.0	108.8	111.7	90.00	-5,518.0	-1,298.7	994.8	775.8	218.97	4.543		
12,400.0	6,630.5	12,523.8	6,630.5	110.7	113.6	90.00	-5,618.0	-1,298.7	994.8	772.0	222.77	4.466		
12,500.0	6,630.0	12,623.8	6,630.0	112.6	115.5	90.00	-5,718.0	-1,298.7	994.8	768.2	226.57	4.391		
12,600.0	6,629.5	12,723.8	6,629.6	114.5	117.4	90.00	-5,818.0	-1,298.7	994.8	764.4	230.38	4.318		
12,700.0	6,629.0	12,823.8	6,629.1	116.4	119.2	90.00	-5,918.0	-1,298.7	994.8	760.6	234.18	4.248		
12,800.0	6,628.6	12,923.8	6,628.6	118.3	121.1	90.00	-6,018.0	-1,298.7	994.8	756.8	237.99	4.180		
12,900.0	6,628.1	13,023.8	6,628.1	120.2	123.0	90.00	-6,118.0	-1,298.7	994.8	753.0	241.80	4.114		
13,000.0	6,627.6	13,123.8	6,627.6	122.1	124.9	90.00	-6,218.0	-1,298.7	994.8	749.2	245.60	4.050		
13,100.0	6,627.1	13,223.8	6,627.1	124.0	126.8	90.00	-6,318.0	-1,298.7	994.8	745.4	249.41	3.989		
13,200.0	6,626.6	13,323.8	6,626.6	125.9	128.7	90.00	-6,418.0	-1,298.7	994.8	741.6	253.22	3.929		
13,300.0	6,626.1	13,423.8	6,626.1	127.8	130.5	90.00	-6,518.0	-1,298.7	994.8	737.8	257.03	3.870		
13,400.0	6,625.6	13,523.8	6,625.6	129.8	132.4	90.00	-6,618.0	-1,298.7	994.8	734.0	260.85	3.814		
13,500.0	6,625.1	13,623.8	6,625.2	131.7	134.3	90.00	-6,718.0	-1,298.7	994.8	730.2	264.66	3.759		
13,600.0	6,624.6	13,723.8	6,624.7	133.6	136.2	90.00	-6,818.0	-1,298.7	994.8	726.3	268.47	3.705		
13,700.0	6,624.2	13,823.8	6,624.2	135.5	138.1	90.00	-6,918.0	-1,298.7	994.8	722.5	272.29	3.654		
13,733.0	6,624.0	13,856.8	6,624.0	136.1	138.7	90.00	-6,951.0	-1,298.7	994.8	721.3	273.55	3.637 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-323 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-41.43	47.4	-41.8	63.2					
100.0	100.0	100.0	100.0	0.1	0.1	-41.43	47.4	-41.8	63.2	62.9	0.22	281.006		
200.0	200.0	200.0	200.0	0.3	0.3	-41.43	47.4	-41.8	63.2	62.5	0.67	93.669		
300.0	300.0	300.0	300.0	0.6	0.6	-41.43	47.4	-41.8	63.2	62.0	1.12	56.201		
400.0	400.0	400.0	400.0	0.8	0.8	-41.43	47.4	-41.8	63.2	61.6	1.57	40.144		
500.0	500.0	500.0	500.0	1.0	1.0	-41.43	47.4	-41.8	63.2	61.1	2.02	31.223		
600.0	600.0	600.0	600.0	1.2	1.2	-41.43	47.4	-41.8	63.2	60.7	2.47	25.546		
700.0	700.0	700.0	700.0	1.5	1.5	-41.43	47.4	-41.8	63.2	60.2	2.92	21.616		
800.0	800.0	800.0	800.0	1.7	1.7	-41.43	47.4	-41.8	63.2	59.8	3.37	18.734		
900.0	900.0	900.0	900.0	1.9	1.9	-41.43	47.4	-41.8	63.2	59.3	3.82	16.530		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-41.43	47.4	-41.8	63.2	58.9	4.27	14.790 CC, ES		
1,100.0	1,100.0	1,098.0	1,098.0	2.4	2.3	-42.02	48.1	-43.3	64.7	60.0	4.71	13.747		
1,200.0	1,200.0	1,195.7	1,195.6	2.6	2.6	-43.61	50.2	-47.8	69.5	64.3	5.15	13.506		
1,300.0	1,300.0	1,293.0	1,292.5	2.8	2.8	-45.83	53.7	-55.3	77.5	71.9	5.59	13.864		
1,400.0	1,400.0	1,389.6	1,388.4	3.0	3.0	-48.25	58.6	-65.7	88.8	82.8	6.05	14.692		
1,500.0	1,500.0	1,485.4	1,483.1	3.3	3.3	-50.57	64.9	-78.9	103.5	97.0	6.52	15.884		
1,600.0	1,600.0	1,580.0	1,576.1	3.5	3.6	-52.63	72.3	-94.7	121.6	114.5	7.00	17.355		
1,700.0	1,700.0	1,678.0	1,672.0	3.7	3.9	-18.32	80.8	-112.7	139.9	132.5	7.36	18.992		
1,800.0	1,799.8	1,776.7	1,768.6	3.9	4.3	-20.16	89.4	-130.8	155.1	147.3	7.80	19.874		
1,900.0	1,899.5	1,875.8	1,865.7	4.2	4.6	-22.10	98.0	-149.1	167.2	159.0	8.24	20.293		
2,000.0	1,998.7	1,975.1	1,962.9	4.4	5.0	-24.25	106.6	-167.3	176.4	167.7	8.68	20.326		
2,100.0	2,097.6	2,074.6	2,060.3	4.7	5.4	-26.61	115.2	-185.6	183.3	174.2	9.14	20.063		
2,200.0	2,196.4	2,174.1	2,157.8	4.9	5.8	-28.84	123.8	-203.9	190.3	180.7	9.61	19.796		
2,300.0	2,295.3	2,273.6	2,255.2	5.2	6.2	-30.91	132.5	-222.2	197.6	187.5	10.10	19.559		
2,400.0	2,394.1	2,373.1	2,352.6	5.5	6.6	-32.83	141.1	-240.4	205.2	194.6	10.61	19.345		
2,500.0	2,493.0	2,472.6	2,450.0	5.8	7.1	-34.62	149.7	-258.7	212.9	201.8	11.12	19.148		
2,600.0	2,591.8	2,572.1	2,547.4	6.1	7.5	-36.27	158.3	-277.0	220.9	209.2	11.65	18.964		
2,700.0	2,690.7	2,671.5	2,644.8	6.4	7.9	-37.82	167.0	-295.3	229.0	216.8	12.19	18.792		
2,800.0	2,789.5	2,771.0	2,742.2	6.7	8.3	-39.25	175.6	-313.6	237.3	224.5	12.74	18.629		
2,900.0	2,888.4	2,870.5	2,839.6	7.0	8.8	-40.59	184.2	-331.8	245.7	232.4	13.30	18.475		
3,000.0	2,987.2	2,970.0	2,937.1	7.4	9.2	-41.84	192.9	-350.1	254.2	240.3	13.87	18.328		
3,100.0	3,086.1	3,069.5	3,034.5	7.7	9.6	-43.01	201.5	-368.4	262.9	248.4	14.45	18.188		
3,200.0	3,184.9	3,169.0	3,131.9	8.0	10.1	-44.10	210.1	-386.7	271.6	256.6	15.04	18.054		
3,300.0	3,283.8	3,268.5	3,229.3	8.4	10.5	-45.13	218.7	-405.0	280.4	264.8	15.64	17.926		
3,400.0	3,382.6	3,367.9	3,326.7	8.7	10.9	-46.09	227.4	-423.2	289.4	273.1	16.25	17.804		
3,500.0	3,481.4	3,467.4	3,424.1	9.0	11.4	-47.00	236.0	-441.5	298.4	281.5	16.87	17.688		
3,600.0	3,580.3	3,566.9	3,521.5	9.4	11.8	-47.85	244.6	-459.8	307.4	290.0	17.49	17.577		
3,700.0	3,679.1	3,666.4	3,618.9	9.7	12.3	-48.65	253.2	-478.1	316.6	298.5	18.12	17.471		
3,800.0	3,778.0	3,765.9	3,716.3	10.0	12.7	-49.41	261.9	-496.4	325.8	307.0	18.76	17.370		
3,900.0	3,876.8	3,865.4	3,813.8	10.4	13.1	-50.12	270.5	-514.6	335.0	315.6	19.40	17.273		
4,000.0	3,975.7	3,964.9	3,911.2	10.7	13.6	-50.80	279.1	-532.9	344.3	324.3	20.04	17.181		
4,100.0	4,074.5	4,064.3	4,008.6	11.1	14.0	-51.44	287.8	-551.2	353.7	333.0	20.69	17.093		
4,200.0	4,173.4	4,163.8	4,106.0	11.4	14.5	-52.05	296.4	-569.5	363.0	341.7	21.34	17.009		
4,300.0	4,272.2	4,263.3	4,203.4	11.8	14.9	-52.63	305.0	-587.8	372.5	350.5	22.00	16.928		
4,400.0	4,371.1	4,362.8	4,300.8	12.1	15.4	-53.18	313.6	-606.0	381.9	359.3	22.66	16.852		
4,500.0	4,469.9	4,462.3	4,398.2	12.5	15.8	-53.70	322.3	-624.3	391.4	368.1	23.33	16.778		
4,600.0	4,568.8	4,561.8	4,495.6	12.8	16.2	-54.20	330.9	-642.6	400.9	376.9	24.00	16.708		
4,700.0	4,667.6	4,661.3	4,593.0	13.2	16.7	-54.68	339.5	-660.9	410.5	385.8	24.67	16.641		
4,800.0	4,766.5	4,760.8	4,690.5	13.5	17.1	-55.13	348.1	-679.2	420.1	394.7	25.34	16.577		
4,900.0	4,865.3	4,860.2	4,787.9	13.9	17.6	-55.56	356.8	-697.4	429.7	403.6	26.02	16.516		
5,000.0	4,964.2	4,959.7	4,885.3	14.2	18.0	-55.98	365.4	-715.7	439.3	412.6	26.69	16.457		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-323 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,063.2	5,059.1	4,982.6	14.5	18.5	-56.37		374.0	-734.0	449.9	422.5	27.31	16.469	
5,200.0	5,162.7	5,158.4	5,079.8	14.7	18.9	-56.42		382.6	-752.2	462.3	434.5	27.83	16.614	
5,300.0	5,262.5	5,257.2	5,176.6	14.9	19.3	-56.17		391.2	-770.4	476.8	448.5	28.26	16.868	
5,400.0	5,362.5	5,365.8	5,283.1	15.1	19.8	-55.58		400.3	-789.7	492.6	464.0	28.62	17.209	
5,500.0	5,462.5	5,482.9	5,398.6	15.3	20.1	-90.88		408.3	-806.6	506.8	477.9	28.92	17.524	
5,600.0	5,562.5	5,601.2	5,516.1	15.4	20.4	-90.18		414.3	-819.4	517.6	488.4	29.25	17.697	
5,700.0	5,662.5	5,720.6	5,635.1	15.6	20.7	-89.75		418.3	-827.9	524.7	495.1	29.59	17.733	
5,800.0	5,762.5	5,840.5	5,754.9	15.8	20.8	-89.54		420.2	-831.9	528.0	498.1	29.95	17.633	
5,900.0	5,862.5	5,948.1	5,862.5	16.0	21.0	-89.53		420.4	-832.2	528.3	498.0	30.31	17.431	
5,919.9	5,882.4	5,968.0	5,882.4	16.0	21.0	90.49		420.4	-832.2	528.3	497.9	30.37	17.396	
6,000.0	5,962.4	6,048.0	5,962.4	16.1	21.1	90.82		420.4	-832.2	528.3	497.8	30.57	17.281	
6,100.0	6,061.1	6,149.0	6,063.2	16.1	21.2	91.94		415.0	-832.2	528.6	498.0	30.57	17.291	
6,200.0	6,156.9	6,251.6	6,163.9	16.1	21.2	93.04		396.1	-832.2	529.0	498.6	30.41	17.398	
6,300.0	6,248.1	6,355.6	6,262.6	16.0	21.2	94.10		363.3	-832.2	529.7	499.5	30.15	17.568	
6,400.0	6,333.3	6,461.1	6,357.1	15.9	21.1	95.09		316.7	-832.2	530.4	500.5	29.86	17.762	
6,500.0	6,411.0	6,568.0	6,445.4	15.7	21.0	95.99		256.6	-832.2	531.2	501.6	29.63	17.926	
6,600.0	6,479.8	6,676.1	6,525.3	15.6	20.9	96.79		184.0	-832.2	532.0	502.5	29.56	18.000	
6,700.0	6,538.5	6,785.4	6,594.9	15.4	20.8	97.46		99.8	-832.2	532.8	503.1	29.72	17.926	
6,800.0	6,586.1	6,895.6	6,652.2	15.3	20.8	98.00		5.7	-832.2	533.5	503.3	30.21	17.661	
6,900.0	6,621.9	7,006.6	6,695.6	15.5	20.8	98.38		-96.3	-832.2	534.0	502.9	31.07	17.188	
7,000.0	6,645.2	7,118.2	6,723.9	16.2	21.0	98.61		-204.1	-832.2	534.3	502.0	32.32	16.532	
7,100.0	6,655.7	7,229.9	6,736.2	17.1	21.5	98.68		-315.1	-832.2	534.4	500.5	33.93	15.749	
7,200.0	6,655.9	7,333.4	6,736.4	18.1	22.1	98.66		-418.5	-832.2	534.4	498.5	35.86	14.903	
7,300.0	6,655.4	7,433.4	6,735.8	19.2	23.0	98.65		-518.5	-832.2	534.4	496.3	38.05	14.043	
7,400.0	6,654.9	7,533.4	6,735.3	20.5	24.0	98.65		-618.5	-832.2	534.4	493.9	40.49	13.198	
7,500.0	6,654.5	7,633.4	6,734.7	21.8	25.1	98.64		-718.5	-832.2	534.4	491.2	43.12	12.392	
7,600.0	6,654.0	7,733.4	6,734.2	23.2	26.4	98.64		-818.5	-832.2	534.4	488.4	45.92	11.637	
7,700.0	6,653.5	7,833.4	6,733.7	24.7	27.7	98.63		-918.5	-832.2	534.3	485.5	48.85	10.938	
7,800.0	6,653.0	7,933.4	6,733.1	26.3	29.1	98.62		-1,018.5	-832.2	534.3	482.4	51.90	10.295	
7,900.0	6,652.5	8,033.4	6,732.6	27.9	30.6	98.62		-1,118.5	-832.2	534.3	479.3	55.04	9.707	
8,000.0	6,652.0	8,133.4	6,732.0	29.5	32.1	98.61		-1,218.5	-832.2	534.3	476.1	58.27	9.170	
8,100.0	6,651.5	8,233.4	6,731.5	31.1	33.7	98.61		-1,318.5	-832.2	534.3	472.8	61.55	8.680	
8,200.0	6,651.0	8,333.4	6,731.0	32.8	35.3	98.60		-1,418.5	-832.2	534.3	469.4	64.90	8.233	
8,300.0	6,650.6	8,433.4	6,730.4	34.5	36.9	98.60		-1,518.5	-832.2	534.3	466.0	68.29	7.824	
8,400.0	6,650.1	8,533.4	6,729.9	36.3	38.6	98.59		-1,618.5	-832.2	534.3	462.6	71.73	7.449	
8,500.0	6,649.6	8,633.4	6,729.3	38.0	40.2	98.59		-1,718.5	-832.2	534.3	459.1	75.20	7.105	
8,600.0	6,649.1	8,733.4	6,728.8	39.8	41.9	98.58		-1,818.5	-832.2	534.3	455.6	78.70	6.789	
8,700.0	6,648.6	8,833.4	6,728.2	41.6	43.7	98.57		-1,918.5	-832.2	534.3	452.0	82.23	6.497	
8,800.0	6,648.1	8,933.4	6,727.7	43.3	45.4	98.57		-2,018.5	-832.2	534.3	448.5	85.78	6.228	
8,900.0	6,647.6	9,033.4	6,727.2	45.1	47.1	98.56		-2,118.5	-832.2	534.2	444.9	89.36	5.979	
9,000.0	6,647.1	9,133.4	6,726.6	47.0	48.9	98.56		-2,218.5	-832.2	534.2	441.3	92.95	5.748	
9,100.0	6,646.6	9,233.4	6,726.1	48.8	50.7	98.55		-2,318.5	-832.2	534.2	437.7	96.56	5.533	
9,200.0	6,646.2	9,333.4	6,725.5	50.6	52.5	98.55		-2,418.5	-832.2	534.2	434.0	100.18	5.333	
9,300.0	6,645.7	9,433.4	6,725.0	52.4	54.3	98.54		-2,518.5	-832.2	534.2	430.4	103.82	5.146	
9,400.0	6,645.2	9,533.4	6,724.5	54.3	56.1	98.54		-2,618.5	-832.2	534.2	426.7	107.47	4.971	
9,500.0	6,644.7	9,633.4	6,723.9	56.1	57.9	98.53		-2,718.5	-832.2	534.2	423.1	111.13	4.807	
9,600.0	6,644.2	9,733.4	6,723.4	58.0	59.7	98.52		-2,818.5	-832.2	534.2	419.4	114.80	4.653	
9,700.0	6,643.7	9,833.4	6,722.8	59.8	61.5	98.52		-2,918.5	-832.2	534.2	415.7	118.47	4.509	
9,800.0	6,643.2	9,933.4	6,722.3	61.7	63.3	98.51		-3,018.5	-832.2	534.2	412.0	122.16	4.373	
9,900.0	6,642.7	10,033.4	6,721.8	63.5	65.2	98.51		-3,118.5	-832.2	534.2	408.3	125.85	4.244	
10,000.0	6,642.2	10,133.4	6,721.2	65.4	67.0	98.50		-3,218.5	-832.2	534.2	404.6	129.55	4.123	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-323 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,641.8	10,233.4	6,720.7	67.3	68.8	98.50	98.50	-3,318.5	-832.2	534.2	400.9	133.26	4.008	
10,200.0	6,641.3	10,333.4	6,720.1	69.1	70.7	98.49	98.49	-3,418.5	-832.2	534.1	397.2	136.97	3.900	
10,300.0	6,640.8	10,433.4	6,719.6	71.0	72.5	98.49	98.49	-3,518.5	-832.2	534.1	393.5	140.69	3.797	
10,400.0	6,640.3	10,533.4	6,719.1	72.9	74.4	98.48	98.48	-3,618.5	-832.2	534.1	389.7	144.41	3.699	
10,500.0	6,639.8	10,633.4	6,718.5	74.8	76.2	98.47	98.47	-3,718.5	-832.2	534.1	386.0	148.13	3.606	
10,600.0	6,639.3	10,733.4	6,718.0	76.6	78.1	98.47	98.47	-3,818.5	-832.2	534.1	382.3	151.86	3.517	
10,700.0	6,638.8	10,833.4	6,717.4	78.5	80.0	98.46	98.46	-3,918.5	-832.2	534.1	378.5	155.60	3.433	
10,800.0	6,638.3	10,933.4	6,716.9	80.4	81.8	98.46	98.46	-4,018.5	-832.2	534.1	374.8	159.34	3.352	
10,900.0	6,637.8	11,033.4	6,716.3	82.3	83.7	98.45	98.45	-4,118.5	-832.2	534.1	371.0	163.08	3.275	
11,000.0	6,637.4	11,133.4	6,715.8	84.2	85.6	98.45	98.45	-4,218.5	-832.2	534.1	367.3	166.82	3.202	
11,100.0	6,636.9	11,233.4	6,715.3	86.1	87.4	98.44	98.44	-4,318.5	-832.2	534.1	363.5	170.57	3.131	
11,200.0	6,636.4	11,333.4	6,714.7	88.0	89.3	98.44	98.44	-4,418.5	-832.2	534.1	359.8	174.32	3.064	
11,300.0	6,635.9	11,433.4	6,714.2	89.8	91.2	98.43	98.43	-4,518.5	-832.2	534.1	356.0	178.07	2.999	
11,400.0	6,635.4	11,533.4	6,713.6	91.7	93.1	98.42	98.42	-4,618.5	-832.2	534.1	352.2	181.83	2.937	
11,500.0	6,634.9	11,633.4	6,713.1	93.6	94.9	98.42	98.42	-4,718.5	-832.2	534.0	348.5	185.58	2.878	
11,600.0	6,634.4	11,733.4	6,712.6	95.5	96.8	98.41	98.41	-4,818.5	-832.2	534.0	344.7	189.34	2.820	
11,700.0	6,633.9	11,833.4	6,712.0	97.4	98.7	98.41	98.41	-4,918.5	-832.2	534.0	340.9	193.10	2.766	
11,800.0	6,633.4	11,933.4	6,711.5	99.3	100.6	98.40	98.40	-5,018.5	-832.2	534.0	337.2	196.87	2.713	
11,900.0	6,633.0	12,033.4	6,710.9	101.2	102.5	98.40	98.40	-5,118.5	-832.2	534.0	333.4	200.63	2.662	
12,000.0	6,632.5	12,133.4	6,710.4	103.1	104.4	98.39	98.39	-5,218.4	-832.2	534.0	329.6	204.40	2.613	
12,100.0	6,632.0	12,233.4	6,709.9	105.0	106.3	98.39	98.39	-5,318.4	-832.2	534.0	325.8	208.17	2.565	
12,200.0	6,631.5	12,333.4	6,709.3	106.9	108.1	98.38	98.38	-5,418.4	-832.2	534.0	322.1	211.94	2.520	
12,300.0	6,631.0	12,433.4	6,708.8	108.8	110.0	98.37	98.37	-5,518.4	-832.2	534.0	318.3	215.71	2.475	
12,400.0	6,630.5	12,533.4	6,708.2	110.7	111.9	98.37	98.37	-5,618.4	-832.2	534.0	314.5	219.48	2.433	
12,500.0	6,630.0	12,633.4	6,707.7	112.6	113.8	98.36	98.36	-5,718.4	-832.2	534.0	310.7	223.26	2.392	
12,600.0	6,629.5	12,733.4	6,707.1	114.5	115.7	98.36	98.36	-5,818.4	-832.2	534.0	306.9	227.03	2.352	
12,700.0	6,629.0	12,833.4	6,706.6	116.4	117.6	98.35	98.35	-5,918.4	-832.2	534.0	303.1	230.81	2.313	
12,800.0	6,628.6	12,933.4	6,706.1	118.3	119.5	98.35	98.35	-6,018.4	-832.2	533.9	299.4	234.59	2.276	
12,900.0	6,628.1	13,033.4	6,705.5	120.2	121.4	98.34	98.34	-6,118.4	-832.2	533.9	295.6	238.37	2.240	
13,000.0	6,627.6	13,133.4	6,705.0	122.1	123.3	98.34	98.34	-6,218.4	-832.2	533.9	291.8	242.15	2.205	
13,100.0	6,627.1	13,233.4	6,704.4	124.0	125.2	98.33	98.33	-6,318.4	-832.2	533.9	288.0	245.93	2.171	
13,200.0	6,626.6	13,333.4	6,703.9	125.9	127.1	98.32	98.32	-6,418.4	-832.2	533.9	284.2	249.71	2.138	
13,300.0	6,626.1	13,433.4	6,703.4	127.8	129.0	98.32	98.32	-6,518.4	-832.2	533.9	280.4	253.49	2.106	
13,400.0	6,625.6	13,533.4	6,702.8	129.8	130.9	98.31	98.31	-6,618.4	-832.2	533.9	276.6	257.28	2.075	
13,500.0	6,625.1	13,633.4	6,702.3	131.7	132.8	98.31	98.31	-6,718.4	-832.2	533.9	272.8	261.06	2.045	
13,600.0	6,624.6	13,733.4	6,701.7	133.6	134.7	98.30	98.30	-6,818.4	-832.2	533.9	269.0	264.85	2.016	
13,700.0	6,624.2	13,833.4	6,701.2	135.5	136.6	98.30	98.30	-6,918.4	-832.2	533.9	265.2	268.63	1.987	
13,733.0	6,624.0	13,866.4	6,701.0	136.1	137.2	98.29	98.29	-6,951.4	-832.2	533.9	264.0	269.88	1.978 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-423 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-41.52	69.2	-61.3	92.5					
100.0	100.0	100.0	100.0	0.1	0.1	-41.52	69.2	-61.3	92.5	92.2	0.22	411.366		
200.0	200.0	200.0	200.0	0.3	0.3	-41.52	69.2	-61.3	92.5	91.8	0.67	137.122		
300.0	300.0	300.0	300.0	0.6	0.6	-41.52	69.2	-61.3	92.5	91.3	1.12	82.273		
400.0	400.0	400.0	400.0	0.8	0.8	-41.52	69.2	-61.3	92.5	90.9	1.57	58.767 CC, ES		
500.0	500.0	497.2	497.2	1.0	1.0	-42.01	69.8	-62.8	94.0	91.9	2.01	46.749		
600.0	600.0	594.2	594.0	1.2	1.2	-43.36	71.5	-67.5	98.5	96.0	2.45	40.209		
700.0	700.0	690.7	690.2	1.5	1.4	-45.35	74.2	-75.2	106.1	103.2	2.90	36.533		
800.0	800.0	786.6	785.4	1.7	1.7	-47.69	78.1	-85.8	116.9	113.5	3.38	34.595		
900.0	900.0	881.6	879.4	1.9	2.0	-50.11	83.0	-99.3	131.0	127.1	3.88	33.780		
1,000.0	1,000.0	975.6	971.7	2.1	2.3	-52.43	88.8	-115.5	148.4	144.0	4.40	33.721		
1,100.0	1,100.0	1,072.4	1,066.5	2.4	2.7	-54.54	95.6	-134.2	168.2	163.2	4.95	33.955		
1,200.0	1,200.0	1,170.3	1,162.2	2.6	3.1	-56.22	102.5	-153.2	188.2	182.7	5.51	34.145		
1,300.0	1,300.0	1,268.1	1,258.0	2.8	3.5	-57.58	109.4	-172.2	208.3	202.2	6.07	34.301		
1,400.0	1,400.0	1,366.0	1,353.7	3.0	3.9	-58.70	116.2	-191.2	228.5	221.9	6.64	34.434		
1,500.0	1,500.0	1,463.8	1,449.4	3.3	4.4	-59.64	123.1	-210.2	248.8	241.6	7.20	34.550		
1,600.0	1,600.0	1,561.7	1,545.2	3.5	4.8	-60.44	130.0	-229.2	269.1	261.4	7.77	34.654		
1,700.0	1,700.0	1,659.8	1,641.2	3.7	5.2	-24.97	136.9	-248.3	288.0	280.4	7.57	38.023		
1,800.0	1,799.8	1,758.4	1,737.7	3.9	5.7	-25.85	143.8	-267.4	303.8	295.7	8.04	37.775		
1,900.0	1,899.5	1,857.4	1,834.5	4.2	6.1	-26.94	150.8	-286.6	316.6	308.1	8.51	37.221		
2,000.0	1,998.7	1,956.5	1,931.6	4.4	6.6	-28.25	157.7	-305.9	326.4	317.5	8.97	36.410		
2,100.0	2,097.6	2,055.9	2,028.7	4.7	7.0	-29.77	164.7	-325.2	334.1	324.7	9.44	35.399		
2,200.0	2,196.4	2,155.2	2,125.9	4.9	7.5	-31.26	171.7	-344.4	341.8	331.9	9.92	34.440		
2,300.0	2,295.3	2,254.5	2,223.1	5.2	7.9	-32.69	178.7	-363.7	349.7	339.3	10.42	33.562		
2,400.0	2,394.1	2,353.8	2,320.2	5.5	8.3	-34.06	185.6	-383.0	357.9	347.0	10.93	32.753		
2,500.0	2,493.0	2,453.1	2,417.4	5.8	8.8	-35.37	192.6	-402.3	366.2	354.8	11.44	32.005		
2,600.0	2,591.8	2,552.4	2,514.6	6.1	9.2	-36.61	199.6	-421.6	374.7	362.8	11.97	31.311		
2,700.0	2,690.7	2,651.7	2,611.7	6.4	9.7	-37.80	206.6	-440.8	383.4	370.9	12.50	30.664		
2,800.0	2,789.5	2,751.0	2,708.9	6.7	10.1	-38.94	213.6	-460.1	392.3	379.2	13.05	30.060		
2,900.0	2,888.4	2,850.3	2,806.1	7.0	10.6	-40.03	220.5	-479.4	401.3	387.7	13.60	29.494		
3,000.0	2,987.2	2,949.6	2,903.3	7.4	11.1	-41.07	227.5	-498.7	410.4	396.2	14.17	28.964		
3,100.0	3,086.1	3,049.0	3,000.4	7.7	11.5	-42.06	234.5	-518.0	419.7	404.9	14.74	28.466		
3,200.0	3,184.9	3,148.3	3,097.6	8.0	12.0	-43.02	241.5	-537.2	429.0	413.7	15.32	27.998		
3,300.0	3,283.8	3,247.6	3,194.8	8.4	12.4	-43.93	248.4	-556.5	438.5	422.6	15.91	27.557		
3,400.0	3,382.6	3,346.9	3,291.9	8.7	12.9	-44.80	255.4	-575.8	448.1	431.6	16.51	27.142		
3,500.0	3,481.4	3,446.2	3,389.1	9.0	13.3	-45.64	262.4	-595.1	457.8	440.7	17.12	26.750		
3,600.0	3,580.3	3,545.5	3,486.3	9.4	13.8	-46.44	269.4	-614.4	467.6	449.9	17.73	26.379		
3,700.0	3,679.1	3,644.8	3,583.5	9.7	14.2	-47.21	276.3	-633.7	477.5	459.1	18.34	26.029		
3,800.0	3,778.0	3,744.1	3,680.6	10.0	14.7	-47.94	283.3	-652.9	487.5	468.5	18.97	25.698		
3,900.0	3,876.8	3,843.4	3,777.8	10.4	15.1	-48.65	290.3	-672.2	497.5	477.9	19.60	25.384		
4,000.0	3,975.7	3,942.7	3,875.0	10.7	15.6	-49.33	297.3	-691.5	507.6	487.4	20.23	25.087		
4,100.0	4,074.5	4,042.1	3,972.1	11.1	16.0	-49.98	304.3	-710.8	517.8	496.9	20.87	24.805		
4,200.0	4,173.4	4,141.4	4,069.3	11.4	16.5	-50.61	311.2	-730.1	528.0	506.5	21.52	24.538		
4,300.0	4,272.2	4,240.7	4,166.5	11.8	16.9	-51.21	318.2	-749.3	538.3	516.2	22.17	24.283		
4,400.0	4,371.1	4,340.0	4,263.6	12.1	17.4	-51.80	325.2	-768.6	548.7	525.9	22.82	24.042		
4,500.0	4,469.9	4,439.3	4,360.8	12.5	17.8	-52.36	332.2	-787.9	559.1	535.6	23.48	23.812		
4,600.0	4,568.8	4,538.6	4,458.0	12.8	18.3	-52.89	339.1	-807.2	569.6	545.4	24.14	23.593		
4,700.0	4,667.6	4,637.9	4,555.2	13.2	18.8	-53.41	346.1	-826.5	580.1	555.3	24.81	23.385		
4,800.0	4,766.5	4,737.2	4,652.3	13.5	19.2	-53.92	353.1	-845.7	590.6	565.2	25.47	23.186		
4,900.0	4,865.3	4,836.5	4,749.5	13.9	19.7	-54.40	360.1	-865.0	601.2	575.1	26.14	22.997		
5,000.0	4,964.2	4,935.8	4,846.7	14.2	20.1	-54.87	367.1	-884.3	611.9	585.1	26.82	22.816		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-423 - Wellbore #1 - Plan #3 (7-17-14)											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	5,063.2	5,035.1	4,943.8	14.5	20.6	-55.38	374.0	-903.6	623.5	596.1	27.44	22.724			
5,200.0	5,162.7	5,134.2	5,040.7	14.7	21.0	-55.66	381.0	-922.8	637.1	609.1	27.96	22.783			
5,300.0	5,262.5	5,232.9	5,137.3	14.9	21.5	-55.71	387.9	-942.0	652.7	624.2	28.42	22.962			
5,400.0	5,362.5	5,331.2	5,233.5	15.1	21.9	-55.56	394.8	-961.1	670.2	641.4	28.82	23.255			
5,500.0	5,462.5	5,435.3	5,335.4	15.3	22.4	-91.18	402.1	-981.2	689.2	660.0	29.17	23.626			
5,600.0	5,562.5	5,562.9	5,461.0	15.4	22.8	-90.52	409.7	-1,002.2	705.6	676.1	29.55	23.877			
5,700.0	5,662.5	5,692.2	5,589.2	15.6	23.1	-90.04	415.5	-1,018.1	717.9	688.0	29.93	23.988			
5,800.0	5,762.5	5,822.8	5,719.3	15.8	23.4	-89.74	419.3	-1,028.6	726.0	695.7	30.31	23.955			
5,900.0	5,862.5	5,954.2	5,850.6	16.0	23.6	-89.60	421.1	-1,033.6	729.8	699.1	30.69	23.782			
6,000.0	5,962.4	6,066.0	5,962.4	16.1	23.7	90.66	421.2	-1,034.0	730.1	699.2	30.96	23.581			
6,100.0	6,061.1	6,165.3	6,061.7	16.1	23.8	91.83	420.9	-1,034.0	730.5	699.5	30.97	23.587			
6,200.0	6,156.9	6,268.0	6,163.8	16.1	23.9	93.32	411.3	-1,034.0	731.4	700.6	30.80	23.745			
6,300.0	6,248.1	6,373.5	6,266.4	16.0	23.9	94.76	387.2	-1,034.0	732.7	702.2	30.54	23.995			
6,400.0	6,333.3	6,481.9	6,367.4	15.9	23.9	96.14	347.9	-1,034.0	734.4	704.2	30.24	24.288			
6,500.0	6,411.0	6,593.4	6,464.4	15.7	23.8	97.42	293.1	-1,034.0	736.4	706.4	29.99	24.558			
6,600.0	6,479.8	6,707.9	6,554.5	15.6	23.7	98.58	222.8	-1,034.0	738.5	708.6	29.87	24.724			
6,700.0	6,538.5	6,825.1	6,635.0	15.4	23.6	99.58	137.6	-1,034.0	740.6	710.6	29.99	24.697			
6,800.0	6,586.1	6,944.9	6,702.7	15.3	23.6	100.40	39.0	-1,034.0	742.4	712.0	30.41	24.410			
6,900.0	6,621.9	7,066.7	6,754.9	15.5	23.7	101.00	-70.9	-1,034.0	743.8	712.6	31.23	23.821			
7,000.0	6,645.2	7,189.9	6,789.3	16.2	23.9	101.38	-189.2	-1,034.0	744.7	712.3	32.45	22.953			
7,100.0	6,655.7	7,314.0	6,804.2	17.1	24.3	101.51	-312.1	-1,034.0	745.1	711.0	34.06	21.874			
7,200.0	6,655.9	7,419.5	6,805.0	18.1	24.8	101.54	-417.7	-1,034.0	745.2	709.2	35.95	20.728			
7,300.0	6,655.4	7,519.5	6,805.3	19.2	25.5	101.60	-517.7	-1,034.0	745.3	707.2	38.10	19.559			
7,400.0	6,654.9	7,619.5	6,805.5	20.5	26.4	101.65	-617.7	-1,034.0	745.5	705.0	40.50	18.408			
7,500.0	6,654.5	7,719.5	6,805.8	21.8	27.4	101.71	-717.7	-1,034.0	745.6	702.5	43.08	17.306			
7,600.0	6,654.0	7,819.5	6,806.0	23.2	28.5	101.76	-817.7	-1,034.0	745.8	699.9	45.84	16.270			
7,700.0	6,653.5	7,919.5	6,806.2	24.7	29.7	101.82	-917.7	-1,034.0	745.9	697.2	48.72	15.310			
7,800.0	6,653.0	8,019.5	6,806.5	26.3	31.1	101.87	-1,017.7	-1,034.0	746.0	694.3	51.72	14.425			
7,900.0	6,652.5	8,119.5	6,806.7	27.9	32.4	101.93	-1,117.7	-1,034.0	746.2	691.4	54.81	13.614			
8,000.0	6,652.0	8,219.5	6,807.0	29.5	33.9	101.98	-1,217.7	-1,034.0	746.4	688.4	57.98	12.873			
8,100.0	6,651.5	8,319.5	6,807.2	31.1	35.4	102.04	-1,317.7	-1,034.0	746.5	685.3	61.21	12.195			
8,200.0	6,651.0	8,419.5	6,807.5	32.8	36.9	102.09	-1,417.7	-1,034.0	746.7	682.2	64.50	11.575			
8,300.0	6,650.6	8,519.5	6,807.7	34.5	38.5	102.15	-1,517.7	-1,034.0	746.8	679.0	67.84	11.008			
8,400.0	6,650.1	8,619.5	6,808.0	36.3	40.1	102.20	-1,617.7	-1,034.0	747.0	675.7	71.22	10.488			
8,500.0	6,649.6	8,719.5	6,808.2	38.0	41.7	102.26	-1,717.7	-1,034.0	747.1	672.5	74.63	10.011			
8,600.0	6,649.1	8,819.5	6,808.4	39.8	43.3	102.31	-1,817.7	-1,034.0	747.3	669.2	78.08	9.571			
8,700.0	6,648.6	8,919.5	6,808.7	41.6	45.0	102.37	-1,917.7	-1,034.0	747.4	665.9	81.54	9.166			
8,800.0	6,648.1	9,019.5	6,808.9	43.3	46.7	102.42	-2,017.7	-1,034.0	747.6	662.6	85.04	8.791			
8,900.0	6,647.6	9,119.5	6,809.2	45.1	48.4	102.48	-2,117.7	-1,034.0	747.7	659.2	88.55	8.445			
9,000.0	6,647.1	9,219.5	6,809.4	47.0	50.2	102.53	-2,217.7	-1,034.0	747.9	655.8	92.07	8.123			
9,100.0	6,646.6	9,319.5	6,809.7	48.8	51.9	102.59	-2,317.7	-1,034.0	748.1	652.4	95.62	7.823			
9,200.0	6,646.2	9,419.5	6,809.9	50.6	53.7	102.64	-2,417.7	-1,034.0	748.2	649.0	99.18	7.544			
9,300.0	6,645.7	9,519.5	6,810.2	52.4	55.4	102.70	-2,517.7	-1,034.0	748.4	645.6	102.74	7.284			
9,400.0	6,645.2	9,619.5	6,810.4	54.3	57.2	102.75	-2,617.7	-1,034.0	748.5	642.2	106.32	7.040			
9,500.0	6,644.7	9,719.5	6,810.6	56.1	59.0	102.81	-2,717.7	-1,034.0	748.7	638.8	109.91	6.812			
9,600.0	6,644.2	9,819.5	6,810.9	58.0	60.8	102.86	-2,817.7	-1,034.0	748.9	635.4	113.51	6.597			
9,700.0	6,643.7	9,919.5	6,811.1	59.8	62.6	102.92	-2,917.6	-1,034.0	749.0	631.9	117.11	6.396			
9,800.0	6,643.2	10,019.5	6,811.4	61.7	64.4	102.97	-3,017.6	-1,034.0	749.2	628.5	120.72	6.206			
9,900.0	6,642.7	10,119.5	6,811.6	63.5	66.2	103.03	-3,117.6	-1,034.0	749.4	625.0	124.34	6.027			
10,000.0	6,642.2	10,219.5	6,811.9	65.4	68.0	103.08	-3,217.6	-1,034.0	749.5	621.6	127.96	5.857			
10,100.0	6,641.8	10,319.5	6,812.1	67.3	69.8	103.13	-3,317.6	-1,034.0	749.7	618.1	131.59	5.697			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-423 - Wellbore #1 - Plan #3 (7-17-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	6,641.3	10,419.5	6,812.4	69.1	71.7	103.19	-3,417.6	-1,034.0	749.9	614.6	135.22	5.545	
10,300.0	6,640.8	10,519.5	6,812.6	71.0	73.5	103.24	-3,517.6	-1,034.0	750.0	611.2	138.86	5.401	
10,400.0	6,640.3	10,619.5	6,812.8	72.9	75.3	103.30	-3,617.6	-1,034.0	750.2	607.7	142.49	5.265	
10,500.0	6,639.8	10,719.5	6,813.1	74.8	77.2	103.35	-3,717.6	-1,034.0	750.4	604.2	146.14	5.135	
10,600.0	6,639.3	10,819.5	6,813.3	76.6	79.0	103.41	-3,817.6	-1,034.0	750.5	600.7	149.78	5.011	
10,700.0	6,638.8	10,919.4	6,813.6	78.5	80.9	103.46	-3,917.6	-1,034.0	750.7	597.3	153.42	4.893	
10,800.0	6,638.3	11,019.4	6,813.8	80.4	82.7	103.52	-4,017.6	-1,034.0	750.9	593.8	157.07	4.780	
10,900.0	6,637.8	11,119.4	6,814.1	82.3	84.6	103.57	-4,117.6	-1,034.0	751.0	590.3	160.72	4.673	
11,000.0	6,637.4	11,219.4	6,814.3	84.2	86.4	103.62	-4,217.6	-1,034.0	751.2	586.8	164.37	4.570	
11,100.0	6,636.9	11,319.4	6,814.6	86.1	88.3	103.68	-4,317.6	-1,034.0	751.4	583.4	168.03	4.472	
11,200.0	6,636.4	11,419.4	6,814.8	88.0	90.2	103.73	-4,417.6	-1,034.0	751.6	579.9	171.68	4.378	
11,300.0	6,635.9	11,519.4	6,815.0	89.8	92.0	103.79	-4,517.6	-1,034.0	751.7	576.4	175.33	4.287	
11,400.0	6,635.4	11,619.4	6,815.3	91.7	93.9	103.84	-4,617.6	-1,034.0	751.9	572.9	178.99	4.201	
11,500.0	6,634.9	11,719.4	6,815.5	93.6	95.8	103.90	-4,717.6	-1,034.0	752.1	569.4	182.64	4.118	
11,600.0	6,634.4	11,819.4	6,815.8	95.5	97.6	103.95	-4,817.6	-1,034.0	752.3	566.0	186.30	4.038	
11,700.0	6,633.9	11,919.4	6,816.0	97.4	99.5	104.00	-4,917.6	-1,034.0	752.4	562.5	189.96	3.961	
11,800.0	6,633.4	12,019.4	6,816.3	99.3	101.4	104.06	-5,017.6	-1,034.0	752.6	559.0	193.61	3.887	
11,900.0	6,633.0	12,119.4	6,816.5	101.2	103.3	104.11	-5,117.6	-1,034.0	752.8	555.5	197.27	3.816	
12,000.0	6,632.5	12,219.4	6,816.8	103.1	105.1	104.17	-5,217.6	-1,034.0	753.0	552.0	200.93	3.747	
12,100.0	6,632.0	12,319.4	6,817.0	105.0	107.0	104.22	-5,317.6	-1,034.0	753.1	548.6	204.59	3.681	
12,200.0	6,631.5	12,419.4	6,817.2	106.9	108.9	104.27	-5,417.6	-1,034.0	753.3	545.1	208.24	3.618	
12,300.0	6,631.0	12,519.4	6,817.5	108.8	110.8	104.33	-5,517.6	-1,034.0	753.5	541.6	211.90	3.556	
12,400.0	6,630.5	12,619.4	6,817.7	110.7	112.7	104.38	-5,617.6	-1,034.0	753.7	538.1	215.56	3.496	
12,500.0	6,630.0	12,719.4	6,818.0	112.6	114.5	104.44	-5,717.6	-1,034.0	753.9	534.7	219.21	3.439	
12,600.0	6,629.5	12,819.4	6,818.2	114.5	116.4	104.49	-5,817.6	-1,034.0	754.0	531.2	222.87	3.383	
12,700.0	6,629.0	12,919.4	6,818.5	116.4	118.3	104.54	-5,917.6	-1,034.0	754.2	527.7	226.52	3.330	
12,800.0	6,628.6	13,019.4	6,818.7	118.3	120.2	104.60	-6,017.6	-1,034.0	754.4	524.2	230.18	3.278	
12,900.0	6,628.1	13,119.4	6,819.0	120.2	122.1	104.65	-6,117.6	-1,034.0	754.6	520.8	233.83	3.227	
13,000.0	6,627.6	13,219.4	6,819.2	122.1	124.0	104.71	-6,217.6	-1,034.0	754.8	517.3	237.49	3.178	
13,100.0	6,627.1	13,319.4	6,819.4	124.0	125.9	104.76	-6,317.5	-1,034.0	755.0	513.8	241.14	3.131	
13,200.0	6,626.6	13,419.4	6,819.7	125.9	127.8	104.81	-6,417.5	-1,034.0	755.2	510.4	244.79	3.085	
13,300.0	6,626.1	13,519.4	6,819.9	127.8	129.7	104.87	-6,517.5	-1,034.0	755.3	506.9	248.44	3.040	
13,400.0	6,625.6	13,619.4	6,820.2	129.8	131.6	104.92	-6,617.5	-1,034.0	755.5	503.4	252.09	2.997	
13,500.0	6,625.1	13,719.4	6,820.4	131.7	133.5	104.98	-6,717.5	-1,034.0	755.7	500.0	255.74	2.955	
13,600.0	6,624.6	13,819.4	6,820.7	133.6	135.4	105.03	-6,817.5	-1,034.0	755.9	496.5	259.39	2.914	
13,700.0	6,624.2	13,919.4	6,820.9	135.5	137.2	105.08	-6,917.5	-1,034.0	756.1	493.1	263.03	2.875	
13,733.0	6,624.0	13,952.4	6,821.0	136.1	137.9	105.10	-6,950.5	-1,034.0	756.2	491.9	264.24	2.862 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28R-443 - Wellbore #1 - Plan #3 (7-17-14)													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	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-37.40	25.5	-19.5	32.1					
100.0	100.0	100.0	100.0	0.1	0.1	-37.40	25.5	-19.5	32.1	31.9	0.22	142.851		
200.0	200.0	200.0	200.0	0.3	0.3	-37.40	25.5	-19.5	32.1	31.4	0.67	47.617		
300.0	300.0	300.0	300.0	0.6	0.6	-37.40	25.5	-19.5	32.1	31.0	1.12	28.570		
400.0	400.0	400.0	400.0	0.8	0.8	-37.40	25.5	-19.5	32.1	30.5	1.57	20.407		
500.0	500.0	500.0	500.0	1.0	1.0	-37.40	25.5	-19.5	32.1	30.1	2.02	15.872		
600.0	600.0	600.0	600.0	1.2	1.2	-37.40	25.5	-19.5	32.1	29.6	2.47	12.986		
700.0	700.0	700.0	700.0	1.5	1.5	-37.40	25.5	-19.5	32.1	29.2	2.92	10.989		
800.0	800.0	800.0	800.0	1.7	1.7	-37.40	25.5	-19.5	32.1	28.7	3.37	9.523		
900.0	900.0	900.0	900.0	1.9	1.9	-37.40	25.5	-19.5	32.1	28.3	3.82	8.403		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-37.40	25.5	-19.5	32.1	27.8	4.27	7.518		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-37.40	25.5	-19.5	32.1	27.4	4.72	6.802		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-37.40	25.5	-19.5	32.1	26.9	5.17	6.211 CC, ES		
1,300.0	1,300.0	1,298.9	1,298.9	2.8	2.8	-38.08	26.6	-20.8	33.8	28.2	5.61	6.020		
1,400.0	1,400.0	1,397.5	1,397.4	3.0	3.0	-39.74	29.8	-24.8	38.9	32.8	6.05	6.417		
1,500.0	1,500.0	1,495.7	1,495.2	3.3	3.2	-41.72	35.1	-31.3	47.3	40.8	6.50	7.277		
1,600.0	1,600.0	1,593.2	1,592.0	3.5	3.5	-43.53	42.5	-40.4	59.2	52.2	6.96	8.508		
1,700.0	1,700.0	1,690.7	1,688.3	3.7	3.7	-9.02	51.9	-51.9	72.6	65.2	7.38	9.842		
1,800.0	1,799.8	1,790.1	1,786.4	3.9	4.0	-10.63	62.0	-64.3	83.5	75.7	7.81	10.699		
1,900.0	1,899.5	1,889.8	1,884.8	4.2	4.3	-12.32	72.1	-76.7	91.1	82.9	8.24	11.064		
2,000.0	1,998.7	1,989.6	1,983.4	4.4	4.6	-14.26	82.3	-89.2	95.4	86.7	8.66	11.014		
2,100.0	2,097.6	2,089.5	2,082.0	4.7	5.0	-16.49	92.4	-101.7	97.1	88.0	9.11	10.663		
2,200.0	2,196.4	2,189.5	2,180.6	4.9	5.3	-18.69	102.6	-114.1	98.8	89.2	9.57	10.318		
2,300.0	2,295.3	2,289.4	2,279.2	5.2	5.6	-20.81	112.7	-126.6	100.6	90.5	10.05	10.010		
2,400.0	2,394.1	2,389.3	2,377.8	5.5	6.0	-22.85	122.9	-139.1	102.5	92.0	10.53	9.734		
2,500.0	2,493.0	2,489.2	2,476.4	5.8	6.3	-24.81	133.1	-151.5	104.6	93.5	11.02	9.485		
2,600.0	2,591.8	2,589.1	2,575.0	6.1	6.6	-26.70	143.2	-164.0	106.7	95.2	11.53	9.259		
2,700.0	2,690.7	2,689.0	2,673.6	6.4	7.0	-28.51	153.4	-176.5	109.0	97.0	12.04	9.053		
2,800.0	2,789.5	2,788.9	2,772.3	6.7	7.3	-30.24	163.5	-188.9	111.4	98.8	12.57	8.863		
2,900.0	2,888.4	2,888.9	2,870.9	7.0	7.7	-31.90	173.7	-201.4	113.9	100.8	13.11	8.689		
3,000.0	2,987.2	2,988.8	2,969.5	7.4	8.1	-33.49	183.8	-213.9	116.5	102.8	13.66	8.528		
3,100.0	3,086.1	3,088.7	3,068.1	7.7	8.4	-35.01	194.0	-226.3	119.1	104.9	14.22	8.378		
3,200.0	3,184.9	3,188.6	3,166.7	8.0	8.8	-36.46	204.1	-238.8	121.9	107.1	14.79	8.240		
3,300.0	3,283.8	3,288.5	3,265.3	8.4	9.1	-37.84	214.3	-251.2	124.7	109.3	15.38	8.111		
3,400.0	3,382.6	3,388.4	3,363.9	8.7	9.5	-39.16	224.4	-263.7	127.6	111.6	15.97	7.991		
3,500.0	3,481.4	3,488.4	3,462.6	9.0	9.9	-40.43	234.6	-276.2	130.6	114.0	16.57	7.878		
3,600.0	3,580.3	3,588.3	3,561.2	9.4	10.2	-41.64	244.8	-288.6	133.6	116.4	17.18	7.774		
3,700.0	3,679.1	3,688.2	3,659.8	9.7	10.6	-42.79	254.9	-301.1	136.6	118.8	17.80	7.676		
3,800.0	3,778.0	3,788.1	3,758.4	10.0	11.0	-43.89	265.1	-313.6	139.8	121.3	18.43	7.584		
3,900.0	3,876.8	3,888.0	3,857.0	10.4	11.3	-44.95	275.2	-326.0	142.9	123.9	19.06	7.498		
4,000.0	3,975.7	3,987.9	3,955.6	10.7	11.7	-45.96	285.4	-338.5	146.2	126.5	19.71	7.417		
4,100.0	4,074.5	4,087.8	4,054.2	11.1	12.1	-46.92	295.5	-351.0	149.4	129.1	20.35	7.342		
4,200.0	4,173.4	4,187.8	4,152.9	11.4	12.4	-47.84	305.7	-363.4	152.7	131.7	21.01	7.271		
4,300.0	4,272.2	4,287.7	4,251.5	11.8	12.8	-48.73	315.8	-375.9	156.1	134.4	21.66	7.204		
4,400.0	4,371.1	4,387.6	4,350.1	12.1	13.2	-49.57	326.0	-388.4	159.4	137.1	22.33	7.141		
4,500.0	4,469.9	4,487.5	4,448.7	12.5	13.6	-50.39	336.1	-400.8	162.9	139.9	23.00	7.082		
4,600.0	4,568.8	4,587.4	4,547.3	12.8	13.9	-51.16	346.3	-413.3	166.3	142.6	23.67	7.026		
4,700.0	4,667.6	4,687.3	4,645.9	13.2	14.3	-51.91	356.4	-425.8	169.8	145.4	24.34	6.974		
4,800.0	4,766.5	4,787.3	4,744.5	13.5	14.7	-52.63	366.6	-438.2	173.3	148.2	25.02	6.924		
4,900.0	4,865.3	4,887.2	4,843.1	13.9	15.0	-53.31	376.8	-450.7	176.8	151.1	25.71	6.877		
5,000.0	4,964.2	4,987.1	4,941.8	14.2	15.4	-53.97	386.9	-463.2	180.3	154.0	26.39	6.833		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28R-443 - Wellbore #1 - Plan #3 (7-17-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,063.2	5,087.1	5,040.4	14.5	15.8	-54.26	397.1	-475.6	184.9	157.9	27.00	6.848		
5,200.0	5,162.7	5,192.2	5,144.5	14.7	16.1	-54.04	406.5	-487.2	190.0	162.6	27.44	6.926		
5,300.0	5,262.5	5,297.6	5,249.3	14.9	16.3	-53.66	413.6	-495.9	194.4	166.6	27.80	6.992		
5,400.0	5,362.5	5,403.2	5,354.6	15.1	16.5	-53.14	418.2	-501.5	198.0	169.9	28.09	7.047		
5,500.0	5,462.5	5,508.9	5,460.3	15.3	16.7	-88.76	420.3	-504.2	200.3	172.0	28.36	7.064		
5,600.0	5,562.5	5,611.1	5,562.5	15.4	16.8	-88.71	420.5	-504.4	200.6	171.8	28.71	6.986		
5,700.0	5,662.5	5,711.1	5,662.5	15.6	17.0	-88.71	420.5	-504.4	200.6	171.5	29.07	6.898		
5,800.0	5,762.5	5,811.1	5,762.5	15.8	17.2	-88.71	420.5	-504.4	200.6	171.1	29.44	6.812		
5,900.0	5,862.5	5,911.1	5,862.5	16.0	17.3	-88.71	420.5	-504.4	200.6	170.7	29.81	6.727		
5,919.4	5,881.9	5,930.5	5,881.9	16.0	17.4	91.34	420.5	-504.4	200.6	170.7	29.87	6.715		
6,000.0	5,962.4	6,011.0	5,962.4	16.1	17.5	92.20	420.5	-504.4	200.7	170.6	30.03	6.681		
6,100.0	6,061.1	6,110.3	6,061.7	16.1	17.6	96.45	420.2	-504.4	201.8	172.1	29.77	6.781		
6,200.0	6,156.9	6,212.8	6,163.7	16.1	17.7	101.72	410.6	-504.4	204.9	175.7	29.23	7.012		
6,300.0	6,248.1	6,318.2	6,266.2	16.0	17.7	106.70	386.5	-504.4	209.6	181.0	28.59	7.332		
6,400.0	6,333.3	6,426.6	6,367.1	15.9	17.7	111.23	347.4	-504.4	215.5	187.6	27.90	7.726		
6,500.0	6,411.0	6,537.9	6,464.0	15.7	17.5	115.24	292.6	-504.4	222.2	195.0	27.19	8.171		
6,600.0	6,479.8	6,652.3	6,554.1	15.6	17.4	118.66	222.4	-504.4	229.0	202.5	26.54	8.630		
6,700.0	6,538.5	6,769.4	6,634.5	15.4	17.2	121.48	137.4	-504.4	235.5	209.5	26.05	9.043		
6,800.0	6,586.1	6,889.1	6,702.3	15.3	17.1	123.67	38.9	-504.4	241.2	215.4	25.82	9.343		
6,900.0	6,621.9	7,010.8	6,754.6	15.5	17.1	125.25	-70.9	-504.4	245.7	219.7	25.97	9.459		
7,000.0	6,645.2	7,134.0	6,789.1	16.2	17.3	126.20	-189.0	-504.4	248.5	221.9	26.63	9.332		
7,100.0	6,655.7	7,258.1	6,804.2	17.1	18.2	126.55	-312.0	-504.4	249.6	221.8	27.80	8.980		
7,200.0	6,655.9	7,363.8	6,805.0	18.1	19.2	126.63	-417.7	-504.4	249.9	220.5	29.35	8.513		
7,300.0	6,655.4	7,463.8	6,805.3	19.2	20.3	126.77	-517.7	-504.4	250.3	219.2	31.15	8.036		
7,400.0	6,654.9	7,563.8	6,805.5	20.5	21.5	126.90	-617.7	-504.4	250.7	217.6	33.15	7.565		
7,500.0	6,654.5	7,663.8	6,805.8	21.8	22.8	127.04	-717.7	-504.4	251.2	215.9	35.31	7.113		
7,600.0	6,654.0	7,763.8	6,806.0	23.2	24.2	127.17	-817.7	-504.4	251.6	214.0	37.61	6.690		
7,700.0	6,653.5	7,863.8	6,806.2	24.7	25.7	127.30	-917.7	-504.4	252.1	212.1	40.02	6.299		
7,800.0	6,653.0	7,963.8	6,806.5	26.3	27.2	127.43	-1,017.7	-504.4	252.5	210.0	42.52	5.939		
7,900.0	6,652.5	8,063.8	6,806.7	27.9	28.8	127.57	-1,117.7	-504.4	253.0	207.9	45.09	5.610		
8,000.0	6,652.0	8,163.8	6,807.0	29.5	30.4	127.70	-1,217.7	-504.4	253.4	205.7	47.72	5.310		
8,100.0	6,651.5	8,263.8	6,807.2	31.1	32.0	127.83	-1,317.7	-504.4	253.9	203.5	50.40	5.037		
8,200.0	6,651.0	8,363.8	6,807.5	32.8	33.7	127.96	-1,417.7	-504.4	254.3	201.2	53.12	4.788		
8,300.0	6,650.6	8,463.8	6,807.7	34.5	35.3	128.09	-1,517.7	-504.4	254.8	198.9	55.87	4.560		
8,400.0	6,650.1	8,563.8	6,808.0	36.3	37.1	128.22	-1,617.7	-504.4	255.2	196.6	58.64	4.352		
8,500.0	6,649.6	8,663.8	6,808.2	38.0	38.8	128.35	-1,717.7	-504.4	255.7	194.2	61.44	4.161		
8,600.0	6,649.1	8,763.8	6,808.4	39.8	40.5	128.48	-1,817.7	-504.4	256.1	191.9	64.25	3.986		
8,700.0	6,648.6	8,863.8	6,808.7	41.6	42.3	128.60	-1,917.7	-504.4	256.6	189.5	67.08	3.825		
8,800.0	6,648.1	8,963.8	6,808.9	43.3	44.1	128.73	-2,017.7	-504.4	257.0	187.1	69.92	3.676		
8,900.0	6,647.6	9,063.8	6,809.2	45.1	45.8	128.86	-2,117.7	-504.4	257.5	184.7	72.77	3.539		
9,000.0	6,647.1	9,163.8	6,809.4	47.0	47.6	128.99	-2,217.7	-504.4	258.0	182.3	75.63	3.411		
9,100.0	6,646.6	9,263.8	6,809.7	48.8	49.4	129.11	-2,317.7	-504.4	258.4	179.9	78.49	3.293		
9,200.0	6,646.2	9,363.8	6,809.9	50.6	51.3	129.24	-2,417.7	-504.4	258.9	177.5	81.35	3.182		
9,300.0	6,645.7	9,463.8	6,810.2	52.4	53.1	129.36	-2,517.7	-504.4	259.4	175.1	84.22	3.080		
9,400.0	6,645.2	9,563.8	6,810.4	54.3	54.9	129.49	-2,617.7	-504.4	259.8	172.7	87.09	2.983		
9,500.0	6,644.7	9,663.7	6,810.6	56.1	56.7	129.61	-2,717.7	-504.4	260.3	170.3	89.96	2.894		
9,600.0	6,644.2	9,763.7	6,810.9	58.0	58.6	129.74	-2,817.6	-504.4	260.8	167.9	92.82	2.809		
9,700.0	6,643.7	9,863.7	6,811.1	59.8	60.4	129.86	-2,917.6	-504.4	261.2	165.5	95.69	2.730		
9,800.0	6,643.2	9,963.7	6,811.4	61.7	62.3	129.98	-3,017.6	-504.4	261.7	163.1	98.55	2.655		
9,900.0	6,642.7	10,063.7	6,811.6	63.5	64.1	130.11	-3,117.6	-504.4	262.2	160.8	101.42	2.585		
10,000.0	6,642.2	10,163.7	6,811.9	65.4	66.0	130.23	-3,217.6	-504.4	262.6	158.4	104.28	2.519		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28R-443 - Wellbore #1 - Plan #3 (7-17-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	6,641.8	10,263.7	6,812.1	67.3	67.8	130.35	-3,317.6	-504.4	263.1	156.0	107.13	2.456	
10,200.0	6,641.3	10,363.7	6,812.4	69.1	69.7	130.47	-3,417.6	-504.4	263.6	153.6	109.98	2.397	
10,300.0	6,640.8	10,463.7	6,812.6	71.0	71.6	130.59	-3,517.6	-504.4	264.1	151.2	112.83	2.340	
10,400.0	6,640.3	10,563.7	6,812.8	72.9	73.4	130.71	-3,617.6	-504.4	264.5	148.9	115.68	2.287	
10,500.0	6,639.8	10,663.7	6,813.1	74.8	75.3	130.83	-3,717.6	-504.4	265.0	146.5	118.52	2.236	
10,600.0	6,639.3	10,763.7	6,813.3	76.6	77.2	130.95	-3,817.6	-504.4	265.5	144.2	121.35	2.188	
10,700.0	6,638.8	10,863.7	6,813.6	78.5	79.1	131.07	-3,917.6	-504.4	266.0	141.8	124.18	2.142	
10,800.0	6,638.3	10,963.7	6,813.8	80.4	80.9	131.19	-4,017.6	-504.4	266.5	139.5	127.00	2.098	
10,900.0	6,637.8	11,063.7	6,814.1	82.3	82.8	131.31	-4,117.6	-504.4	267.0	137.1	129.82	2.056	
11,000.0	6,637.4	11,163.7	6,814.3	84.2	84.7	131.43	-4,217.6	-504.4	267.4	134.8	132.63	2.016	
11,100.0	6,636.9	11,263.7	6,814.6	86.1	86.6	131.54	-4,317.6	-504.4	267.9	132.5	135.44	1.978	
11,200.0	6,636.4	11,363.7	6,814.8	88.0	88.5	131.66	-4,417.6	-504.4	268.4	130.2	138.24	1.942	
11,300.0	6,635.9	11,463.7	6,815.0	89.8	90.4	131.78	-4,517.6	-504.4	268.9	127.9	141.04	1.907	
11,400.0	6,635.4	11,563.7	6,815.3	91.7	92.2	131.89	-4,617.6	-504.4	269.4	125.6	143.83	1.873	
11,500.0	6,634.9	11,663.7	6,815.5	93.6	94.1	132.01	-4,717.6	-504.4	269.9	123.3	146.61	1.841	
11,600.0	6,634.4	11,763.7	6,815.8	95.5	96.0	132.12	-4,817.6	-504.4	270.4	121.0	149.38	1.810	
11,700.0	6,633.9	11,863.7	6,816.0	97.4	97.9	132.24	-4,917.6	-504.4	270.9	118.7	152.15	1.780	
11,800.0	6,633.4	11,963.7	6,816.3	99.3	99.8	132.35	-5,017.6	-504.4	271.4	116.4	154.92	1.752	
11,900.0	6,633.0	12,063.7	6,816.5	101.2	101.7	132.47	-5,117.6	-504.4	271.9	114.2	157.67	1.724	
12,000.0	6,632.5	12,163.7	6,816.8	103.1	103.6	132.58	-5,217.6	-504.4	272.3	111.9	160.43	1.698	
12,100.0	6,632.0	12,263.7	6,817.0	105.0	105.5	132.70	-5,317.6	-504.4	272.8	109.7	163.17	1.672	
12,200.0	6,631.5	12,363.7	6,817.2	106.9	107.4	132.81	-5,417.6	-504.4	273.3	107.4	165.91	1.648	
12,300.0	6,631.0	12,463.7	6,817.5	108.8	109.3	132.92	-5,517.6	-504.4	273.8	105.2	168.64	1.624	
12,400.0	6,630.5	12,563.7	6,817.7	110.7	111.2	133.03	-5,617.6	-504.4	274.3	103.0	171.36	1.601	
12,500.0	6,630.0	12,663.7	6,818.0	112.6	113.1	133.14	-5,717.6	-504.4	274.8	100.8	174.08	1.579	
12,600.0	6,629.5	12,763.7	6,818.2	114.5	115.0	133.26	-5,817.6	-504.4	275.3	98.6	176.79	1.557	
12,700.0	6,629.0	12,863.7	6,818.5	116.4	116.9	133.37	-5,917.6	-504.4	275.8	96.4	179.49	1.537	
12,800.0	6,628.6	12,963.7	6,818.7	118.3	118.8	133.48	-6,017.6	-504.4	276.4	94.2	182.19	1.517	
12,900.0	6,628.1	13,063.7	6,819.0	120.2	120.7	133.59	-6,117.5	-504.4	276.9	92.0	184.88	1.498 Level 3	
13,000.0	6,627.6	13,163.7	6,819.2	122.1	122.6	133.70	-6,217.5	-504.4	277.4	89.8	187.56	1.479 Level 3	
13,100.0	6,627.1	13,263.7	6,819.4	124.0	124.5	133.81	-6,317.5	-504.4	277.9	87.6	190.24	1.461 Level 3	
13,200.0	6,626.6	13,363.6	6,819.7	125.9	126.4	133.91	-6,417.5	-504.4	278.4	85.5	192.91	1.443 Level 3	
13,300.0	6,626.1	13,463.6	6,819.9	127.8	128.3	134.02	-6,517.5	-504.4	278.9	83.3	195.57	1.426 Level 3	
13,400.0	6,625.6	13,563.6	6,820.2	129.8	130.2	134.13	-6,617.5	-504.4	279.4	81.2	198.23	1.409 Level 3	
13,500.0	6,625.1	13,663.6	6,820.4	131.7	132.1	134.24	-6,717.5	-504.4	279.9	79.0	200.88	1.393 Level 3	
13,600.0	6,624.6	13,763.6	6,820.7	133.6	134.0	134.35	-6,817.5	-504.4	280.4	76.9	203.52	1.378 Level 3	
13,700.0	6,624.2	13,863.6	6,820.9	135.5	135.9	134.45	-6,917.5	-504.4	280.9	74.8	206.15	1.363 Level 3	
13,733.0	6,624.0	13,896.6	6,821.0	136.1	136.5	134.49	-6,950.5	-504.4	281.1	74.1	207.02	1.358 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hall 28-3 (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 (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,500.0	6,654.5	6,637.0	6,634.9	21.8	14.5	89.08	-1,570.1	-737.1	955.9	919.8	36.14	26.453		
7,600.0	6,654.0	6,640.0	6,637.9	23.2	14.6	89.48	-1,570.3	-737.0	868.0	830.4	37.55	23.112		
7,700.0	6,653.5	6,643.0	6,640.9	24.7	14.6	89.88	-1,570.4	-736.8	782.9	743.8	39.04	20.054		
7,800.0	6,653.0	6,646.1	6,644.0	26.3	14.6	90.29	-1,570.5	-736.7	701.7	661.2	40.58	17.293		
7,900.0	6,652.5	6,649.3	6,647.1	27.9	14.6	90.71	-1,570.6	-736.5	626.1	583.9	42.17	14.848		
8,000.0	6,652.0	6,652.4	6,650.3	29.5	14.6	91.13	-1,570.7	-736.4	558.1	514.3	43.79	12.745		
8,100.0	6,651.5	6,655.7	6,653.5	31.1	14.6	91.55	-1,570.8	-736.3	500.9	455.5	45.44	11.023		
8,200.0	6,651.0	6,658.9	6,656.8	32.8	14.6	91.99	-1,570.9	-736.1	458.7	411.5	47.12	9.733		
8,300.0	6,650.6	6,662.3	6,660.1	34.5	14.6	92.43	-1,571.1	-735.9	435.7	386.8	48.82	8.923		
8,353.0	6,650.3	6,664.0	6,661.9	35.4	14.6	92.66	-1,571.1	-735.9	432.4	382.7	49.73	8.695 CC, ES		
8,400.0	6,650.1	6,665.6	6,663.5	36.3	14.6	92.87	-1,571.2	-735.8	435.0	384.4	50.54	8.606 SF		
8,500.0	6,649.6	6,669.1	6,666.9	38.0	14.6	93.33	-1,571.3	-735.6	456.7	404.4	52.27	8.737		
8,600.0	6,649.1	6,672.5	6,670.4	39.8	14.6	93.79	-1,571.5	-735.5	498.0	443.9	54.01	9.219		
8,700.0	6,648.6	6,676.1	6,673.9	41.6	14.6	94.25	-1,571.6	-735.3	554.3	498.6	55.77	9.941		
8,800.0	6,648.1	6,679.6	6,677.5	43.3	14.6	94.73	-1,571.7	-735.1	621.8	564.3	57.52	10.809		
8,900.0	6,647.6	6,683.3	6,681.1	45.1	14.6	95.21	-1,571.9	-735.0	697.1	637.8	59.28	11.758		
9,000.0	6,647.1	6,687.0	6,684.8	47.0	14.6	95.70	-1,572.0	-734.8	777.9	716.9	61.05	12.743		
9,100.0	6,646.6	6,690.7	6,688.5	48.8	14.6	96.19	-1,572.2	-734.6	862.8	800.0	62.81	13.736		
9,200.0	6,646.2	6,694.5	6,692.3	50.6	14.7	96.69	-1,572.3	-734.4	950.6	886.0	64.58	14.720		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hall 28-4 (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft	
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-94.65	-51.0	-626.9	629.1						
100.0	100.0	85.1	85.1	0.1	0.1	-94.63	-50.8	-627.0	629.1	628.8	0.23	2,791.505			
200.0	200.0	186.9	186.9	0.3	0.3	-94.61	-50.6	-627.2	629.2	628.6	0.60	1,050.055			
300.0	300.0	287.2	287.2	0.6	0.4	-94.63	-50.8	-627.0	629.1	628.1	0.98	640.122			
362.4	362.4	348.9	348.9	0.7	0.5	-94.64	-50.9	-627.0	629.0	627.8	1.23	511.317			
400.0	400.0	386.0	386.0	0.8	0.6	-94.65	-51.0	-627.0	629.1	627.7	1.38	455.582			
500.0	500.0	483.3	483.3	1.0	0.8	-94.71	-51.6	-627.2	629.3	627.6	1.78	353.196			
600.0	600.0	581.1	581.0	1.2	1.0	-94.80	-52.8	-627.8	630.0	627.8	2.21	284.830			
700.0	700.0	683.3	683.3	1.5	1.2	-94.95	-54.4	-628.4	630.8	628.1	2.67	235.810			
800.0	800.0	779.9	779.8	1.7	1.4	-95.05	-55.5	-629.0	631.5	628.4	3.14	201.425			
900.0	900.0	881.3	881.3	1.9	1.7	-95.20	-57.3	-629.9	632.5	628.9	3.61	175.062			
1,000.0	1,000.0	984.0	983.9	2.1	2.0	-95.35	-59.0	-630.4	633.1	629.0	4.10	154.455			
1,100.0	1,100.0	1,080.9	1,080.8	2.4	2.2	-95.45	-60.2	-630.8	633.7	629.2	4.57	138.603			
1,200.0	1,200.0	1,187.3	1,187.2	2.6	2.5	-95.58	-61.7	-631.3	634.3	629.2	5.06	125.308			
1,247.1	1,247.1	1,233.7	1,233.6	2.7	2.6	-95.64	-62.4	-631.2	634.2	628.9	5.28	120.042			
1,300.0	1,300.0	1,283.9	1,283.8	2.8	2.7	-95.70	-63.0	-631.2	634.3	628.8	5.53	114.749			
1,400.0	1,400.0	1,389.6	1,389.4	3.0	3.0	-95.82	-64.3	-631.2	634.5	628.4	6.01	105.564			
1,500.0	1,500.0	1,492.1	1,491.9	3.3	3.2	-95.92	-65.3	-630.4	633.8	627.3	6.45	98.274			
1,600.0	1,600.0	1,586.7	1,586.6	3.5	3.4	-95.95	-65.7	-629.9	633.3	626.4	6.87	92.154			
1,700.0	1,700.0	1,684.5	1,684.3	3.7	3.6	-95.97	-65.9	-630.0	632.6	625.3	7.32	86.378			
1,800.0	1,799.8	1,787.8	1,787.7	3.9	3.9	-60.49	-66.5	-630.1	630.1	622.3	7.79	80.900			
1,900.0	1,899.5	1,886.6	1,886.4	4.2	4.0	-61.29	-66.9	-629.9	625.7	617.5	8.15	76.805			
2,000.0	1,998.7	1,981.1	1,981.0	4.4	4.1	-62.33	-66.9	-630.1	620.2	611.7	8.49	73.025			
2,100.0	2,097.6	2,078.0	2,077.8	4.7	4.3	-63.61	-67.6	-630.9	614.2	605.3	8.95	68.655			
2,200.0	2,196.4	2,175.4	2,175.3	4.9	4.6	-64.99	-69.2	-631.7	608.7	599.3	9.45	64.416			
2,300.0	2,295.3	2,282.7	2,282.5	5.2	4.8	-66.69	-72.5	-631.9	603.3	593.3	9.99	60.372			
2,400.0	2,394.1	2,379.8	2,379.5	5.5	5.1	-68.33	-75.9	-630.9	597.3	586.8	10.52	56.794			
2,500.0	2,493.0	2,479.2	2,478.9	5.8	5.3	-70.06	-79.8	-630.1	592.1	581.0	11.06	53.536			
2,600.0	2,591.8	2,580.4	2,580.0	6.1	5.6	-71.83	-83.4	-628.9	587.0	575.4	11.61	50.553			
2,700.0	2,690.7	2,675.8	2,675.4	6.4	5.8	-73.48	-86.2	-627.9	582.4	570.2	12.16	47.896			
2,800.0	2,789.5	2,778.7	2,778.2	6.7	6.1	-75.28	-89.3	-626.9	578.4	565.7	12.73	45.439			
2,900.0	2,888.4	2,876.8	2,876.3	7.0	6.3	-76.97	-91.5	-625.5	574.3	561.0	13.29	43.217			
3,000.0	2,987.2	2,979.8	2,979.3	7.4	6.5	-78.71	-93.3	-624.2	570.6	556.7	13.84	41.224			
3,100.0	3,086.1	3,075.6	3,075.0	7.7	6.7	-80.26	-94.1	-622.9	566.9	552.5	14.37	39.441			
3,200.0	3,184.9	3,182.6	3,182.0	8.0	6.9	-82.00	-94.7	-621.6	563.7	548.8	14.91	37.797			
3,300.0	3,283.8	3,284.3	3,283.6	8.4	7.0	-83.59	-93.8	-619.4	559.5	544.1	15.36	36.416			
3,400.0	3,382.6	3,379.4	3,378.8	8.7	7.1	-84.99	-92.2	-618.0	555.8	540.0	15.77	35.254			
3,500.0	3,481.4	3,478.3	3,477.7	9.0	7.2	-86.45	-90.6	-617.1	553.0	536.8	16.16	34.209			
3,600.0	3,580.3	3,574.1	3,573.4	9.4	7.2	-87.85	-88.9	-616.4	550.6	534.1	16.56	33.241			
3,700.0	3,679.1	3,673.3	3,672.6	9.7	7.3	-89.35	-87.7	-615.8	549.1	532.1	16.98	32.349			
3,800.0	3,778.0	3,769.3	3,768.6	10.0	7.3	-90.76	-86.3	-615.5	548.0	530.6	17.38	31.522			
3,856.0	3,833.3	3,822.8	3,822.1	10.2	7.4	-91.54	-85.6	-615.7	547.9	530.2	17.63	31.082			
3,900.0	3,876.8	3,865.6	3,864.8	10.4	7.4	-92.19	-85.3	-615.8	547.9	530.1	17.83	30.730			
4,000.0	3,975.7	3,967.2	3,966.4	10.7	7.6	-93.80	-85.1	-615.4	548.3	530.0	18.32	29.925			
4,100.0	4,074.5	4,064.0	4,063.3	11.1	7.8	-95.34	-84.7	-614.7	548.8	529.9	18.83	29.146			
4,200.0	4,173.4	4,164.4	4,163.7	11.4	7.9	-96.93	-84.6	-614.4	550.1	530.7	19.34	28.439			
4,300.0	4,272.2	4,262.1	4,261.4	11.8	8.1	-98.48	-84.2	-613.7	551.3	531.5	19.82	27.822			
4,400.0	4,371.1	4,361.6	4,360.9	12.1	8.2	-100.02	-83.9	-613.5	553.4	533.2	20.28	27.292			
4,500.0	4,469.9	4,461.3	4,460.5	12.5	8.3	-101.60	-83.7	-612.6	555.5	534.8	20.75	26.767			
4,600.0	4,568.8	4,557.2	4,556.5	12.8	8.5	-103.06	-83.3	-612.3	558.2	537.0	21.24	26.279			
4,700.0	4,667.6	4,654.4	4,653.7	13.2	8.7	-104.55	-83.5	-612.1	561.9	540.1	21.77	25.810			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hall 28-4 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
4,800.0	4,766.5	4,756.2	4,755.5	13.5	8.9	-106.14	-83.9	-611.4	565.9	543.6	22.32	25.357		
4,900.0	4,865.3	4,856.8	4,856.1	13.9	9.1	-107.69	-83.8	-610.3	569.6	546.8	22.83	24.952		
5,000.0	4,964.2	4,954.1	4,953.4	14.2	9.3	-109.13	-83.5	-609.7	573.8	550.5	23.32	24.610		
5,100.0	5,063.2	5,053.0	5,052.3	14.5	9.5	-110.49	-83.4	-609.2	578.0	554.3	23.77	24.316		
5,200.0	5,162.7	5,156.8	5,156.1	14.7	9.7	-111.62	-83.4	-607.8	580.9	556.8	24.18	24.022		
5,300.0	5,262.5	5,263.9	5,263.1	14.9	9.9	-112.48	-82.9	-605.0	581.6	557.0	24.57	23.667		
5,400.0	5,362.5	5,367.6	5,366.7	15.1	10.1	-112.95	-81.5	-601.6	579.9	555.0	24.92	23.271		
5,500.0	5,462.5	5,464.7	5,463.8	15.3	10.3	-149.19	-79.5	-599.4	577.1	551.9	25.24	22.864		
5,600.0	5,562.5	5,564.5	5,563.5	15.4	10.5	-149.24	-77.7	-597.7	574.7	549.1	25.58	22.463		
5,700.0	5,662.5	5,667.4	5,666.4	15.6	10.6	-149.23	-75.2	-596.4	571.9	546.0	25.92	22.066		
5,800.0	5,762.5	5,764.9	5,763.8	15.8	10.8	-149.06	-71.8	-596.3	568.9	542.7	26.23	21.692		
5,900.0	5,862.5	5,862.1	5,861.1	16.0	10.9	-148.89	-69.0	-596.6	566.6	540.1	26.53	21.356		
6,000.0	5,962.4	5,959.9	5,958.8	16.1	11.0	31.59	-66.6	-596.9	561.9	535.2	26.71	21.037		
6,100.0	6,061.1	6,056.6	6,055.5	16.1	11.1	33.28	-64.1	-598.0	547.1	520.5	26.57	20.589		
6,200.0	6,156.9	6,153.9	6,152.7	16.1	11.2	36.36	-61.8	-598.9	521.9	495.7	26.21	19.918		
6,300.0	6,248.1	6,244.6	6,243.4	16.0	11.3	41.12	-59.2	-599.4	487.2	461.5	25.74	18.927		
6,400.0	6,333.3	6,326.6	6,325.3	15.9	11.4	47.88	-56.6	-600.6	445.7	420.3	25.39	17.555		
6,500.0	6,411.0	6,403.1	6,401.8	15.7	11.5	57.00	-54.4	-601.6	400.2	374.8	25.40	15.754		
6,600.0	6,479.8	6,470.4	6,469.1	15.6	11.6	67.94	-52.3	-602.5	355.4	329.5	25.84	13.751		
6,700.0	6,538.5	6,500.0	6,498.6	15.4	11.7	74.77	-51.2	-602.9	319.9	293.7	26.18	12.218		
6,788.7	6,581.4	6,500.0	6,498.6	15.3	11.7	75.60	-51.2	-602.9	308.7	282.3	26.34	11.720 CC, ES		
6,800.0	6,586.1	6,500.0	6,498.6	15.3	11.7	75.59	-51.2	-602.9	308.8	282.5	26.35	11.720 SF		
6,900.0	6,621.9	6,500.0	6,498.6	15.5	11.7	74.30	-51.2	-602.9	326.2	299.6	26.59	12.266		
7,000.0	6,645.2	6,500.0	6,498.6	16.2	11.7	71.02	-51.2	-602.9	367.7	340.8	26.82	13.708		
7,100.0	6,655.7	6,500.0	6,498.6	17.1	11.7	66.02	-51.2	-602.9	425.7	398.8	26.93	15.807		
7,200.0	6,655.9	6,500.0	6,498.6	18.1	11.7	64.04	-51.2	-602.9	494.6	467.1	27.54	17.959		
7,300.0	6,655.4	6,500.0	6,498.6	19.2	11.7	64.04	-51.2	-602.9	572.6	544.1	28.58	20.039		
7,400.0	6,654.9	6,500.0	6,498.6	20.5	11.7	64.04	-51.2	-602.9	656.6	626.9	29.71	22.099		
7,500.0	6,654.5	6,500.0	6,498.6	21.8	11.7	64.04	-51.2	-602.9	744.6	713.6	30.94	24.066		
7,600.0	6,654.0	6,500.0	6,498.6	23.2	11.7	64.04	-51.2	-602.9	835.2	803.0	32.24	25.909		
7,700.0	6,653.5	6,500.0	6,498.6	24.7	11.7	64.04	-51.2	-602.9	927.8	894.2	33.60	27.616		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hall 28-5 (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program:		100-NS-GYRO-MS											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis				Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-162.95	-663.0	-203.4	693.7					
100.0	100.0	86.7	86.7	0.1	0.1	-162.91	-662.9	-203.8	693.5	693.3	0.23	3,046.019		
200.0	200.0	186.9	186.9	0.3	0.3	-162.85	-662.6	-204.5	693.5	692.9	0.60	1,155.276		
218.0	218.0	204.7	204.7	0.4	0.3	-162.85	-662.6	-204.4	693.5	692.8	0.67	1,038.425		
300.0	300.0	282.3	282.3	0.6	0.4	-162.86	-662.9	-204.4	693.7	692.7	0.97	712.507		
400.0	400.0	386.7	386.7	0.8	0.6	-162.83	-663.2	-204.9	694.1	692.7	1.40	496.108		
427.7	427.7	414.5	414.4	0.8	0.7	-162.81	-663.1	-205.1	694.1	692.6	1.52	457.687		
500.0	500.0	483.0	483.0	1.0	0.8	-162.80	-663.2	-205.3	694.3	692.5	1.81	382.788		
600.0	600.0	583.2	583.2	1.2	1.0	-162.79	-663.7	-205.6	694.8	692.6	2.25	308.463		
700.0	700.0	686.1	686.0	1.5	1.2	-162.74	-663.8	-206.3	695.1	692.4	2.71	256.453		
800.0	800.0	790.1	790.1	1.7	1.4	-162.71	-663.5	-206.5	694.9	691.8	3.10	223.890		
900.0	900.0	887.2	887.2	1.9	1.5	-162.75	-663.3	-206.0	694.5	691.1	3.44	202.133		
1,000.0	1,000.0	989.9	989.9	2.1	1.7	-162.77	-663.1	-205.7	694.3	690.5	3.81	182.113		
1,100.0	1,100.0	1,090.9	1,090.8	2.4	1.8	-162.76	-662.6	-205.6	693.7	689.5	4.20	165.068		
1,181.5	1,181.5	1,168.0	1,168.0	2.5	2.0	-162.79	-662.4	-205.2	693.5	688.9	4.52	153.559		
1,200.0	1,200.0	1,185.4	1,185.4	2.6	2.0	-162.79	-662.4	-205.2	693.5	688.9	4.59	151.189		
1,300.0	1,300.0	1,290.9	1,290.9	2.8	2.2	-162.76	-662.2	-205.4	693.4	688.4	5.01	138.493		
1,379.2	1,379.2	1,365.8	1,365.7	3.0	2.3	-162.75	-661.9	-205.6	693.0	687.7	5.32	130.297		
1,400.0	1,400.0	1,385.0	1,385.0	3.0	2.4	-162.74	-661.9	-205.6	693.1	687.7	5.40	128.345		
1,500.0	1,500.0	1,484.1	1,484.1	3.3	2.5	-162.75	-662.2	-205.6	693.4	687.6	5.80	119.656		
1,600.0	1,600.0	1,585.4	1,585.4	3.5	2.7	-162.75	-662.5	-205.7	693.7	687.5	6.21	111.733		
1,700.0	1,700.0	1,688.8	1,688.8	3.7	2.9	-126.68	-662.3	-205.9	694.7	688.1	6.62	104.956		
1,800.0	1,799.8	1,787.9	1,787.9	3.9	3.1	-126.97	-662.0	-206.0	697.5	690.5	7.02	99.413		
1,900.0	1,899.5	1,880.4	1,880.4	4.2	3.3	-127.39	-662.1	-206.3	703.0	695.6	7.41	94.857		
2,000.0	1,998.7	1,984.2	1,984.2	4.4	3.5	-128.05	-662.7	-206.7	711.2	703.3	7.84	90.711		
2,100.0	2,097.6	2,079.1	2,079.1	4.7	3.7	-128.81	-662.7	-207.7	720.8	712.5	8.28	87.003		
2,200.0	2,196.4	2,180.9	2,180.9	4.9	3.9	-129.67	-663.0	-209.0	731.1	722.3	8.77	83.404		
2,300.0	2,295.3	2,275.7	2,275.7	5.2	4.1	-130.47	-663.3	-209.9	741.3	732.1	9.24	80.222		
2,400.0	2,394.1	2,372.6	2,372.5	5.5	4.3	-131.22	-663.9	-211.4	752.3	742.6	9.73	77.335		
2,500.0	2,493.0	2,476.0	2,475.9	5.8	4.6	-131.99	-664.5	-213.1	763.3	753.0	10.24	74.557		
2,600.0	2,591.8	2,573.2	2,573.1	6.1	4.8	-132.68	-664.6	-214.9	774.0	763.2	10.74	72.062		
2,700.0	2,690.7	2,667.2	2,667.1	6.4	5.0	-133.29	-665.1	-217.2	785.3	774.1	11.24	69.875		
2,800.0	2,789.5	2,764.6	2,764.4	6.7	5.3	-133.95	-666.2	-219.1	797.3	785.5	11.75	67.878		
2,900.0	2,888.4	2,871.7	2,871.5	7.0	5.5	-134.66	-667.1	-220.9	809.0	796.7	12.28	65.890		
3,000.0	2,987.2	2,971.7	2,971.5	7.4	5.7	-135.38	-667.1	-221.4	820.0	807.2	12.76	64.269		
3,100.0	3,086.1	3,071.7	3,071.5	7.7	5.9	-136.12	-667.4	-221.5	831.1	817.9	13.22	62.851		
3,200.0	3,184.9	3,176.1	3,175.9	8.0	6.1	-136.85	-667.2	-221.8	842.0	828.3	13.68	61.550		
3,300.0	3,283.8	3,275.1	3,274.9	8.4	6.2	-137.55	-666.6	-221.6	852.5	838.4	14.11	60.440		
3,400.0	3,382.6	3,374.3	3,374.1	8.7	6.4	-138.22	-666.1	-221.7	863.3	848.8	14.53	59.426		
3,500.0	3,481.4	3,476.5	3,476.3	9.0	6.5	-138.91	-665.3	-221.4	874.0	859.0	14.95	58.465		
3,600.0	3,580.3	3,575.0	3,574.8	9.4	6.7	-139.53	-664.3	-221.6	884.5	869.1	15.38	57.513		
3,700.0	3,679.1	3,683.4	3,683.2	9.7	6.9	-140.22	-663.0	-221.3	894.9	879.0	15.82	56.575		
3,800.0	3,778.0	3,777.7	3,777.5	10.0	7.0	-140.83	-661.2	-220.9	904.8	888.5	16.23	55.755		
3,900.0	3,876.8	3,873.7	3,873.5	10.4	7.1	-141.47	-660.1	-219.8	915.4	898.8	16.62	55.070		
4,000.0	3,975.7	3,974.2	3,974.0	10.7	7.3	-142.12	-659.0	-218.8	926.2	909.2	17.03	54.374		
4,100.0	4,074.5	4,069.8	4,069.6	11.1	7.4	-142.70	-657.9	-218.3	937.1	919.6	17.45	53.705		
4,200.0	4,173.4	4,166.5	4,166.2	11.4	7.6	-143.28	-657.2	-217.6	948.5	930.6	17.86	53.105		
4,300.0	4,272.2	4,263.4	4,263.2	11.8	7.7	-143.84	-656.6	-217.1	960.1	941.8	18.27	52.546		
4,400.0	4,371.1	4,358.8	4,358.5	12.1	7.8	-144.37	-656.3	-216.5	972.1	953.5	18.67	52.068		
4,500.0	4,469.9	4,460.0	4,459.7	12.5	8.0	-144.94	-656.2	-215.7	984.4	965.4	19.07	51.627		
4,600.0	4,568.8	4,569.1	4,568.8	12.8	8.1	-145.59	-655.3	-214.0	996.1	976.7	19.49	51.107		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hall 28-5 (Exist) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	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
6,300.0	6,248.1	6,265.9	6,265.1	16.0	11.3	-8.03	-636.4	-185.5	972.2	949.3	22.92	42.414	
6,400.0	6,333.3	6,358.8	6,357.8	15.9	11.5	-9.06	-633.5	-189.0	917.4	895.8	21.61	42.445	
6,500.0	6,411.0	6,436.6	6,435.6	15.7	11.6	-10.66	-630.4	-192.2	851.6	831.5	20.06	42.454	
6,600.0	6,479.8	6,500.0	6,498.8	15.6	11.8	-13.10	-628.1	-195.4	776.8	758.4	18.42	42.163	
6,700.0	6,538.5	6,561.8	6,560.4	15.4	11.9	-17.38	-625.7	-198.8	694.2	677.1	17.09	40.613	
6,800.0	6,586.1	6,609.5	6,608.0	15.3	12.0	-25.23	-623.5	-201.6	605.0	588.1	16.95	35.702	
6,900.0	6,621.9	6,642.5	6,640.9	15.5	12.0	-40.49	-621.9	-203.8	511.3	491.4	19.88	25.722	
7,000.0	6,645.2	6,661.6	6,660.0	16.2	12.1	-67.86	-620.9	-205.1	415.1	388.9	26.19	15.850	
7,100.0	6,655.7	6,667.0	6,665.3	17.1	12.1	-96.55	-620.6	-205.4	319.0	290.0	28.97	11.010	
7,200.0	6,655.9	6,661.8	6,660.1	18.1	12.1	-100.70	-620.9	-205.1	226.3	196.5	29.74	7.608	
7,300.0	6,655.4	6,655.9	6,654.2	19.2	12.1	-97.34	-621.2	-204.7	143.6	112.6	31.00	4.633	
7,400.0	6,654.9	6,650.0	6,648.4	20.5	12.1	-94.01	-621.5	-204.3	99.9	67.6	32.31	3.093	
7,403.4	6,654.9	6,649.9	6,648.2	20.5	12.1	-93.90	-621.5	-204.3	99.9	67.5	32.35	3.087	CC, ES, SF
7,500.0	6,654.5	6,644.3	6,642.7	21.8	12.0	-90.74	-621.8	-203.9	138.9	105.2	33.63	4.129	
7,600.0	6,654.0	6,638.7	6,637.1	23.2	12.0	-87.53	-622.1	-203.5	220.3	185.3	34.95	6.301	
7,700.0	6,653.5	6,633.1	6,631.6	24.7	12.0	-84.41	-622.3	-203.1	312.5	276.3	36.25	8.621	
7,800.0	6,653.0	6,627.7	6,626.1	26.3	12.0	-81.39	-622.6	-202.8	408.4	370.9	37.52	10.885	
7,900.0	6,652.5	6,622.3	6,620.8	27.9	12.0	-78.48	-622.9	-202.4	505.8	467.1	38.74	13.057	
8,000.0	6,652.0	6,617.0	6,615.5	29.5	12.0	-75.69	-623.2	-202.1	604.0	564.1	39.91	15.134	
8,100.0	6,651.5	6,611.8	6,610.3	31.1	12.0	-73.03	-623.4	-201.8	702.7	661.6	41.03	17.126	
8,200.0	6,651.0	6,606.6	6,605.1	32.8	12.0	-70.49	-623.7	-201.5	801.6	759.5	42.10	19.042	
8,300.0	6,650.6	6,600.0	6,598.5	34.5	12.0	-67.36	-624.0	-201.1	900.8	857.9	42.92	20.987	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hendricks 33-2 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
11,300.0	6,635.9	6,649.0	6,648.1	89.8	14.6	91.35	-5,408.0	-562.0	926.6	822.3	104.33	8.882	
11,400.0	6,635.4	6,648.3	6,647.5	91.7	14.6	91.20	-5,408.0	-562.0	831.0	724.8	106.23	7.823	
11,500.0	6,634.9	6,647.7	6,646.8	93.6	14.6	91.06	-5,408.0	-562.0	736.6	628.5	108.13	6.813	
11,600.0	6,634.4	6,647.0	6,646.1	95.5	14.6	90.91	-5,408.0	-562.0	643.9	533.9	110.03	5.852	
11,700.0	6,633.9	6,646.3	6,645.5	97.4	14.6	90.76	-5,408.0	-562.0	553.8	441.8	111.93	4.948	
11,800.0	6,633.4	6,645.7	6,644.8	99.3	14.6	90.62	-5,408.0	-562.0	467.6	353.8	113.83	4.108	
11,900.0	6,633.0	6,645.0	6,644.1	101.2	14.6	90.47	-5,408.0	-562.0	388.2	272.5	115.73	3.354	
12,000.0	6,632.5	6,644.3	6,643.5	103.1	14.6	90.32	-5,408.0	-562.0	320.5	202.8	117.63	2.724	
12,100.0	6,632.0	6,643.7	6,642.8	105.0	14.6	90.17	-5,408.0	-562.0	273.4	153.8	119.54	2.287	
12,189.9	6,631.5	6,643.1	6,642.2	106.7	14.6	90.04	-5,408.0	-562.0	258.1	136.9	121.25	2.129 CC, ES	
12,200.0	6,631.5	6,643.0	6,642.1	106.9	14.6	90.02	-5,408.0	-562.0	258.3	136.9	121.44	2.127 SF	
12,300.0	6,631.0	6,642.3	6,641.5	108.8	14.6	89.87	-5,408.0	-562.0	280.6	157.3	123.34	2.275	
12,400.0	6,630.5	6,641.7	6,640.8	110.7	14.6	89.72	-5,408.0	-562.0	332.8	207.6	125.24	2.657	
12,500.0	6,630.0	6,641.0	6,640.1	112.6	14.6	89.58	-5,408.0	-562.0	403.4	276.3	127.15	3.173	
12,600.0	6,629.5	6,640.3	6,639.5	114.5	14.6	89.43	-5,408.0	-562.0	484.5	355.5	129.05	3.755	
12,700.0	6,629.0	6,639.6	6,638.8	116.4	14.6	89.28	-5,408.0	-562.0	571.7	440.7	130.95	4.365	
12,800.0	6,628.6	6,639.0	6,638.1	118.3	14.6	89.12	-5,408.0	-562.0	662.4	529.6	132.85	4.986	
12,900.0	6,628.1	6,638.3	6,637.4	120.2	14.6	88.97	-5,408.0	-562.0	755.5	620.8	134.75	5.607	
13,000.0	6,627.6	6,637.6	6,636.7	122.1	14.6	88.82	-5,408.0	-562.0	850.2	713.5	136.65	6.222	
13,100.0	6,627.1	6,636.9	6,636.1	124.0	14.6	88.67	-5,408.0	-562.0	945.9	807.4	138.55	6.827	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hendricks 33-4 (Exist) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS													<b>Offset Well Error:</b>	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)						
12,700.0	6,629.0	6,696.9	6,694.3	116.4	12.0	95.04	-6,782.8	-723.2	961.6	833.7	127.87	7.520		
12,800.0	6,628.6	6,690.1	6,687.5	118.3	12.0	94.11	-6,783.2	-723.0	872.8	742.9	129.92	6.718		
12,900.0	6,628.1	6,683.4	6,680.8	120.2	12.0	93.21	-6,783.5	-722.7	786.6	654.6	131.93	5.962		
13,000.0	6,627.6	6,676.9	6,674.3	122.1	12.0	92.33	-6,783.9	-722.4	704.0	570.1	133.92	5.257		
13,100.0	6,627.1	6,670.6	6,668.1	124.0	12.0	91.47	-6,784.3	-722.1	626.4	490.5	135.88	4.610		
13,200.0	6,626.6	6,664.5	6,662.0	125.9	12.0	90.64	-6,784.6	-721.9	556.0	418.1	137.82	4.034		
13,300.0	6,626.1	6,658.6	6,656.0	127.8	12.0	89.82	-6,784.9	-721.6	495.7	356.0	139.74	3.548		
13,400.0	6,625.6	6,652.8	6,650.3	129.8	11.9	89.03	-6,785.2	-721.4	449.8	308.2	141.63	3.176		
13,500.0	6,625.1	6,647.2	6,644.7	131.7	11.9	88.26	-6,785.5	-721.2	422.9	279.4	143.50	2.947		
13,567.8	6,624.8	6,643.4	6,640.9	133.0	11.9	87.75	-6,785.7	-721.0	417.5	272.7	144.75	2.884 CC, ES		
13,600.0	6,624.6	6,641.7	6,639.2	133.6	11.9	87.51	-6,785.8	-721.0	418.7	273.4	145.35	2.881 SF		
13,700.0	6,624.2	6,636.4	6,633.9	135.5	11.9	86.78	-6,786.1	-720.8	437.8	290.7	147.18	2.975		
13,733.0	6,624.0	6,634.6	6,632.2	136.1	11.9	86.55	-6,786.2	-720.7	448.9	301.1	147.78	3.038		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

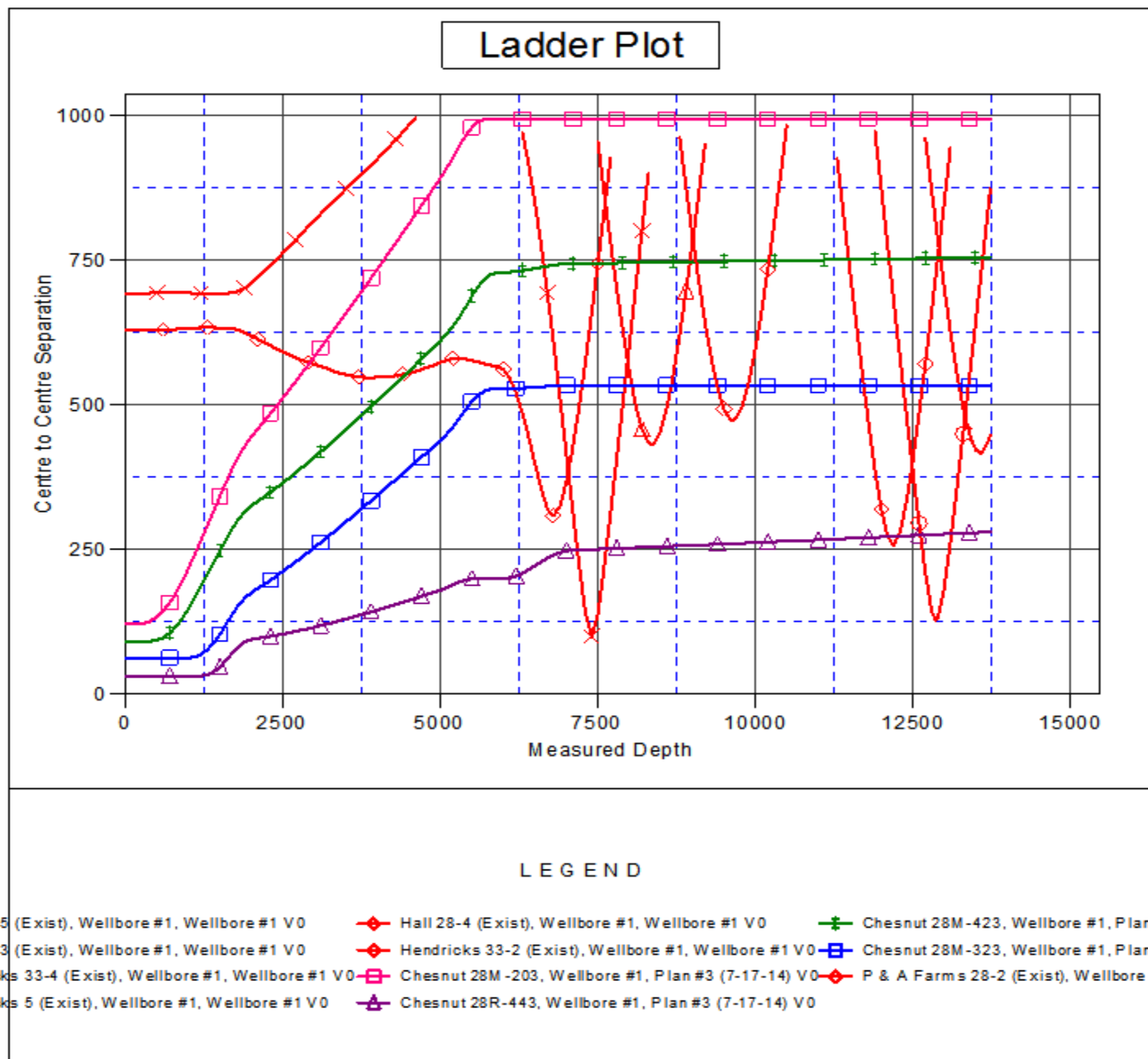
<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-UNKNOWN												<b>Offset Well Error:</b>	0.0 ft
Existing Wells - Chesnut Pads - Sec.28-T5N-R64W - Hendricks 5 (Exist) - Wellbore #1 - Wellbore #1													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,900.0	6,633.0	6,687.7	6,686.1	101.2	98.3	-109.45	-6,083.3	-175.4	974.7	785.5	189.20	5.152	
12,000.0	6,632.5	6,682.8	6,681.3	103.1	98.1	-107.51	-6,083.5	-175.5	875.7	683.0	192.78	4.543	
12,100.0	6,632.0	6,678.0	6,676.4	105.0	97.9	-105.53	-6,083.8	-175.5	777.1	580.9	196.22	3.960	
12,200.0	6,631.5	6,673.1	6,671.6	106.9	97.8	-103.51	-6,084.0	-175.6	678.8	479.2	199.52	3.402	
12,300.0	6,631.0	6,668.3	6,666.7	108.8	97.6	-101.45	-6,084.2	-175.7	581.0	378.3	202.63	2.867	
12,400.0	6,630.5	6,663.4	6,661.9	110.7	97.4	-99.36	-6,084.4	-175.7	484.0	278.5	205.55	2.355	
12,500.0	6,630.0	6,658.6	6,657.0	112.6	97.2	-97.25	-6,084.6	-175.8	388.6	180.4	208.24	1.866	
12,600.0	6,629.5	6,653.7	6,652.2	114.5	97.0	-95.11	-6,084.8	-175.8	296.1	85.4	210.70	1.405 Level 3	
12,700.0	6,629.0	6,648.9	6,647.3	116.4	96.8	-92.95	-6,085.0	-175.9	210.5	-2.4	212.90	0.989 Level 1	
12,800.0	6,628.6	6,644.0	6,642.5	118.3	96.6	-90.79	-6,085.2	-175.9	144.5	-70.3	214.83	0.673 Level 1	
12,867.4	6,628.2	6,640.7	6,639.2	119.6	96.5	-89.32	-6,085.4	-176.0	127.9	-88.1	215.98	0.592 Level 1, CC, ES, SF	
12,900.0	6,628.1	6,639.2	6,637.6	120.2	96.4	-88.62	-6,085.5	-176.0	132.0	-84.5	216.49	0.610 Level 1	
13,000.0	6,627.6	6,634.3	6,632.8	122.1	96.2	-86.45	-6,085.7	-176.1	184.2	-33.7	217.86	0.845 Level 1	
13,100.0	6,627.1	6,629.5	6,627.9	124.0	96.0	-84.29	-6,085.9	-176.1	265.2	46.3	218.95	1.211 Level 2	
13,200.0	6,626.6	6,624.6	6,623.1	125.9	95.8	-82.14	-6,086.1	-176.2	356.0	136.3	219.74	1.620	
13,300.0	6,626.1	6,619.8	6,618.3	127.8	95.6	-80.02	-6,086.3	-176.2	450.7	230.4	220.26	2.046	
13,400.0	6,625.6	6,614.9	6,613.4	129.8	95.5	-77.92	-6,086.5	-176.3	547.2	326.7	220.51	2.481	
13,500.0	6,625.1	6,610.1	6,608.6	131.7	95.3	-75.85	-6,086.7	-176.3	644.7	424.2	220.49	2.924	
13,600.0	6,624.6	6,605.2	6,603.7	133.6	95.1	-73.82	-6,086.9	-176.4	742.9	522.6	220.23	3.373	
13,700.0	6,624.2	6,600.4	6,598.9	135.5	94.9	-71.82	-6,087.1	-176.5	841.4	621.7	219.73	3.829	
13,733.0	6,624.0	6,598.8	6,597.3	136.1	94.8	-71.17	-6,087.2	-176.5	874.0	654.5	219.52	3.981	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 6980-UNKNOWN													<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,800.0	6,648.1	6,648.6	6,648.6	43.3	133.0	-90.50	-2,856.2	170.0	962.8	786.7	176.13	5.466		
8,900.0	6,647.6	6,648.1	6,648.1	45.1	133.0	-90.44	-2,856.2	170.0	877.1	699.2	177.93	4.930		
9,000.0	6,647.1	6,647.6	6,647.6	47.0	133.0	-90.38	-2,856.2	170.0	794.8	615.1	179.73	4.422		
9,100.0	6,646.6	6,647.1	6,647.1	48.8	132.9	-90.32	-2,856.2	170.0	717.0	535.5	181.55	3.950		
9,200.0	6,646.2	6,646.7	6,646.7	50.6	132.9	-90.26	-2,856.2	170.0	645.4	462.0	183.37	3.520		
9,300.0	6,645.7	6,646.2	6,646.2	52.4	132.9	-90.20	-2,856.2	170.0	582.1	396.9	185.19	3.143		
9,400.0	6,645.2	6,645.7	6,645.7	54.3	132.9	-90.14	-2,856.2	170.0	530.3	343.3	187.02	2.836		
9,500.0	6,644.7	6,645.2	6,645.2	56.1	132.9	-90.08	-2,856.2	170.0	493.6	304.7	188.86	2.614		
9,600.0	6,644.2	6,644.7	6,644.7	58.0	132.9	-90.02	-2,856.2	170.0	475.4	284.7	190.70	2.493		
9,638.1	6,644.0	6,644.5	6,644.5	58.7	132.9	-90.00	-2,856.2	170.0	473.9	282.5	191.41	2.476	CC, ES, SF	
9,700.0	6,643.7	6,644.2	6,644.2	59.8	132.9	-89.96	-2,856.2	170.0	477.9	285.3	192.55	2.482		
9,800.0	6,643.2	6,643.7	6,643.7	61.7	132.9	-89.90	-2,856.2	170.0	500.8	306.4	194.40	2.576		
9,900.0	6,642.7	6,643.2	6,643.2	63.5	132.9	-89.85	-2,856.2	170.0	541.4	345.2	196.25	2.759		
10,000.0	6,642.2	6,642.7	6,642.7	65.4	132.9	-89.79	-2,856.2	170.0	596.2	398.1	198.11	3.010		
10,100.0	6,641.8	6,642.3	6,642.3	67.3	132.8	-89.73	-2,856.2	170.0	661.7	461.8	199.97	3.309		
10,200.0	6,641.3	6,641.8	6,641.8	69.1	132.8	-89.67	-2,856.2	170.0	735.0	533.2	201.83	3.642		
10,300.0	6,640.8	6,641.3	6,641.3	71.0	132.8	-89.61	-2,856.2	170.0	814.0	610.3	203.69	3.996		
10,400.0	6,640.3	6,640.8	6,640.8	72.9	132.8	-89.55	-2,856.2	170.0	897.2	691.7	205.56	4.365		
10,500.0	6,639.8	6,640.3	6,640.3	74.8	132.8	-89.49	-2,856.2	170.0	983.5	776.1	207.43	4.742		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4633.5ft (Ensign 121 RKB - Coordinates are relative to: Chesnut 28R-203  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.61°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Chesnut 28R-203
<b>Project:</b>	SEC.28-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Reference Site:</b>	Chesnut 28M-HZ Pad Sec.28-T5N-R64W	<b>MD Reference:</b>	WELL @ 4633.5ft (Ensign 121 RKB - 13.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chesnut 28R-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #3 (7-17-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4633.5ft (Ensign 121 RKB - Coordinates are relative to: Chesnut 28R-203  
Offset Depths are relative to Offset Datum  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is -105.500000 °  
Grid Convergence at Surface is: 0.61°

