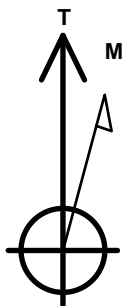


PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Nelson Family LLC 33V-404**
 Surface Location: Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4860.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1375346.75 3170160.46 40.362120 -104.889370
 Original Well Elev WELL @ 4873.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 471'FNL, 322'FEL	1.0	0.0	0.0	Point
BHL 1110'FNL, 500'FWL	7044.0	-633.5	-4589.9	Point



Azimuths to True North
 Magnetic North: 8.29°

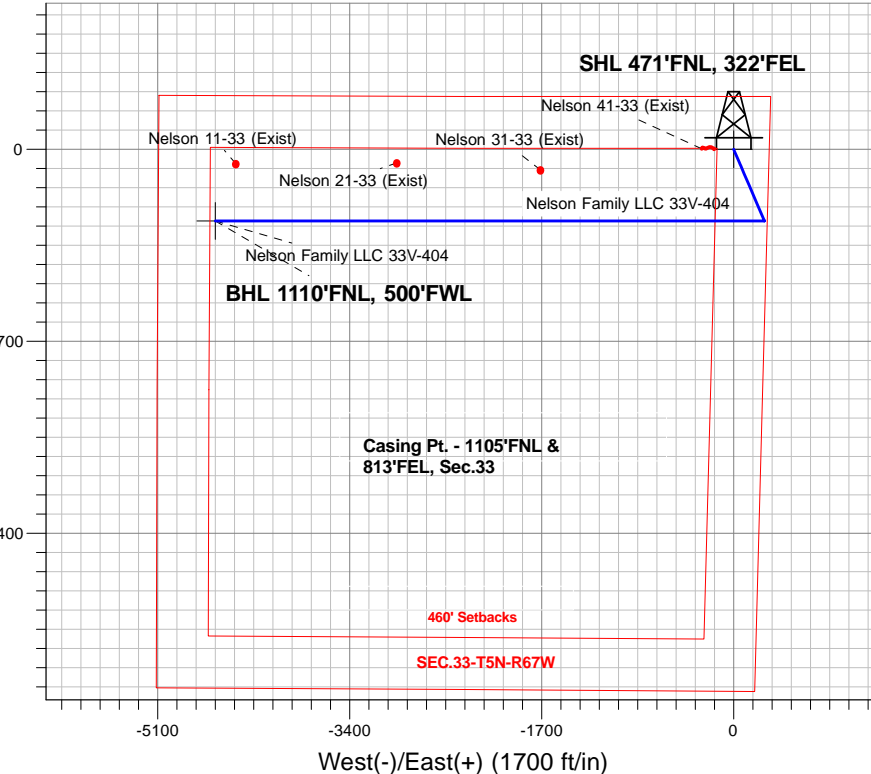
Magnetic Field
 Strength: 52600.1snT
 Dip Angle: 66.84°
 Date: 3/8/2016
 Model: IGRF2010

Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W
 Nelson Family LLC 33V-404
 Plan #1 (3-02-16)
 12:08, March 08 2016

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.50
5203.7	5248.8	Start Drop -2.00
5600.0	5646.4	Start 674.3 hold at 5646.4 MD
6274.3	6320.8	Start Build 7.50
7038.3	7519.7	Start 4099.1 hold at 7519.7 MD
7044.0	11618.8	TD at 11618.8

South(-)/North(+) (1700 ft/in)

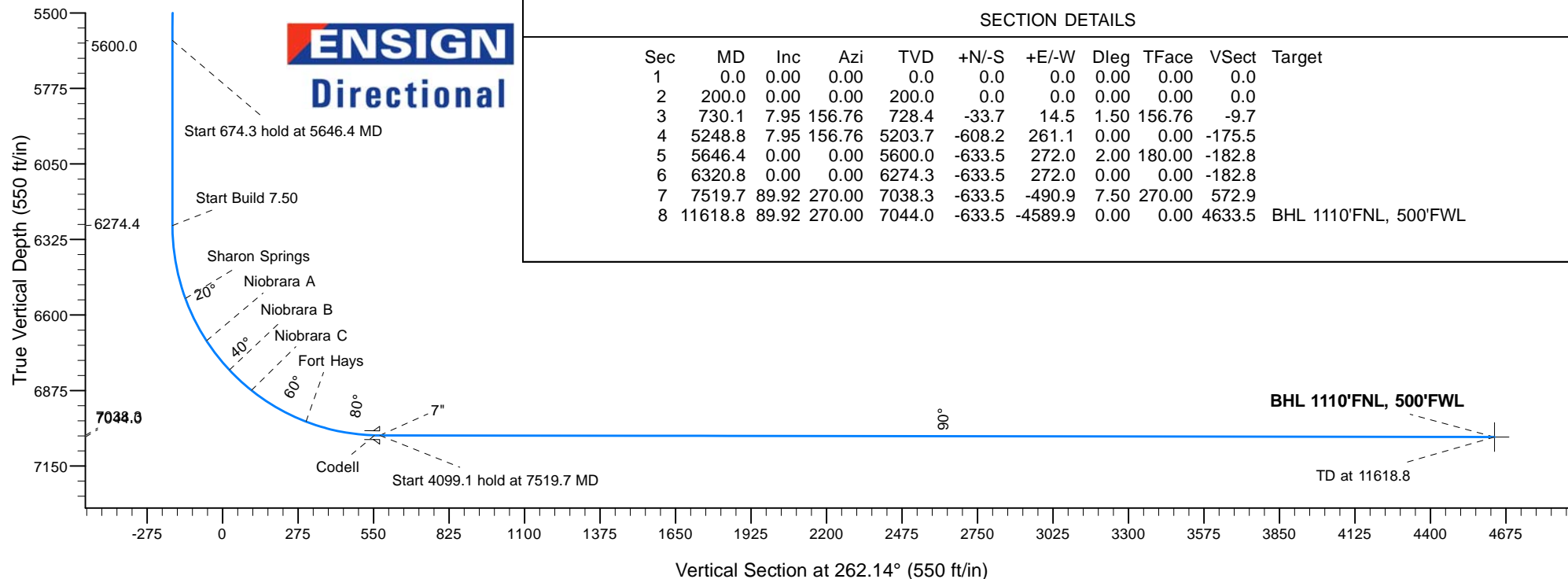


West(-)/East(+) (1700 ft/in)

ENSIGN
 Directional

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	730.1	7.95	156.76	728.4	-33.7	14.5	1.50	156.76	-9.7	
4	5248.8	7.95	156.76	5203.7	-608.2	261.1	0.00	0.00	-175.5	
5	5646.4	0.00	0.00	5600.0	-633.5	272.0	2.00	180.00	-182.8	
6	6320.8	0.00	0.00	6274.3	-633.5	272.0	0.00	0.00	-182.8	
7	7519.7	89.92	270.00	7038.3	-633.5	-490.9	7.50	270.00	572.9	
8	11618.8	89.92	270.00	7044.0	-633.5	-4589.9	0.00	0.00	4633.5	BHL 1110'FNL, 500'FWL





PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.33-T5N-R67W

Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W

Nelson Family LLC 33V-404

Wellbore #1

Plan: Plan #1 (3-02-16)

Standard Planning Report

08 March, 2016

Database:	US_EDM	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Project:	SEC.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	North Reference:	True
Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-02-16)		

Project	SEC.33-T5N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W											
Site Position:			Northing:			1,375,346.55 usft			Latitude:			40.362120					
From:			Lat/Long			Easting:			3,170,129.81 usft			Longitude:			-104.889480		
Position Uncertainty:			0.0 ft			Slot Radius:			13-3/16 "			Grid Convergence:			0.39		

Well	Nelson Family LLC 33V-404					
Well Position	+N/-S	0.0 ft	Northing:	1,375,346.75 usft	Latitude:	40.362120
	+E/-W	30.7 ft	Easting:	3,170,160.46 usft	Longitude:	-104.889370
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,860.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/8/2016	8.29	66.84	52,600

Design	Plan #1 (3-02-16)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	262.14

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
730.1	7.95	156.76	728.4	-33.7	14.5	1.50	1.50	0.00	156.76	
5,248.8	7.95	156.76	5,203.7	-608.2	261.1	0.00	0.00	0.00	0.00	
5,646.4	0.00	0.00	5,600.0	-633.5	272.0	2.00	-2.00	0.00	180.00	
6,320.8	0.00	0.00	6,274.3	-633.5	272.0	0.00	0.00	0.00	0.00	
7,519.7	89.92	270.00	7,038.3	-633.5	-490.9	7.50	7.50	0.00	270.00	
11,618.8	89.92	270.00	7,044.0	-633.5	-4,589.9	0.00	0.00	0.00	0.00	BHL 1110'FNL, 500'F

Database:	US_EDM	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Project:	SEC.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	North Reference:	True
Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
300.0	1.50	156.76	300.0	-1.2	0.5	-0.3	1.50	1.50	0.00
400.0	3.00	156.76	399.9	-4.8	2.1	-1.4	1.50	1.50	0.00
500.0	4.50	156.76	499.7	-10.8	4.6	-3.1	1.50	1.50	0.00
600.0	6.00	156.76	599.3	-19.2	8.3	-5.5	1.50	1.50	0.00
700.0	7.50	156.76	698.6	-30.0	12.9	-8.7	1.50	1.50	0.00
730.1	7.95	156.76	728.4	-33.7	14.5	-9.7	1.50	1.50	0.00
800.0	7.95	156.76	797.6	-42.6	18.3	-12.3	0.00	0.00	0.00
900.0	7.95	156.76	896.7	-55.3	23.8	-16.0	0.00	0.00	0.00
1,000.0	7.95	156.76	995.7	-68.1	29.2	-19.6	0.00	0.00	0.00
1,100.0	7.95	156.76	1,094.7	-80.8	34.7	-23.3	0.00	0.00	0.00
1,200.0	7.95	156.76	1,193.8	-93.5	40.1	-27.0	0.00	0.00	0.00
1,300.0	7.95	156.76	1,292.8	-106.2	45.6	-30.7	0.00	0.00	0.00
1,400.0	7.95	156.76	1,391.9	-118.9	51.1	-34.3	0.00	0.00	0.00
1,500.0	7.95	156.76	1,490.9	-131.6	56.5	-38.0	0.00	0.00	0.00
1,600.0	7.95	156.76	1,589.9	-144.3	62.0	-41.7	0.00	0.00	0.00
1,700.0	7.95	156.76	1,689.0	-157.0	67.4	-45.3	0.00	0.00	0.00
1,800.0	7.95	156.76	1,788.0	-169.7	72.9	-49.0	0.00	0.00	0.00
1,900.0	7.95	156.76	1,887.1	-182.5	78.3	-52.7	0.00	0.00	0.00
2,000.0	7.95	156.76	1,986.1	-195.2	83.8	-56.3	0.00	0.00	0.00
2,100.0	7.95	156.76	2,085.1	-207.9	89.3	-60.0	0.00	0.00	0.00
2,200.0	7.95	156.76	2,184.2	-220.6	94.7	-63.7	0.00	0.00	0.00
2,300.0	7.95	156.76	2,283.2	-233.3	100.2	-67.3	0.00	0.00	0.00
2,400.0	7.95	156.76	2,382.2	-246.0	105.6	-71.0	0.00	0.00	0.00
2,500.0	7.95	156.76	2,481.3	-258.7	111.1	-74.7	0.00	0.00	0.00
2,600.0	7.95	156.76	2,580.3	-271.4	116.6	-78.3	0.00	0.00	0.00
2,700.0	7.95	156.76	2,679.4	-284.2	122.0	-82.0	0.00	0.00	0.00
2,800.0	7.95	156.76	2,778.4	-296.9	127.5	-85.7	0.00	0.00	0.00
2,900.0	7.95	156.76	2,877.4	-309.6	132.9	-89.4	0.00	0.00	0.00
3,000.0	7.95	156.76	2,976.5	-322.3	138.4	-93.0	0.00	0.00	0.00
3,100.0	7.95	156.76	3,075.5	-335.0	143.8	-96.7	0.00	0.00	0.00
3,200.0	7.95	156.76	3,174.6	-347.7	149.3	-100.4	0.00	0.00	0.00
3,300.0	7.95	156.76	3,273.6	-360.4	154.8	-104.0	0.00	0.00	0.00
3,400.0	7.95	156.76	3,372.6	-373.1	160.2	-107.7	0.00	0.00	0.00
3,500.0	7.95	156.76	3,471.7	-385.8	165.7	-111.4	0.00	0.00	0.00
3,600.0	7.95	156.76	3,570.7	-398.6	171.1	-115.0	0.00	0.00	0.00
3,700.0	7.95	156.76	3,669.7	-411.3	176.6	-118.7	0.00	0.00	0.00
3,800.0	7.95	156.76	3,768.8	-424.0	182.1	-122.4	0.00	0.00	0.00
3,900.0	7.95	156.76	3,867.8	-436.7	187.5	-126.0	0.00	0.00	0.00
4,000.0	7.95	156.76	3,966.9	-449.4	193.0	-129.7	0.00	0.00	0.00
4,100.0	7.95	156.76	4,065.9	-462.1	198.4	-133.4	0.00	0.00	0.00
4,200.0	7.95	156.76	4,164.9	-474.8	203.9	-137.1	0.00	0.00	0.00
4,300.0	7.95	156.76	4,264.0	-487.5	209.3	-140.7	0.00	0.00	0.00
4,400.0	7.95	156.76	4,363.0	-500.3	214.8	-144.4	0.00	0.00	0.00
4,500.0	7.95	156.76	4,462.1	-513.0	220.3	-148.1	0.00	0.00	0.00
4,600.0	7.95	156.76	4,561.1	-525.7	225.7	-151.7	0.00	0.00	0.00
4,700.0	7.95	156.76	4,660.1	-538.4	231.2	-155.4	0.00	0.00	0.00
4,800.0	7.95	156.76	4,759.2	-551.1	236.6	-159.1	0.00	0.00	0.00
4,900.0	7.95	156.76	4,858.2	-563.8	242.1	-162.7	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Project:	SEC.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	North Reference:	True
Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.0	7.95	156.76	4,957.2	-576.5	247.6	-166.4	0.00	0.00	0.00
5,100.0	7.95	156.76	5,056.3	-589.2	253.0	-170.1	0.00	0.00	0.00
5,200.0	7.95	156.76	5,155.3	-601.9	258.5	-173.7	0.00	0.00	0.00
5,248.8	7.95	156.76	5,203.7	-608.1	261.1	-175.5	0.00	0.00	0.00
Start Drop -2.00									
5,300.0	6.93	156.76	5,254.4	-614.2	263.7	-177.3	2.00	-2.00	0.00
5,400.0	4.93	156.76	5,353.9	-623.7	267.8	-180.0	2.00	-2.00	0.00
5,500.0	2.93	156.76	5,453.6	-630.0	270.5	-181.9	2.00	-2.00	0.00
5,600.0	0.93	156.76	5,553.6	-633.1	271.9	-182.7	2.00	-2.00	0.00
5,646.4	0.00	156.76	5,600.0	-633.5	272.0	-182.8	2.00	-2.00	0.00
Start 674.3 hold at 5646.4 MD									
5,700.0	0.00	0.00	5,653.6	-633.5	272.0	-182.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,753.6	-633.5	272.0	-182.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,853.6	-633.5	272.0	-182.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,953.6	-633.5	272.0	-182.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,053.6	-633.5	272.0	-182.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,153.6	-633.5	272.0	-182.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,253.6	-633.5	272.0	-182.8	0.00	0.00	0.00
6,320.8	0.00	0.00	6,274.4	-633.5	272.0	-182.8	0.00	0.00	0.00
Start Build 7.50									
6,400.0	5.94	270.00	6,353.4	-633.5	267.9	-178.8	7.50	7.50	0.00
6,500.0	13.44	270.00	6,451.9	-633.5	251.1	-162.1	7.50	7.50	0.00
6,600.0	20.94	270.00	6,547.4	-633.5	221.5	-132.8	7.50	7.50	0.00
6,700.0	28.44	270.00	6,638.2	-633.5	179.8	-91.5	7.50	7.50	0.00
6,800.0	35.94	270.00	6,722.8	-633.5	126.5	-38.8	7.50	7.50	0.00
6,900.0	43.44	270.00	6,799.6	-633.5	62.7	24.5	7.50	7.50	0.00
7,000.0	50.94	270.00	6,867.6	-633.5	-10.6	97.1	7.50	7.50	0.00
7,100.0	58.44	270.00	6,925.3	-633.5	-92.1	177.9	7.50	7.50	0.00
7,200.0	65.94	270.00	6,971.9	-633.5	-180.5	265.4	7.50	7.50	0.00
7,300.0	73.44	270.00	7,006.6	-633.5	-274.2	358.3	7.50	7.50	0.00
7,400.0	80.94	270.00	7,028.8	-633.5	-371.7	454.8	7.50	7.50	0.00
7,500.0	88.44	270.00	7,038.0	-633.5	-471.2	553.4	7.50	7.50	0.00
7,519.7	89.92	270.00	7,038.3	-633.5	-490.9	572.9	7.50	7.50	0.00
Start 4099.1 hold at 7519.7 MD									
7,600.0	89.92	270.00	7,038.4	-633.5	-571.2	652.4	0.00	0.00	0.00
7,700.0	89.92	270.00	7,038.5	-633.5	-671.2	751.5	0.00	0.00	0.00
7,800.0	89.92	270.00	7,038.7	-633.5	-771.2	850.5	0.00	0.00	0.00
7,900.0	89.92	270.00	7,038.8	-633.5	-871.2	949.6	0.00	0.00	0.00
8,000.0	89.92	270.00	7,038.9	-633.5	-971.2	1,048.7	0.00	0.00	0.00
8,100.0	89.92	270.00	7,039.1	-633.5	-1,071.2	1,147.7	0.00	0.00	0.00
8,200.0	89.92	270.00	7,039.2	-633.5	-1,171.2	1,246.8	0.00	0.00	0.00
8,300.0	89.92	270.00	7,039.4	-633.5	-1,271.2	1,345.9	0.00	0.00	0.00
8,400.0	89.92	270.00	7,039.5	-633.5	-1,371.2	1,444.9	0.00	0.00	0.00
8,500.0	89.92	270.00	7,039.6	-633.5	-1,471.2	1,544.0	0.00	0.00	0.00
8,600.0	89.92	270.00	7,039.8	-633.5	-1,571.2	1,643.0	0.00	0.00	0.00
8,700.0	89.92	270.00	7,039.9	-633.5	-1,671.2	1,742.1	0.00	0.00	0.00
8,800.0	89.92	270.00	7,040.1	-633.5	-1,771.2	1,841.2	0.00	0.00	0.00
8,900.0	89.92	270.00	7,040.2	-633.5	-1,871.2	1,940.2	0.00	0.00	0.00
9,000.0	89.92	270.00	7,040.3	-633.5	-1,971.2	2,039.3	0.00	0.00	0.00
9,100.0	89.92	270.00	7,040.5	-633.5	-2,071.2	2,138.3	0.00	0.00	0.00
9,200.0	89.92	270.00	7,040.6	-633.5	-2,171.2	2,237.4	0.00	0.00	0.00
9,300.0	89.92	270.00	7,040.8	-633.5	-2,271.2	2,336.5	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Project:	SEC.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	North Reference:	True
Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	89.92	270.00	7,040.9	-633.5	-2,371.2	2,435.5	0.00	0.00	0.00
9,500.0	89.92	270.00	7,041.0	-633.5	-2,471.2	2,534.6	0.00	0.00	0.00
9,600.0	89.92	270.00	7,041.2	-633.5	-2,571.2	2,633.6	0.00	0.00	0.00
9,700.0	89.92	270.00	7,041.3	-633.5	-2,671.2	2,732.7	0.00	0.00	0.00
9,800.0	89.92	270.00	7,041.5	-633.5	-2,771.2	2,831.8	0.00	0.00	0.00
9,900.0	89.92	270.00	7,041.6	-633.5	-2,871.2	2,930.8	0.00	0.00	0.00
10,000.0	89.92	270.00	7,041.7	-633.5	-2,971.2	3,029.9	0.00	0.00	0.00
10,100.0	89.92	270.00	7,041.9	-633.5	-3,071.2	3,129.0	0.00	0.00	0.00
10,200.0	89.92	270.00	7,042.0	-633.5	-3,171.2	3,228.0	0.00	0.00	0.00
10,300.0	89.92	270.00	7,042.2	-633.5	-3,271.2	3,327.1	0.00	0.00	0.00
10,400.0	89.92	270.00	7,042.3	-633.5	-3,371.2	3,426.1	0.00	0.00	0.00
10,500.0	89.92	270.00	7,042.4	-633.5	-3,471.2	3,525.2	0.00	0.00	0.00
10,600.0	89.92	270.00	7,042.6	-633.5	-3,571.2	3,624.3	0.00	0.00	0.00
10,700.0	89.92	270.00	7,042.7	-633.5	-3,671.2	3,723.3	0.00	0.00	0.00
10,800.0	89.92	270.00	7,042.9	-633.5	-3,771.2	3,822.4	0.00	0.00	0.00
10,900.0	89.92	270.00	7,043.0	-633.5	-3,871.2	3,921.4	0.00	0.00	0.00
11,000.0	89.92	270.00	7,043.1	-633.5	-3,971.2	4,020.5	0.00	0.00	0.00
11,100.0	89.92	270.00	7,043.3	-633.5	-4,071.2	4,119.6	0.00	0.00	0.00
11,200.0	89.92	270.00	7,043.4	-633.5	-4,171.2	4,218.6	0.00	0.00	0.00
11,300.0	89.92	270.00	7,043.6	-633.5	-4,271.2	4,317.7	0.00	0.00	0.00
11,400.0	89.92	270.00	7,043.7	-633.5	-4,371.2	4,416.7	0.00	0.00	0.00
11,500.0	89.92	270.00	7,043.8	-633.5	-4,471.2	4,515.8	0.00	0.00	0.00
11,600.0	89.92	270.00	7,044.0	-633.5	-4,571.2	4,614.9	0.00	0.00	0.00
11,618.8	89.92	270.00	7,044.0	-633.5	-4,589.9	4,633.5	0.00	0.00	0.00
TD at 11618.8									

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude		Longitude
SHL 471'FNL, 322'FEL - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,375,346.76	3,170,160.46	40.362120		-104.889370
BHL 1110'FNL, 500'FWL - plan hits target center - Point	0.00	0.00	7,044.0	-633.5	-4,589.9	1,374,681.73	3,165,575.19	40.360380		-104.905840

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
7,519.7	7,038.3	7"		7	8-3/4

Database:	US_EDM	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Project:	SEC.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	North Reference:	True
Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-02-16)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,426.6	3,399.0	Parkman		0.00		
3,939.6	3,907.0	Sussex		0.00		
4,516.1	4,478.0	Shannon		0.00		
6,592.1	6,540.0	Sharon Springs		0.00		
6,765.0	6,694.0	Niobrara A		0.00		
6,900.5	6,800.0	Niobrara B		0.00		
7,010.3	6,874.0	Niobrara C		0.00		
7,242.1	6,988.0	Fort Hays		0.00		
7,500.2	7,038.0	Codell		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP - Start Build 1.50	
5,248.8	5,203.7	-33.7	14.5	Start Drop -2.00	
5,646.4	5,600.0	-608.2	261.1	Start 674.3 hold at 5646.4 MD	
6,320.8	6,274.3	-633.5	272.0	Start Build 7.50	
7,519.7	7,038.3	-633.5	272.0	Start 4099.1 hold at 7519.7 MD	
11,618.8	7,044.0	-633.5	-490.9	TD at 11618.8	



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.33-T5N-R67W

Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W

Nelson Family LLC 33V-404

Wellbore #1

Plan #1 (3-02-16)

Anticollision Report

08 March, 2016



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (3-02-16)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 800.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 3/8/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,618.8	Plan #1 (3-02-16) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec.33-T5N-R67W						
Nelson 11-33 (Exist) - Wellbore #1 - Wellbore #1	11,437.5	6,944.7	506.3	240.5	1.905	CC, ES, SF
Nelson 21-33 (Exist) - Wellbore #1 - Wellbore #1	10,010.7	6,941.8	513.4	287.2	2.270	CC, ES, SF
Nelson 31-33 (Exist) - Wellbore #1 - Wellbore #1	8,739.9	6,975.0	451.4	259.2	2.348	CC, ES, SF
Nelson 41-33 (Exist) - Wellbore #1 - Wellbore #1	202.6	184.7	172.8	172.2	293.911	CC, ES
Nelson 41-33 (Exist) - Wellbore #1 - Wellbore #1	7,600.0	7,034.9	704.2	665.7	18.281	SF
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W						
Nelson Family LLC 33U-234 - Wellbore #1 - Plan #1 (3-0	200.0	200.0	44.6	43.9	66.126	CC, ES
Nelson Family LLC 33U-234 - Wellbore #1 - Plan #1 (3-0	730.1	728.4	68.0	64.9	21.979	SF
Nelson Family LLC 33U-304 - Wellbore #1 - Plan #1 (3-0	200.0	199.0	61.3	60.6	91.227	CC, ES
Nelson Family LLC 33U-304 - Wellbore #1 - Plan #1 (3-0	1,000.0	994.7	113.3	108.9	25.911	SF
Nelson Family LLC 33U-334 - Wellbore #1 - Plan #1 (3-0	200.0	200.0	30.7	30.0	45.461	CC, ES
Nelson Family LLC 33U-334 - Wellbore #1 - Plan #1 (3-0	11,618.8	11,477.1	567.4	311.3	2.216	SF
Nelson Family LLC 33V-214 - Wellbore #1 - Plan #1 (3-0	200.0	200.0	13.9	13.3	20.664	CC, ES
Nelson Family LLC 33V-214 - Wellbore #1 - Plan #1 (3-0	11,618.8	11,399.9	344.9	140.3	1.685	SF
Nelson Family LLC 33V-234 - Wellbore #1 - Plan #1 (3-0	5,378.9	5,292.8	475.7	448.8	17.718	CC
Nelson Family LLC 33V-234 - Wellbore #1 - Plan #1 (3-0	11,618.8	11,329.9	552.4	310.9	2.287	ES, SF
Nelson Family LLC 33V-304 - Wellbore #1 - Plan #1 (3-0	6,164.2	6,109.4	244.9	213.7	7.848	CC
Nelson Family LLC 33V-304 - Wellbore #1 - Plan #1 (3-0	11,618.8	11,416.4	286.0	57.9	1.254	Level 3, ES, SF
Nelson Family LLC 33V-334 - Wellbore #1 - Plan #1 (3-0	1,232.1	1,121.0	660.0	654.9	129.488	CC
Nelson Family LLC 33V-334 - Wellbore #1 - Plan #1 (3-0	11,618.8	11,441.5	795.7	537.0	3.076	ES, SF
Nelson Family LLC 33W-214 - Wellbore #1 - Plan #1 (3-0	1,012.9	900.0	685.4	681.4	169.434	CC, ES
Nelson Family LLC 33W-214 - Wellbore #1 - Plan #1 (3-0	2,800.0	2,635.0	799.1	785.7	59.611	SF
Nelson Family LLC 33W-414 - Wellbore #1 - Plan #1 (3-0	815.5	700.0	710.9	707.7	225.706	CC, ES
Nelson Family LLC 33W-414 - Wellbore #1 - Plan #1 (3-0	1,900.0	1,707.4	797.6	789.0	92.302	SF

Offset Design	Existing Wells Sec.33-T5N-R67W - Nelson 11-33 (Exist) - Wellbore #1 - Wellbore #1										Offset Site Error:	0.0 ft
Survey Program:	7562-UNKNOWN										Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)	Factor
10,900.0	7,043.0	6,944.0	6,944.0	112.1	138.9	89.92	-127.1	-4,408.7	738.5	487.6	250.86	2.944

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.33-T5N-R67W - Nelson 11-33 (Exist) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 7562-UNKNOWN														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
11,000.0	7,043.1	6,944.1	6,944.1	114.9	138.9	89.93	-127.1	-4,408.7	669.2	415.6	253.64	2.638			
11,100.0	7,043.3	6,944.3	6,944.3	117.7	138.9	89.95	-127.1	-4,408.7	608.5	352.1	256.43	2.373			
11,200.0	7,043.4	6,944.4	6,944.4	120.5	138.9	89.96	-127.1	-4,408.7	559.3	300.1	259.21	2.158			
11,300.0	7,043.6	6,944.6	6,944.6	123.3	138.9	89.98	-127.1	-4,408.7	524.7	262.7	262.00	2.003			
11,400.0	7,043.7	6,944.7	6,944.7	126.0	138.9	89.99	-127.1	-4,408.7	507.7	243.0	264.79	1.918			
11,437.5	7,043.7	6,944.7	6,944.7	127.1	138.9	90.00	-127.1	-4,408.7	506.3	240.5	265.83	1.905 CC, ES, SF			
11,500.0	7,043.8	6,944.8	6,944.8	128.8	138.9	90.01	-127.1	-4,408.7	510.2	242.6	267.58	1.907			
11,600.0	7,044.0	6,945.0	6,945.0	131.6	138.9	90.03	-127.1	-4,408.7	531.8	261.4	270.36	1.967			
11,618.8	7,044.0	6,945.0	6,945.0	132.1	138.9	90.03	-127.1	-4,408.7	537.8	266.9	270.89	1.985			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.33-T5N-R67W - Nelson 21-33 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7562-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
9,400.0	7,040.9	6,940.9	6,940.9	70.8	138.8	89.90	-120.0	-2,981.9	797.8	588.5	209.38	3.811		
9,500.0	7,041.0	6,941.0	6,941.0	73.5	138.8	89.92	-120.0	-2,981.9	724.2	512.0	212.12	3.414		
9,600.0	7,041.2	6,941.2	6,941.2	76.3	138.8	89.94	-120.0	-2,981.9	657.5	442.6	214.86	3.060		
9,700.0	7,041.3	6,941.3	6,941.3	79.0	138.8	89.95	-120.0	-2,981.9	600.1	382.5	217.61	2.758		
9,800.0	7,041.5	6,941.5	6,941.5	81.8	138.8	89.97	-120.0	-2,981.9	555.0	334.6	220.36	2.518		
9,900.0	7,041.6	6,941.6	6,941.6	84.5	138.8	89.98	-120.0	-2,981.9	525.2	302.1	223.12	2.354		
10,000.0	7,041.7	6,941.7	6,941.7	87.3	138.8	90.00	-120.0	-2,981.9	513.5	287.7	225.88	2.273		
10,010.7	7,041.8	6,941.8	6,941.8	87.5	138.8	90.00	-120.0	-2,981.9	513.4	287.2	226.18	2.270	CC, ES, SF	
10,100.0	7,041.9	6,941.9	6,941.9	90.0	138.8	90.01	-120.0	-2,981.9	521.1	292.5	228.65	2.279		
10,200.0	7,042.0	6,942.0	6,942.0	92.8	138.8	90.03	-120.0	-2,981.9	547.2	315.8	231.41	2.365		
10,300.0	7,042.2	6,942.2	6,942.2	95.5	138.8	90.05	-120.0	-2,981.9	589.3	355.1	234.18	2.517		
10,400.0	7,042.3	6,942.3	6,942.3	98.3	138.8	90.06	-120.0	-2,981.9	644.3	407.4	236.95	2.719		
10,500.0	7,042.4	6,942.4	6,942.4	101.1	138.8	90.08	-120.0	-2,981.9	709.2	469.5	239.73	2.959		
10,600.0	7,042.6	6,942.6	6,942.6	103.8	138.9	90.09	-120.0	-2,981.9	781.6	539.1	242.50	3.223		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.33-T5N-R67W - Nelson 31-33 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7560-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,100.0	7,039.1	6,974.1	6,974.1	36.4	139.5	89.89	-182.1	-1,711.1	783.1	607.6	175.51	4.462		
8,200.0	7,039.2	6,974.2	6,974.2	38.9	139.5	89.90	-182.1	-1,711.1	703.7	525.7	178.04	3.953		
8,300.0	7,039.4	6,974.4	6,974.4	41.5	139.5	89.92	-182.1	-1,711.1	630.3	449.7	180.61	3.490		
8,400.0	7,039.5	6,974.5	6,974.5	44.1	139.5	89.94	-182.1	-1,711.1	565.0	381.8	183.20	3.084		
8,500.0	7,039.6	6,974.6	6,974.6	46.7	139.5	89.96	-182.1	-1,711.1	511.2	325.3	185.82	2.751		
8,600.0	7,039.8	6,974.8	6,974.8	49.3	139.5	89.98	-182.1	-1,711.1	472.6	284.1	188.47	2.507		
8,700.0	7,039.9	6,974.9	6,974.9	51.9	139.5	89.99	-182.1	-1,711.1	453.1	262.0	191.13	2.371		
8,739.9	7,040.0	6,975.0	6,975.0	53.0	139.5	90.00	-182.1	-1,711.1	451.4	259.2	192.20	2.348	CC, ES, SF	
8,800.0	7,040.1	6,975.1	6,975.1	54.6	139.5	90.01	-182.1	-1,711.1	455.4	261.5	193.80	2.350		
8,900.0	7,040.2	6,975.2	6,975.2	57.3	139.5	90.03	-182.1	-1,711.1	478.9	282.4	196.49	2.437		
9,000.0	7,040.3	6,975.3	6,975.3	60.0	139.5	90.05	-182.1	-1,711.1	520.9	321.7	199.19	2.615		
9,100.0	7,040.5	6,975.5	6,975.5	62.7	139.5	90.06	-182.1	-1,711.1	577.4	375.5	201.90	2.860		
9,200.0	7,040.6	6,975.6	6,975.6	65.4	139.5	90.08	-182.1	-1,711.1	644.5	439.9	204.62	3.150		
9,300.0	7,040.8	6,975.8	6,975.8	68.1	139.5	90.10	-182.1	-1,711.1	719.3	512.0	207.35	3.469		
9,400.0	7,040.9	6,975.9	6,975.9	70.8	139.5	90.12	-182.1	-1,711.1	799.7	589.6	210.08	3.806		

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.33-T5N-R67W - Nelson 41-33 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 700-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)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-172.8	173.7					
100.0	100.0	82.0	82.0	0.1	0.1	-89.99	0.0	-172.8	172.8	172.6	0.22	780.225		
200.0	200.0	182.0	182.0	0.3	0.2	-89.95	0.2	-172.8	172.8	172.2	0.58	298.387		
202.6	202.6	184.7	184.7	0.3	0.2	113.29	0.2	-172.8	172.8	172.2	0.59	293.911	CC, ES	
300.0	300.0	282.1	282.1	0.5	0.4	113.75	0.4	-172.7	173.2	172.3	0.91	189.523		
400.0	399.9	382.0	382.0	0.7	0.5	115.01	0.7	-172.7	174.8	173.6	1.25	139.723		
500.0	499.7	481.8	481.8	1.0	0.6	117.01	1.1	-172.6	177.7	176.0	1.61	110.159		
600.0	599.3	581.3	581.3	1.2	0.8	119.67	1.6	-172.5	182.0	180.0	2.00	91.139		
700.0	698.6	680.6	680.6	1.5	0.9	122.87	2.2	-172.4	188.1	185.7	2.40	78.286		
730.1	728.4	710.3	710.3	1.6	1.0	123.91	2.4	-172.4	190.4	187.8	2.54	74.890		
800.0	797.6	778.9	778.9	1.8	1.1	126.38	2.9	-172.4	196.1	193.2	2.92	67.205		
900.0	896.7	877.6	877.6	2.2	1.4	129.69	3.8	-172.7	205.2	201.7	3.45	59.407		
1,000.0	995.7	976.3	976.3	2.5	1.6	132.70	4.7	-173.0	214.9	210.9	3.98	53.978		
1,100.0	1,094.7	1,074.9	1,074.9	2.8	1.9	135.41	5.4	-173.5	225.3	220.8	4.49	50.133		
1,200.0	1,193.8	1,173.5	1,173.5	3.2	2.1	137.81	6.0	-174.2	236.3	231.3	4.99	47.399		
1,300.0	1,292.8	1,272.1	1,272.1	3.5	2.3	139.95	6.5	-175.1	247.8	242.4	5.46	45.403		
1,400.0	1,391.9	1,371.3	1,371.3	3.9	2.5	141.87	6.8	-176.2	259.7	253.7	5.92	43.854		
1,500.0	1,490.9	1,469.6	1,469.6	4.2	2.7	143.57	6.9	-177.3	271.8	265.4	6.38	42.619		
1,600.0	1,589.9	1,567.7	1,567.6	4.6	2.9	145.09	7.1	-178.7	284.4	277.6	6.85	41.499		
1,700.0	1,689.0	1,665.8	1,665.7	4.9	3.2	146.51	7.6	-180.3	297.5	290.2	7.34	40.544		
1,800.0	1,788.0	1,763.7	1,763.7	5.3	3.4	147.86	8.4	-182.0	311.1	303.3	7.82	39.780		
1,900.0	1,887.1	1,861.6	1,861.5	5.6	3.6	149.12	9.6	-183.8	325.1	316.8	8.30	39.171		
2,000.0	1,986.1	1,959.4	1,959.2	6.0	3.9	150.32	11.1	-185.7	339.5	330.7	8.78	38.687		
2,100.0	2,085.1	2,057.7	2,057.5	6.3	4.1	151.45	12.8	-187.7	354.3	345.0	9.27	38.238		
2,200.0	2,184.2	2,156.4	2,156.2	6.7	4.4	152.48	14.5	-189.8	369.2	359.5	9.77	37.807		
2,300.0	2,283.2	2,255.2	2,255.0	7.0	4.6	153.42	16.1	-191.9	384.2	374.0	10.27	37.426		
2,400.0	2,382.2	2,354.0	2,353.7	7.4	4.9	154.27	17.6	-194.1	399.3	388.5	10.77	37.086		
2,500.0	2,481.3	2,452.9	2,452.5	7.7	5.1	155.04	19.0	-196.3	414.4	403.1	11.27	36.781		
2,600.0	2,580.3	2,551.6	2,551.3	8.1	5.4	155.74	20.3	-198.6	429.6	417.8	11.75	36.546		
2,700.0	2,679.4	2,650.4	2,650.0	8.4	5.6	156.32	21.1	-201.2	444.8	432.5	12.23	36.364		
2,800.0	2,778.4	2,749.3	2,748.8	8.8	5.8	156.79	21.6	-204.3	460.0	447.3	12.71	36.191		
2,900.0	2,877.4	2,848.1	2,847.6	9.1	6.1	157.16	21.6	-207.7	475.2	462.0	13.19	36.025		
3,000.0	2,976.5	2,947.1	2,946.5	9.5	6.3	157.44	21.2	-211.5	490.4	476.8	13.68	35.864		
3,100.0	3,075.5	3,046.9	3,046.2	9.8	6.5	157.64	20.3	-215.7	505.6	491.5	14.15	35.740		
3,200.0	3,174.6	3,147.8	3,147.0	10.2	6.7	157.83	19.2	-219.7	520.5	505.9	14.60	35.643		
3,300.0	3,273.6	3,248.8	3,247.9	10.5	6.9	158.03	17.9	-223.3	534.9	519.9	15.06	35.526		
3,400.0	3,372.6	3,349.9	3,349.0	10.9	7.1	158.22	16.4	-226.6	549.0	533.5	15.51	35.393		
3,500.0	3,471.7	3,451.1	3,450.2	11.2	7.3	158.41	14.7	-229.5	562.7	546.7	15.97	35.243		
3,600.0	3,570.7	3,551.0	3,550.0	11.6	7.5	158.61	12.8	-232.1	576.0	559.6	16.42	35.078		
3,700.0	3,669.7	3,649.6	3,648.5	11.9	7.7	158.81	11.1	-234.6	589.4	572.6	16.88	34.920		
3,800.0	3,768.8	3,748.1	3,747.0	12.3	8.0	159.02	9.6	-236.9	603.0	585.6	17.34	34.778		
3,900.0	3,867.8	3,846.6	3,845.5	12.6	8.2	159.24	8.4	-239.2	616.6	598.8	17.79	34.652		
4,000.0	3,966.9	3,945.0	3,943.9	13.0	8.4	159.48	7.3	-241.3	630.3	612.0	18.25	34.539		
4,100.0	4,065.9	4,042.7	4,041.5	13.3	8.6	159.71	6.5	-243.4	644.1	625.4	18.72	34.415		
4,200.0	4,164.9	4,139.2	4,138.0	13.7	8.8	159.96	6.0	-245.5	658.3	639.1	19.20	34.284		
4,300.0	4,264.0	4,235.6	4,234.4	14.0	9.1	160.21	6.0	-247.7	672.8	653.1	19.68	34.181		
4,400.0	4,363.0	4,331.9	4,330.6	14.4	9.3	160.47	6.4	-250.0	687.7	667.6	20.17	34.104		
4,500.0	4,462.1	4,428.0	4,426.7	14.7	9.5	160.74	7.2	-252.4	703.1	682.4	20.65	34.051		
4,600.0	4,561.1	4,525.0	4,523.7	15.1	9.8	161.01	8.4	-254.9	718.8	697.6	21.13	34.010		
4,700.0	4,660.1	4,624.7	4,623.4	15.4	10.0	161.28	9.6	-257.5	734.5	712.8	21.64	33.944		
4,800.0	4,759.2	4,724.6	4,723.2	15.8	10.3	161.54	10.8	-259.9	750.0	727.9	22.14	33.875		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.33-T5N-R67W - Nelson 41-33 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:		0.0 ft
Survey Program: 700-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)				
4,900.0	4,858.2	4,824.4	4,823.0	16.1	10.6	161.79	11.8	-262.2	765.5	742.8	22.65	33.803			
5,000.0	4,957.2	4,924.3	4,922.9	16.5	10.8	162.03	12.7	-264.5	780.8	757.7	23.15	33.728			
5,100.0	5,056.3	5,024.3	5,022.9	16.8	11.1	162.27	13.5	-266.6	796.0	772.3	23.65	33.650			
6,700.0	6,638.2	6,625.2	6,623.6	19.1	13.5	58.27	12.7	-276.5	791.0	763.8	27.25	29.030			
6,750.0	6,681.3	6,668.4	6,666.8	19.1	13.5	60.65	12.3	-276.7	776.5	749.3	27.25	28.496			
6,800.0	6,722.8	6,710.0	6,708.4	19.1	13.6	63.31	11.9	-276.9	761.1	733.8	27.35	27.833			
6,850.0	6,762.2	6,749.8	6,748.2	19.1	13.7	66.19	11.5	-277.2	745.1	717.6	27.55	27.042			
6,900.0	6,799.6	6,787.5	6,785.9	19.1	13.7	69.26	11.1	-277.5	728.9	701.0	27.88	26.143			
6,950.0	6,834.8	6,823.1	6,821.5	19.1	13.8	72.44	10.7	-277.8	712.8	684.4	28.32	25.170			
7,000.0	6,867.6	6,856.4	6,854.8	19.1	13.8	75.66	10.3	-278.1	697.2	668.3	28.85	24.167			
7,050.0	6,897.8	6,887.2	6,885.6	19.1	13.9	78.83	9.9	-278.5	682.7	653.2	29.45	23.180			
7,100.0	6,925.3	6,915.4	6,913.8	19.1	13.9	81.84	9.6	-278.8	669.6	639.5	30.10	22.247			
7,150.0	6,950.1	6,940.9	6,939.3	19.2	14.0	84.62	9.2	-279.1	658.6	627.8	30.78	21.397			
7,200.0	6,971.9	6,963.6	6,962.0	19.2	14.0	87.06	8.9	-279.4	650.0	618.5	31.48	20.647			
7,250.0	6,990.8	6,983.3	6,981.7	19.4	14.0	89.11	8.6	-279.7	644.3	612.1	32.21	20.004			
7,300.0	7,006.6	7,000.0	6,998.4	19.7	14.1	90.69	8.3	-279.9	641.9	608.9	32.97	19.469			
7,308.9	7,009.1	7,002.5	7,000.9	19.8	14.1	90.91	8.3	-280.0	641.8	608.7	33.12	19.381			
7,350.0	7,019.3	7,013.0	7,011.3	20.3	14.1	91.72	8.1	-280.1	643.1	609.3	33.79	19.035			
7,400.0	7,028.8	7,022.9	7,021.2	21.1	14.1	92.21	8.0	-280.3	648.0	613.4	34.65	18.702			
7,450.0	7,035.0	7,029.6	7,027.9	21.9	14.1	92.14	7.9	-280.4	656.8	621.2	35.56	18.467			
7,500.0	7,038.0	7,033.2	7,031.5	22.9	14.1	91.49	7.9	-280.4	669.2	632.7	36.51	18.327			
7,519.7	7,038.3	7,033.7	7,032.1	23.2	14.1	91.08	7.9	-280.4	675.1	638.2	36.89	18.298			
7,600.0	7,038.4	7,034.9	7,033.3	24.8	14.2	91.19	7.8	-280.5	704.2	665.7	38.52	18.281 SF			
7,700.0	7,038.5	7,036.4	7,034.8	27.0	14.2	91.32	7.8	-280.5	751.1	710.4	40.68	18.461			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33U-234 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-44.6	44.6						
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-44.6	44.6	44.4	0.22	198.377			
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-44.6	44.6	43.9	0.67	66.126 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.6	114.76	0.0	-44.6	45.1	44.0	1.10	40.926			
400.0	399.9	399.9	399.9	0.7	0.8	119.09	0.0	-44.6	46.9	45.4	1.53	30.566			
500.0	499.7	499.7	499.7	1.0	1.0	125.55	0.0	-44.6	50.4	48.4	1.99	25.316			
600.0	599.3	599.3	599.3	1.2	1.2	133.07	0.0	-44.6	56.2	53.8	2.47	22.805			
700.0	698.6	698.6	698.6	1.5	1.5	140.58	0.0	-44.6	64.9	61.9	2.95	21.987			
730.1	728.4	728.4	728.4	1.6	1.5	142.71	0.0	-44.6	68.0	64.9	3.10	21.979 SF			
800.0	797.6	797.6	797.6	1.8	1.7	147.12	0.0	-44.6	76.0	72.6	3.42	22.205			
900.0	896.7	896.7	896.7	2.2	1.9	152.01	0.0	-44.6	87.9	84.1	3.88	22.648			
1,000.0	995.7	995.7	995.7	2.5	2.1	155.71	0.0	-44.6	100.4	96.1	4.34	23.124			
1,100.0	1,094.7	1,094.7	1,094.7	2.8	2.3	158.59	0.0	-44.6	113.2	108.4	4.80	23.582			
1,200.0	1,193.8	1,193.8	1,193.8	3.2	2.6	160.88	0.0	-44.6	126.2	120.9	5.26	24.004			
1,300.0	1,292.8	1,293.4	1,293.4	3.5	2.8	163.22	0.6	-43.6	139.1	133.4	5.70	24.388			
1,400.0	1,391.9	1,393.0	1,392.9	3.9	3.0	166.12	2.4	-40.3	151.9	145.7	6.14	24.734			
1,500.0	1,490.9	1,492.1	1,491.8	4.2	3.2	169.46	5.5	-34.9	164.8	158.2	6.58	25.049			
1,600.0	1,589.9	1,590.8	1,590.1	4.6	3.4	173.13	9.8	-27.2	178.1	171.1	7.02	25.354			
1,700.0	1,689.0	1,689.1	1,687.9	4.9	3.7	176.72	14.9	-18.2	192.1	184.6	7.49	25.662			
1,800.0	1,788.0	1,787.5	1,785.7	5.3	3.9	179.83	20.0	-9.2	206.7	198.8	7.96	25.964			
1,900.0	1,887.1	1,885.8	1,883.5	5.6	4.2	-177.47	25.0	-0.2	221.9	213.5	8.45	26.255			
2,000.0	1,986.1	1,984.2	1,981.3	6.0	4.4	-175.13	30.1	8.8	237.5	228.6	8.95	26.531			
2,100.0	2,085.1	2,082.5	2,079.1	6.3	4.7	-173.07	35.2	17.7	253.4	244.0	9.46	26.791			
2,200.0	2,184.2	2,180.8	2,176.9	6.7	5.0	-171.25	40.3	26.7	269.7	259.7	9.98	27.034			
2,300.0	2,283.2	2,279.2	2,274.7	7.0	5.2	-169.65	45.3	35.7	286.1	275.6	10.50	27.262			
2,400.0	2,382.2	2,377.5	2,372.5	7.4	5.5	-168.21	50.4	44.7	302.8	291.8	11.02	27.475			
2,500.0	2,481.3	2,475.8	2,470.3	7.7	5.8	-166.93	55.5	53.7	319.6	308.1	11.55	27.675			
2,600.0	2,580.3	2,574.2	2,568.0	8.1	6.0	-165.77	60.6	62.7	336.6	324.5	12.08	27.862			
2,700.0	2,679.4	2,672.5	2,665.8	8.4	6.3	-164.73	65.6	71.7	353.6	341.0	12.61	28.038			
2,800.0	2,778.4	2,770.8	2,763.6	8.8	6.6	-163.78	70.7	80.7	370.8	357.7	13.15	28.203			
2,900.0	2,877.4	2,869.2	2,861.4	9.1	6.9	-162.92	75.8	89.7	388.1	374.4	13.69	28.358			
3,000.0	2,976.5	2,967.5	2,959.2	9.5	7.1	-162.13	80.9	98.7	405.5	391.2	14.23	28.504			
3,100.0	3,075.5	3,065.8	3,057.0	9.8	7.4	-161.40	85.9	107.6	422.9	408.1	14.77	28.642			
3,200.0	3,174.6	3,164.2	3,154.8	10.2	7.7	-160.73	91.0	116.6	440.4	425.1	15.31	28.772			
3,300.0	3,273.6	3,262.5	3,252.6	10.5	8.0	-160.11	96.1	125.6	457.9	442.1	15.85	28.895			
3,400.0	3,372.6	3,360.8	3,350.4	10.9	8.3	-159.54	101.2	134.6	475.5	459.1	16.39	29.011			
3,500.0	3,471.7	3,459.2	3,448.2	11.2	8.5	-159.01	106.2	143.6	493.1	476.2	16.93	29.122			
3,600.0	3,570.7	3,557.5	3,545.9	11.6	8.8	-158.52	111.3	152.6	510.8	493.3	17.48	29.226			
3,700.0	3,669.7	3,655.8	3,643.7	11.9	9.1	-158.05	116.4	161.6	528.5	510.5	18.02	29.326			
3,800.0	3,768.8	3,754.2	3,741.5	12.3	9.4	-157.62	121.5	170.6	546.2	527.7	18.57	29.421			
3,900.0	3,867.8	3,852.5	3,839.3	12.6	9.7	-157.22	126.5	179.6	564.0	544.9	19.11	29.511			
4,000.0	3,966.9	3,950.8	3,937.1	13.0	10.0	-156.84	131.6	188.6	581.8	562.1	19.66	29.597			
4,100.0	4,065.9	4,049.2	4,034.9	13.3	10.3	-156.48	136.7	197.6	599.6	579.4	20.20	29.679			
4,200.0	4,164.9	4,147.5	4,132.7	13.7	10.5	-156.14	141.8	206.5	617.4	596.7	20.75	29.757			
4,300.0	4,264.0	4,245.8	4,230.5	14.0	10.8	-155.83	146.8	215.5	635.3	614.0	21.30	29.832			
4,400.0	4,363.0	4,344.2	4,328.3	14.4	11.1	-155.52	151.9	224.5	653.2	631.3	21.84	29.904			
4,500.0	4,462.1	4,442.5	4,426.1	14.7	11.4	-155.24	157.0	233.5	671.0	648.7	22.39	29.973			
4,600.0	4,561.1	4,540.8	4,523.9	15.1	11.7	-154.97	162.1	242.5	688.9	666.0	22.94	30.039			
4,700.0	4,660.1	4,639.2	4,621.6	15.4	12.0	-154.71	167.1	251.5	706.9	683.4	23.48	30.102			
4,800.0	4,759.2	4,740.6	4,722.5	15.8	12.3	-154.47	172.3	260.7	724.7	700.7	24.03	30.162			
4,900.0	4,858.2	4,854.5	4,836.0	16.1	12.5	-154.42	176.6	268.3	741.2	716.7	24.54	30.211			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,957.2	4,969.0	4,950.5	16.5	12.7	-154.66	178.7	272.0	755.7	730.7	24.99	30.241		
5,100.0	5,056.3	5,074.8	5,056.3	16.8	12.9	-155.10	178.9	272.4	768.4	743.0	25.41	30.239		
5,200.0	5,155.3	5,173.8	5,155.3	17.2	13.1	-155.53	178.9	272.4	781.0	755.2	25.84	30.223		
5,248.8	5,203.7	5,222.2	5,203.7	17.4	13.2	-155.73	178.9	272.4	787.2	761.1	26.05	30.213		
5,300.0	5,254.4	5,272.9	5,254.4	17.5	13.3	-155.98	178.9	272.4	793.2	766.9	26.29	30.172		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33U-304 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
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			
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-61.3	61.3						
100.0	100.0	99.0	99.0	0.1	0.1	-90.01	0.0	-61.3	61.3	61.1	0.22	274.137			
200.0	200.0	199.0	199.0	0.3	0.3	-90.01	0.0	-61.3	61.3	60.6	0.67	91.227 CC, ES			
300.0	300.0	299.0	299.0	0.5	0.6	114.34	0.0	-61.3	61.8	60.7	1.10	56.205			
400.0	399.9	398.9	398.9	0.7	0.8	117.54	0.0	-61.3	63.6	62.0	1.53	41.495			
500.0	499.7	498.7	498.7	1.0	1.0	122.47	0.0	-61.3	66.8	64.8	1.99	33.620			
600.0	599.3	598.3	598.3	1.2	1.2	128.53	0.0	-61.3	72.2	69.7	2.46	29.293			
700.0	698.6	697.6	697.6	1.5	1.5	135.02	0.0	-61.3	80.0	77.1	2.95	27.112			
730.1	728.4	727.4	727.4	1.6	1.5	136.96	0.0	-61.3	83.0	79.9	3.10	26.757			
800.0	797.6	796.6	796.6	1.8	1.7	141.13	0.0	-61.3	90.3	86.9	3.43	26.295			
900.0	896.7	895.7	895.7	2.2	1.9	146.02	0.0	-61.3	101.5	97.6	3.91	25.987			
1,000.0	995.7	994.7	994.7	2.5	2.1	149.93	0.0	-61.3	113.3	108.9	4.37	25.911 SF			
1,100.0	1,094.7	1,093.7	1,093.7	2.8	2.3	153.09	0.0	-61.3	125.4	120.6	4.83	25.955			
1,200.0	1,193.8	1,192.8	1,192.8	3.2	2.6	155.69	0.0	-61.3	137.9	132.6	5.29	26.060			
1,300.0	1,292.8	1,291.8	1,291.8	3.5	2.8	157.85	0.0	-61.3	150.7	144.9	5.75	26.193			
1,400.0	1,391.9	1,390.9	1,390.9	3.9	3.0	159.68	0.0	-61.3	163.6	157.4	6.21	26.336			
1,500.0	1,490.9	1,489.9	1,489.9	4.2	3.2	161.23	0.0	-61.3	176.6	170.0	6.67	26.481			
1,600.0	1,589.9	1,588.0	1,588.0	4.6	3.5	162.86	0.8	-60.7	190.0	182.9	7.12	26.683			
1,700.0	1,689.0	1,685.5	1,685.5	4.9	3.7	164.96	3.6	-58.6	204.2	196.6	7.56	26.996			
1,800.0	1,788.0	1,782.5	1,782.2	5.3	3.9	167.40	8.3	-55.0	219.3	211.3	8.00	27.410			
1,900.0	1,887.1	1,878.7	1,878.1	5.6	4.1	170.07	14.9	-50.0	235.6	227.1	8.44	27.918			
2,000.0	1,986.1	1,974.2	1,973.0	6.0	4.3	172.90	23.4	-43.5	253.3	244.4	8.88	28.509			
2,100.0	2,085.1	2,068.7	2,066.6	6.3	4.6	175.79	33.7	-35.8	272.5	263.2	9.34	29.177			
2,200.0	2,184.2	2,164.5	2,161.3	6.7	4.8	178.67	45.5	-26.8	293.3	283.5	9.82	29.877			
2,300.0	2,283.2	2,261.3	2,256.8	7.0	5.1	-178.80	57.5	-17.7	314.8	304.5	10.31	30.530			
2,400.0	2,382.2	2,358.0	2,352.4	7.4	5.4	-176.58	69.6	-8.5	336.8	326.0	10.81	31.148			
2,500.0	2,481.3	2,454.8	2,448.0	7.7	5.7	-174.63	81.6	0.6	359.3	347.9	11.33	31.722			
2,600.0	2,580.3	2,551.6	2,543.6	8.1	6.0	-172.91	93.6	9.7	382.1	370.2	11.84	32.259			
2,700.0	2,679.4	2,648.3	2,639.1	8.4	6.3	-171.39	105.7	18.9	405.1	392.8	12.37	32.762			
2,800.0	2,778.4	2,745.1	2,734.7	8.8	6.6	-170.02	117.7	28.0	428.5	415.6	12.89	33.232			
2,900.0	2,877.4	2,841.8	2,830.3	9.1	6.9	-168.80	129.7	37.1	452.0	438.6	13.42	33.674			
3,000.0	2,976.5	2,938.6	2,925.8	9.5	7.2	-167.70	141.8	46.3	475.7	461.8	13.95	34.089			
3,100.0	3,075.5	3,035.3	3,021.4	9.8	7.5	-166.70	153.8	55.4	499.6	485.1	14.49	34.480			
3,200.0	3,174.6	3,132.1	3,117.0	10.2	7.8	-165.79	165.8	64.5	523.6	508.5	15.02	34.848			
3,300.0	3,273.6	3,228.9	3,212.6	10.5	8.2	-164.97	177.9	73.6	547.7	532.1	15.56	35.195			
3,400.0	3,372.6	3,325.6	3,308.1	10.9	8.5	-164.21	189.9	82.8	571.9	555.8	16.10	35.524			
3,500.0	3,471.7	3,422.4	3,403.7	11.2	8.8	-163.51	201.9	91.9	596.2	579.5	16.64	35.834			
3,600.0	3,570.7	3,519.1	3,499.3	11.6	9.1	-162.87	214.0	101.0	620.5	603.4	17.18	36.128			
3,700.0	3,669.7	3,615.9	3,594.8	11.9	9.5	-162.27	226.0	110.2	645.0	627.3	17.72	36.407			
3,800.0	3,768.8	3,712.6	3,690.4	12.3	9.8	-161.72	238.0	119.3	669.5	651.2	18.26	36.672			
3,900.0	3,867.8	3,809.4	3,786.0	12.6	10.1	-161.21	250.1	128.4	694.0	675.2	18.80	36.924			
4,000.0	3,966.9	3,906.2	3,881.5	13.0	10.5	-160.73	262.1	137.6	718.6	699.3	19.34	37.163			
4,100.0	4,065.9	4,002.9	3,977.1	13.3	10.8	-160.29	274.2	146.7	743.3	723.4	19.88	37.391			
4,200.0	4,164.9	4,099.7	4,072.7	13.7	11.2	-159.87	286.2	155.8	768.0	747.6	20.42	37.609			
4,300.0	4,264.0	4,196.4	4,168.3	14.0	11.5	-159.48	298.2	165.0	792.7	771.7	20.96	37.817			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33U-334 - Wellbore #1 - P		Offset Site Error:	0.0 ft		
Survey Program: 0-MWD																	Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor							
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-30.7	30.7									
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	0.0	-30.7	30.7	30.4	0.22	136.384	CC, ES					
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	0.0	-30.7	30.7	30.0	0.67	45.461						
300.0	300.0	300.0	300.0	0.5	0.6	115.45	0.0	-30.7	31.2	30.1	1.10	28.292						
400.0	399.9	399.9	399.9	0.7	0.8	121.57	0.0	-30.7	33.1	31.5	1.54	21.542						
500.0	499.7	499.7	499.7	1.0	1.0	130.20	0.0	-30.7	36.9	34.9	1.99	18.528						
600.0	599.3	599.3	599.3	1.2	1.2	139.38	0.0	-30.7	43.4	40.9	2.47	17.604						
700.0	698.6	698.6	698.6	1.5	1.5	147.61	0.0	-30.7	52.9	50.0	2.94	17.973						
730.1	728.4	728.4	728.4	1.6	1.5	149.78	0.0	-30.7	56.4	53.3	3.09	18.261						
800.0	797.6	797.6	797.6	1.8	1.7	154.07	0.0	-30.7	64.9	61.5	3.41	19.062						
900.0	896.7	896.7	896.7	2.2	1.9	158.53	0.0	-30.7	77.6	73.8	3.86	20.109						
1,000.0	995.7	995.7	995.7	2.5	2.1	161.73	0.0	-30.7	90.6	86.3	4.31	21.014						
1,100.0	1,094.7	1,096.9	1,096.9	2.8	2.3	164.57	-0.3	-29.5	102.9	98.2	4.75	21.657						
1,200.0	1,193.8	1,198.4	1,198.4	3.2	2.5	167.64	-1.4	-25.7	113.3	108.1	5.17	21.899						
1,300.0	1,292.8	1,300.2	1,299.9	3.5	2.7	171.03	-3.1	-19.3	122.0	116.4	5.60	21.769						
1,400.0	1,391.9	1,402.0	1,401.3	3.9	3.0	174.81	-5.6	-10.3	129.2	123.1	6.05	21.364						
1,500.0	1,490.9	1,501.9	1,500.5	4.2	3.2	178.68	-8.5	0.3	135.7	129.2	6.50	20.860						
1,600.0	1,589.9	1,601.3	1,599.3	4.6	3.5	-177.82	-11.4	10.8	142.7	135.7	6.98	20.440						
1,700.0	1,689.0	1,700.6	1,698.1	4.9	3.7	-174.66	-14.3	21.3	150.2	142.7	7.48	20.089						
1,800.0	1,788.0	1,800.0	1,796.9	5.3	4.0	-171.80	-17.3	31.9	158.2	150.2	7.99	19.793						
1,900.0	1,887.1	1,899.4	1,895.7	5.6	4.3	-169.22	-20.2	42.4	166.4	157.9	8.52	19.539						
2,000.0	1,986.1	1,998.8	1,994.4	6.0	4.5	-166.89	-23.1	52.9	175.0	166.0	9.06	19.320						
2,100.0	2,085.1	2,098.2	2,093.2	6.3	4.8	-164.78	-26.0	63.5	183.9	174.3	9.61	19.132						
2,200.0	2,184.2	2,197.6	2,192.0	6.7	5.1	-162.87	-28.9	74.0	193.0	182.8	10.17	18.968						
2,300.0	2,283.2	2,297.0	2,290.8	7.0	5.4	-161.12	-31.8	84.6	202.3	191.5	10.74	18.826						
2,400.0	2,382.2	2,396.4	2,389.6	7.4	5.7	-159.53	-34.7	95.1	211.7	200.4	11.32	18.702						
2,500.0	2,481.3	2,495.7	2,488.4	7.7	6.0	-158.08	-37.6	105.6	221.3	209.4	11.90	18.593						
2,600.0	2,580.3	2,595.1	2,587.2	8.1	6.2	-156.75	-40.5	116.2	231.0	218.5	12.49	18.499						
2,700.0	2,679.4	2,694.5	2,685.9	8.4	6.5	-155.53	-43.4	126.7	240.9	227.8	13.08	18.415						
2,800.0	2,778.4	2,793.9	2,784.7	8.8	6.8	-154.40	-46.3	137.2	250.8	237.1	13.67	18.342						
2,900.0	2,877.4	2,893.3	2,883.5	9.1	7.1	-153.36	-49.3	147.8	260.8	246.5	14.27	18.278						
3,000.0	2,976.5	2,992.7	2,982.3	9.5	7.4	-152.40	-52.2	158.3	270.9	256.1	14.87	18.221						
3,100.0	3,075.5	3,092.1	3,081.1	9.8	7.7	-151.50	-55.1	168.9	281.1	265.6	15.47	18.170						
3,200.0	3,174.6	3,191.5	3,179.9	10.2	8.0	-150.67	-58.0	179.4	291.3	275.3	16.07	18.126						
3,300.0	3,273.6	3,290.9	3,278.7	10.5	8.3	-149.89	-60.9	189.9	301.6	285.0	16.68	18.086						
3,400.0	3,372.6	3,390.2	3,377.4	10.9	8.6	-149.17	-63.8	200.5	312.0	294.7	17.28	18.051						
3,500.0	3,471.7	3,489.6	3,476.2	11.2	8.9	-148.49	-66.7	211.0	322.4	304.5	17.89	18.020						
3,600.0	3,570.7	3,589.0	3,575.0	11.6	9.2	-147.86	-69.6	221.5	332.8	314.3	18.50	17.992						
3,700.0	3,669.7	3,688.4	3,673.8	11.9	9.5	-147.26	-72.5	232.1	343.3	324.2	19.11	17.967						
3,800.0	3,768.8	3,787.8	3,772.6	12.3	9.8	-146.70	-75.4	242.6	353.8	334.1	19.72	17.945						
3,900.0	3,867.8	3,887.2	3,871.4	12.6	10.1	-146.17	-78.3	253.1	364.3	344.0	20.33	17.925						
4,000.0	3,966.9	3,985.7	3,969.4	13.0	10.4	-145.87	-80.9	262.4	375.0	354.1	20.88	17.960						
4,100.0	4,065.9	4,083.9	4,067.5	13.3	10.6	-146.08	-82.5	268.4	386.0	364.6	21.35	18.082						
4,200.0	4,164.9	4,181.9	4,165.4	13.7	10.7	-146.77	-83.3	271.1	397.3	375.5	21.75	18.266						
4,300.0	4,264.0	4,280.5	4,264.0	14.0	10.9	-147.79	-83.4	271.3	408.9	386.8	22.12	18.486						
4,400.0	4,363.0	4,379.5	4,363.0	14.4	11.1	-148.79	-83.4	271.3	420.7	398.2	22.50	18.700						
4,500.0	4,462.1	4,478.6	4,462.1	14.7	11.2	-149.74	-83.4	271.3	432.6	409.7	22.88	18.910						
4,600.0	4,561.1	4,577.6	4,561.1	15.1	11.4	-150.64	-83.4	271.3	444.7	421.4	23.26	19.115						
4,700.0	4,660.1	4,676.7	4,660.1	15.4	11.6	-151.49	-83.4	271.3	456.8	433.1	23.65	19.316						
4,800.0	4,759.2	4,775.7	4,759.2	15.8	11.8	-152.29	-83.4	271.3	469.0	445.0	24.04	19.513						
4,900.0	4,858.2	4,874.7	4,858.2	16.1	12.0	-153.05	-83.4	271.3	481.3	456.9	24.43	19.704						

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			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)				
5,000.0	4,957.2	4,973.8	4,957.2	16.5	12.1	-153.78	-83.4	271.3	493.7	468.9	24.82	19.891			
5,100.0	5,056.3	5,072.8	5,056.3	16.8	12.3	-154.47	-83.4	271.3	506.2	481.0	25.22	20.073			
5,200.0	5,155.3	5,171.9	5,155.3	17.2	12.5	-155.13	-83.4	271.3	518.7	493.1	25.62	20.250			
5,248.8	5,203.7	5,220.2	5,203.7	17.4	12.6	-155.44	-83.4	271.3	524.9	499.1	25.81	20.334			
5,300.0	5,254.4	5,271.0	5,254.4	17.5	12.7	-155.79	-83.4	271.3	530.9	504.9	26.02	20.404			
5,400.0	5,353.9	5,370.4	5,353.9	17.7	12.9	-156.31	-83.4	271.3	540.4	514.0	26.38	20.481			
5,500.0	5,453.6	5,470.2	5,453.6	17.9	13.1	-156.65	-83.4	271.3	546.7	519.9	26.73	20.452			
5,600.0	5,553.6	5,570.1	5,553.6	18.0	13.3	-156.81	-83.4	271.3	549.8	522.7	27.05	20.324			
5,646.4	5,600.0	5,616.5	5,600.0	18.1	13.4	-0.07	-83.4	271.3	550.1	520.4	29.65	18.551			
5,700.0	5,653.6	5,670.1	5,653.6	18.2	13.5	-0.07	-83.4	271.3	550.1	520.3	29.84	18.435			
5,800.0	5,753.6	5,770.1	5,753.6	18.3	13.7	-0.07	-83.4	271.3	550.1	519.9	30.17	18.234			
5,900.0	5,853.6	5,870.1	5,853.6	18.4	13.9	-0.07	-83.4	271.3	550.1	519.6	30.50	18.035			
6,000.0	5,953.6	5,970.1	5,953.6	18.5	14.1	-0.07	-83.4	271.3	550.1	519.3	30.84	17.839			
6,100.0	6,053.6	6,070.1	6,053.6	18.7	14.2	-0.07	-83.4	271.3	550.1	518.9	31.17	17.647			
6,200.0	6,153.6	6,170.1	6,153.6	18.8	14.4	-0.07	-83.4	271.3	550.1	518.6	31.51	17.457			
6,229.1	6,182.7	6,199.2	6,182.6	18.8	14.5	-0.09	-83.4	271.2	550.1	518.5	31.61	17.402			
6,300.0	6,253.6	6,269.7	6,252.9	18.9	14.6	-0.58	-83.4	266.4	550.1	518.3	31.86	17.266			
6,320.8	6,274.3	6,290.1	6,273.2	18.9	14.6	-0.85	-83.4	263.8	550.2	518.2	31.94	17.224			
6,350.0	6,303.6	6,318.6	6,301.4	19.0	14.6	88.72	-83.4	259.3	550.2	520.7	29.55	18.622			
6,400.0	6,353.4	6,367.1	6,348.8	19.0	14.7	88.01	-83.4	249.2	550.4	520.8	29.60	18.597			
6,450.0	6,403.0	6,415.2	6,395.1	19.1	14.7	87.31	-83.4	236.2	550.7	521.1	29.63	18.589			
6,500.0	6,451.9	6,463.0	6,440.2	19.1	14.7	86.62	-83.4	220.5	551.1	521.4	29.64	18.594			
6,550.0	6,500.2	6,510.3	6,483.8	19.1	14.8	85.95	-83.4	202.1	551.5	521.9	29.64	18.607			
6,600.0	6,547.4	6,557.3	6,525.9	19.1	14.8	85.30	-83.4	181.3	552.0	522.3	29.64	18.622			
6,650.0	6,593.5	6,603.9	6,566.4	19.1	14.8	84.66	-83.4	158.1	552.5	522.9	29.65	18.632			
6,700.0	6,638.2	6,650.0	6,604.8	19.1	14.9	84.06	-83.4	132.8	553.1	523.4	29.69	18.630			
6,750.0	6,681.3	6,696.3	6,641.9	19.1	14.9	83.48	-83.4	105.0	553.7	524.0	29.76	18.604			
6,800.0	6,722.8	6,742.1	6,676.8	19.1	15.0	82.92	-83.4	75.5	554.4	524.5	29.89	18.546			
6,850.0	6,762.2	6,787.6	6,709.7	19.1	15.2	82.40	-83.4	44.1	555.0	524.9	30.09	18.448			
6,900.0	6,799.6	6,832.8	6,740.6	19.1	15.3	81.91	-83.4	10.9	555.7	525.3	30.37	18.300			
6,950.0	6,834.8	6,877.8	6,769.2	19.1	15.6	81.45	-83.4	-23.8	556.3	525.6	30.74	18.096			
7,000.0	6,867.6	6,922.7	6,795.7	19.1	15.9	81.02	-83.4	-60.0	557.0	525.7	31.23	17.832			
7,050.0	6,897.8	6,967.3	6,819.9	19.1	16.2	80.63	-83.4	-97.5	557.6	525.7	31.85	17.507			
7,100.0	6,925.3	7,011.8	6,841.8	19.1	16.7	80.28	-83.4	-136.2	558.2	525.6	32.60	17.124			
7,150.0	6,950.1	7,056.1	6,861.3	19.2	17.1	79.96	-83.4	-176.0	558.7	525.2	33.48	16.687			
7,200.0	6,971.9	7,100.0	6,878.3	19.2	17.7	79.69	-83.4	-216.4	559.2	524.7	34.50	16.207			
7,250.0	6,990.8	7,144.4	6,893.2	19.4	18.3	79.45	-83.4	-258.3	559.6	523.9	35.68	15.685			
7,300.0	7,006.6	7,188.4	6,905.5	19.7	19.0	79.25	-83.4	-300.5	559.9	523.0	36.98	15.142			
7,350.0	7,019.3	7,232.3	6,915.3	20.3	19.7	79.09	-83.4	-343.3	560.2	521.8	38.40	14.588			
7,400.0	7,028.8	7,276.2	6,922.6	21.1	20.5	78.98	-83.4	-386.6	560.4	520.5	39.94	14.033			
7,450.0	7,035.0	7,320.0	6,927.4	21.9	21.3	78.90	-83.4	-430.1	560.6	519.0	41.57	13.486			
7,500.0	7,038.0	7,363.8	6,929.8	22.9	22.1	78.87	-83.4	-473.8	560.7	517.4	43.28	12.953			
7,519.7	7,038.3	7,381.1	6,930.0	23.2	22.4	78.86	-83.4	-491.1	560.7	516.7	43.98	12.749			
7,520.2	7,038.3	7,381.5	6,930.0	23.2	22.5	78.86	-83.4	-491.5	560.7	516.7	44.00	12.744			
7,600.0	7,038.4	7,460.5	6,929.5	24.8	24.1	78.81	-83.4	-570.5	560.8	513.6	47.18	11.886			
7,700.0	7,038.5	7,560.5	6,928.9	27.0	26.2	78.73	-83.4	-670.5	560.9	509.5	51.41	10.910			
7,800.0	7,038.7	7,660.5	6,928.3	29.2	28.5	78.66	-83.4	-770.5	561.1	505.2	55.87	10.042			
7,900.0	7,038.8	7,760.5	6,927.7	31.6	30.9	78.58	-83.4	-870.5	561.2	500.7	60.50	9.277			
8,000.0	7,038.9	7,860.5	6,927.1	34.0	33.3	78.51	-83.4	-970.5	561.4	496.1	65.26	8.602			
8,100.0	7,039.1	7,960.5	6,926.5	36.4	35.8	78.43	-83.4	-1,070.5	561.5	491.4	70.13	8.007			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33U-334 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
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			
8,200.0	7,039.2	8,060.5	6,925.9	38.9	38.3	78.36	-83.4	-1,170.5	561.7	486.6	75.08	7.481			
8,300.0	7,039.4	8,160.5	6,925.3	41.5	40.9	78.28	-83.4	-1,270.5	561.8	481.7	80.10	7.014			
8,400.0	7,039.5	8,260.5	6,924.6	44.1	43.5	78.21	-83.4	-1,370.5	562.0	476.8	85.17	6.598			
8,500.0	7,039.6	8,360.5	6,924.0	46.7	46.1	78.13	-83.4	-1,470.5	562.1	471.8	90.30	6.225			
8,600.0	7,039.8	8,460.5	6,923.4	49.3	48.8	78.06	-83.4	-1,570.5	562.3	466.8	95.46	5.890			
8,700.0	7,039.9	8,560.5	6,922.8	51.9	51.4	77.98	-83.4	-1,670.5	562.4	461.8	100.65	5.588			
8,800.0	7,040.1	8,660.5	6,922.2	54.6	54.1	77.91	-83.4	-1,770.5	562.6	456.7	105.86	5.314			
8,900.0	7,040.2	8,760.5	6,921.6	57.3	56.8	77.83	-83.4	-1,870.5	562.7	451.6	111.10	5.065			
9,000.0	7,040.3	8,860.5	6,921.0	60.0	59.5	77.76	-83.4	-1,970.5	562.9	446.5	116.36	4.837			
9,100.0	7,040.5	8,960.5	6,920.4	62.7	62.2	77.68	-83.4	-2,070.5	563.1	441.4	121.64	4.629			
9,200.0	7,040.6	9,060.5	6,919.8	65.4	64.9	77.61	-83.4	-2,170.4	563.2	436.3	126.92	4.437			
9,300.0	7,040.8	9,160.5	6,919.2	68.1	67.7	77.53	-83.4	-2,270.4	563.4	431.2	132.22	4.261			
9,400.0	7,040.9	9,260.5	6,918.5	70.8	70.4	77.46	-83.4	-2,370.4	563.5	426.0	137.53	4.098			
9,500.0	7,041.0	9,360.5	6,917.9	73.5	73.1	77.39	-83.4	-2,470.4	563.7	420.9	142.85	3.946			
9,600.0	7,041.2	9,460.5	6,917.3	76.3	75.9	77.31	-83.4	-2,570.4	563.9	415.7	148.18	3.805			
9,700.0	7,041.3	9,560.5	6,916.7	79.0	78.6	77.24	-83.4	-2,670.4	564.0	410.5	153.51	3.674			
9,800.0	7,041.5	9,660.4	6,916.1	81.8	81.4	77.16	-83.4	-2,770.4	564.2	405.4	158.84	3.552			
9,900.0	7,041.6	9,760.4	6,915.5	84.5	84.1	77.09	-83.4	-2,870.4	564.4	400.2	164.18	3.438			
10,000.0	7,041.7	9,860.4	6,914.9	87.3	86.9	77.01	-83.4	-2,970.4	564.5	395.0	169.52	3.330			
10,100.0	7,041.9	9,960.4	6,914.3	90.0	89.7	76.94	-83.4	-3,070.4	564.7	389.8	174.87	3.229			
10,200.0	7,042.0	10,060.4	6,913.7	92.8	92.4	76.87	-83.4	-3,170.4	564.9	384.7	180.22	3.134			
10,300.0	7,042.2	10,160.4	6,913.0	95.5	95.2	76.79	-83.4	-3,270.4	565.1	379.5	185.57	3.045			
10,400.0	7,042.3	10,260.4	6,912.4	98.3	98.0	76.72	-83.4	-3,370.4	565.2	374.3	190.92	2.961			
10,500.0	7,042.4	10,360.4	6,911.8	101.1	100.7	76.64	-83.4	-3,470.4	565.4	369.1	196.27	2.881			
10,600.0	7,042.6	10,460.4	6,911.2	103.8	103.5	76.57	-83.4	-3,570.4	565.6	364.0	201.62	2.805			
10,700.0	7,042.7	10,560.4	6,910.6	106.6	106.3	76.50	-83.4	-3,670.4	565.7	358.8	206.98	2.733			
10,800.0	7,042.9	10,660.4	6,910.0	109.4	109.1	76.42	-83.4	-3,770.4	565.9	353.6	212.33	2.665			
10,900.0	7,043.0	10,760.4	6,909.4	112.1	111.8	76.35	-83.4	-3,870.4	566.1	348.4	217.68	2.601			
11,000.0	7,043.1	10,860.4	6,908.8	114.9	114.6	76.27	-83.4	-3,970.4	566.3	343.2	223.03	2.539			
11,100.0	7,043.3	10,960.4	6,908.2	117.7	117.4	76.20	-83.4	-4,070.4	566.5	338.1	228.39	2.480			
11,200.0	7,043.4	11,060.4	6,907.5	120.5	120.2	76.13	-83.4	-4,170.4	566.6	332.9	233.74	2.424			
11,300.0	7,043.6	11,160.4	6,906.9	123.3	123.0	76.05	-83.4	-4,270.3	566.8	327.7	239.08	2.371			
11,400.0	7,043.7	11,260.4	6,906.3	126.0	125.8	75.98	-83.4	-4,370.3	567.0	322.6	244.43	2.320			
11,500.0	7,043.8	11,360.4	6,905.7	128.8	128.5	75.91	-83.4	-4,470.3	567.2	317.4	249.78	2.271			
11,600.0	7,044.0	11,460.4	6,905.1	131.6	131.3	75.83	-83.4	-4,570.3	567.4	312.2	255.12	2.224			
11,618.8	7,044.0	11,477.1	6,905.0	132.1	131.8	75.82	-83.4	-4,587.1	567.4	311.3	256.07	2.216 SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-214 - Wellbore #1 - P		Offset Site Error:		0.0 ft
Survey Program: 0-MWD														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-13.9	13.9	13.9	0.00	N/A					
100.0	100.0	100.0	100.0	0.1	0.1	-90.02	0.0	-13.9	13.9	13.7	0.22	61.993					
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-13.9	13.9	13.3	0.67	20.664	CC, ES				
300.0	300.0	300.0	300.0	0.5	0.6	117.97	0.0	-13.9	14.5	13.4	1.10	13.147					
400.0	399.9	399.9	399.9	0.7	0.8	129.92	0.0	-13.9	16.7	15.2	1.54	10.860					
500.0	499.7	499.7	499.7	1.0	1.0	143.36	0.0	-13.9	21.5	19.5	2.00	10.763					
600.0	599.3	600.0	600.0	1.2	1.2	153.56	-1.0	-13.1	28.1	25.6	2.44	11.517					
700.0	698.6	700.5	700.4	1.5	1.4	160.82	-4.2	-10.7	35.1	32.2	2.87	12.238					
730.1	728.4	730.8	730.7	1.6	1.5	162.66	-5.5	-9.7	37.2	34.2	3.00	12.415					
800.0	797.6	801.2	800.9	1.8	1.6	166.33	-9.4	-6.7	41.7	38.4	3.29	12.674					
900.0	896.7	902.2	901.5	2.2	1.8	170.61	-16.7	-1.0	46.1	42.4	3.72	12.384					
1,000.0	995.7	1,002.5	1,001.2	2.5	2.1	174.45	-25.6	5.9	48.7	44.6	4.17	11.696					
1,100.0	1,094.7	1,102.4	1,100.4	2.8	2.4	177.90	-34.6	12.8	51.4	46.8	4.62	11.130					
1,200.0	1,193.8	1,202.4	1,199.7	3.2	2.7	-179.01	-43.5	19.7	54.3	49.2	5.09	10.676					
1,300.0	1,292.8	1,302.3	1,299.0	3.5	3.0	-176.23	-52.4	26.6	57.3	51.8	5.56	10.303					
1,400.0	1,391.9	1,402.2	1,398.3	3.9	3.2	-173.74	-61.4	33.5	60.5	54.4	6.05	9.991					
1,500.0	1,490.9	1,502.1	1,497.5	4.2	3.5	-171.49	-70.3	40.4	63.7	57.2	6.55	9.726					
1,600.0	1,589.9	1,602.0	1,596.8	4.6	3.8	-169.47	-79.3	47.4	67.0	60.0	7.06	9.498					
1,700.0	1,689.0	1,702.0	1,696.1	4.9	4.1	-167.64	-88.2	54.3	70.4	62.9	7.57	9.300					
1,800.0	1,788.0	1,801.9	1,795.4	5.3	4.4	-165.98	-97.2	61.2	73.9	65.8	8.10	9.126					
1,900.0	1,887.1	1,901.8	1,894.6	5.6	4.8	-164.47	-106.1	68.1	77.4	68.8	8.63	8.972					
2,000.0	1,986.1	2,001.7	1,993.9	6.0	5.1	-163.09	-115.0	75.0	81.0	71.8	9.17	8.836					
2,100.0	2,085.1	2,101.6	2,093.2	6.3	5.4	-161.83	-124.0	81.9	84.6	74.9	9.71	8.714					
2,200.0	2,184.2	2,201.5	2,192.5	6.7	5.7	-160.67	-132.9	88.8	88.3	78.0	10.26	8.604					
2,300.0	2,283.2	2,301.5	2,291.7	7.0	6.0	-159.60	-141.9	95.8	91.9	81.1	10.81	8.505					
2,400.0	2,382.2	2,401.4	2,391.0	7.4	6.3	-158.62	-150.8	102.7	95.7	84.3	11.37	8.416					
2,500.0	2,481.3	2,501.3	2,490.3	7.7	6.6	-157.71	-159.8	109.6	99.4	87.5	11.93	8.335					
2,600.0	2,580.3	2,601.2	2,589.6	8.1	6.9	-156.87	-168.7	116.5	103.2	90.7	12.49	8.260					
2,700.0	2,679.4	2,701.1	2,688.9	8.4	7.2	-156.09	-177.6	123.4	107.0	93.9	13.05	8.192					
2,800.0	2,778.4	2,801.1	2,788.1	8.8	7.5	-155.36	-186.6	130.3	110.8	97.1	13.62	8.130					
2,900.0	2,877.4	2,901.0	2,887.4	9.1	7.9	-154.68	-195.5	137.2	114.6	100.4	14.19	8.073					
3,000.0	2,976.5	3,000.9	2,986.7	9.5	8.2	-154.04	-204.5	144.2	118.4	103.6	14.76	8.020					
3,100.0	3,075.5	3,100.8	3,086.0	9.8	8.5	-153.44	-213.4	151.1	122.3	106.9	15.34	7.971					
3,200.0	3,174.6	3,200.7	3,185.2	10.2	8.8	-152.88	-222.3	158.0	126.1	110.2	15.91	7.925					
3,300.0	3,273.6	3,300.6	3,284.5	10.5	9.1	-152.35	-231.3	164.9	130.0	113.5	16.49	7.883					
3,400.0	3,372.6	3,400.6	3,383.8	10.9	9.4	-151.86	-240.2	171.8	133.9	116.8	17.07	7.844					
3,500.0	3,471.7	3,500.5	3,483.1	11.2	9.7	-151.39	-249.2	178.7	137.8	120.1	17.65	7.807					
3,600.0	3,570.7	3,600.4	3,582.3	11.6	10.0	-150.94	-258.1	185.7	141.7	123.4	18.23	7.773					
3,700.0	3,669.7	3,700.3	3,681.6	11.9	10.4	-150.53	-267.1	192.6	145.6	126.8	18.81	7.740					
3,800.0	3,768.8	3,800.2	3,780.9	12.3	10.7	-150.13	-276.0	199.5	149.5	130.1	19.39	7.710					
3,900.0	3,867.8	3,900.1	3,880.2	12.6	11.0	-149.75	-284.9	206.4	153.4	133.5	19.97	7.682					
4,000.0	3,966.9	4,000.1	3,979.5	13.0	11.3	-149.39	-293.9	213.3	157.4	136.8	20.56	7.655					
4,100.0	4,065.9	4,100.0	4,078.7	13.3	11.6	-149.05	-302.8	220.2	161.3	140.2	21.14	7.630					
4,200.0	4,164.9	4,199.9	4,178.0	13.7	11.9	-148.73	-311.8	227.1	165.2	143.5	21.72	7.606					
4,300.0	4,264.0	4,299.8	4,277.3	14.0	12.2	-148.42	-320.7	234.1	169.2	146.9	22.31	7.583					
4,400.0	4,363.0	4,399.7	4,376.6	14.4	12.6	-148.12	-329.6	241.0	173.1	150.2	22.90	7.562					
4,500.0	4,462.1	4,499.7	4,475.8	14.7	12.9	-147.84	-338.6	247.9	177.1	153.6	23.48	7.542					
4,600.0	4,561.1	4,599.6	4,575.1	15.1	13.2	-147.57	-347.5	254.8	181.0	157.0	24.07	7.522					
4,700.0	4,660.1	4,699.5	4,674.4	15.4	13.5	-147.31	-356.5	261.7	185.0	160.4	24.65	7.504					
4,800.0	4,759.2	4,795.2	4,769.6	15.8	13.7	-147.42	-363.8	267.4	190.1	164.9	25.15	7.559					
4,900.0	4,858.2	4,890.4	4,864.7	16.1	13.9	-148.20	-368.6	271.1	197.4	171.9	25.51	7.740					

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			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)				
5,000.0	4,957.2	4,985.1	4,959.3	16.5	14.1	-149.53	-370.9	272.9	207.2	181.4	25.78	8.036			
5,100.0	5,056.3	5,082.1	5,056.3	16.8	14.2	-151.27	-371.2	273.1	219.0	193.0	26.00	8.422			
5,200.0	5,155.3	5,181.1	5,155.3	17.2	14.4	-152.92	-371.2	273.1	231.2	205.0	26.23	8.815			
5,248.8	5,203.7	5,229.5	5,203.7	17.4	14.4	-153.66	-371.2	273.1	237.3	210.9	26.35	9.004			
5,300.0	5,254.4	5,280.2	5,254.4	17.5	14.5	-154.40	-371.2	273.1	243.3	216.8	26.48	9.187			
5,400.0	5,353.9	5,379.7	5,353.9	17.7	14.7	-155.49	-371.2	273.1	252.6	225.9	26.71	9.458			
5,500.0	5,453.6	5,479.5	5,453.6	17.9	14.8	-156.17	-371.2	273.1	258.9	231.9	26.96	9.603			
5,600.0	5,553.6	5,579.4	5,553.6	18.0	14.9	-156.49	-371.2	273.1	262.0	234.7	27.21	9.627			
5,646.4	5,600.0	5,625.8	5,600.0	18.1	15.0	0.23	-371.2	273.1	262.3	230.7	31.57	8.309			
5,700.0	5,653.6	5,679.4	5,653.6	18.2	15.1	0.23	-371.2	273.1	262.3	230.6	31.73	8.267			
5,800.0	5,753.6	5,779.4	5,753.6	18.3	15.3	0.23	-371.2	273.1	262.3	230.3	32.01	8.194			
5,900.0	5,853.6	5,879.4	5,853.6	18.4	15.4	0.23	-371.2	273.1	262.3	230.0	32.30	8.121			
6,000.0	5,953.6	5,979.4	5,953.6	18.5	15.6	0.23	-371.2	273.1	262.3	229.7	32.59	8.049			
6,100.0	6,053.6	6,079.4	6,053.6	18.7	15.7	0.23	-371.2	273.1	262.3	229.4	32.88	7.977			
6,161.0	6,114.5	6,140.4	6,114.5	18.7	15.8	0.02	-371.2	272.1	262.3	229.2	33.08	7.929			
6,200.0	6,153.6	6,179.2	6,153.3	18.8	15.9	-0.62	-371.2	269.2	262.3	229.1	33.25	7.889			
6,300.0	6,253.6	6,276.5	6,249.2	18.9	15.9	-4.10	-371.2	253.2	263.0	229.2	33.82	7.776			
6,320.8	6,274.3	6,296.1	6,268.2	18.9	16.0	-5.12	-371.2	248.5	263.4	229.5	33.96	7.758			
6,350.0	6,303.6	6,323.4	6,294.5	19.0	16.0	83.35	-371.2	241.2	264.2	235.3	28.88	9.148			
6,400.0	6,353.4	6,369.6	6,338.4	19.0	16.0	80.78	-371.2	226.6	266.0	237.2	28.75	9.251			
6,450.0	6,403.0	6,415.2	6,380.6	19.1	16.0	78.29	-371.2	209.7	268.2	239.6	28.63	9.369			
6,500.0	6,451.9	6,460.1	6,421.3	19.1	16.0	75.89	-371.2	190.6	270.9	242.4	28.52	9.500			
6,550.0	6,500.2	6,504.5	6,460.3	19.1	16.0	73.61	-371.2	169.4	274.0	245.6	28.42	9.641			
6,600.0	6,547.4	6,550.0	6,498.9	19.1	16.0	71.36	-371.2	145.4	277.4	249.1	28.33	9.792			
6,650.0	6,593.5	6,591.8	6,533.1	19.1	16.0	69.38	-371.2	121.3	281.0	252.8	28.25	9.947			
6,700.0	6,638.2	6,634.8	6,566.8	19.1	16.0	67.46	-371.2	94.6	284.9	256.7	28.18	10.109			
6,750.0	6,681.3	6,677.4	6,598.7	19.1	16.0	65.66	-371.2	66.4	288.8	260.7	28.12	10.273			
6,800.0	6,722.8	6,719.6	6,628.6	19.1	16.0	63.99	-371.2	36.7	292.8	264.8	28.06	10.436			
6,850.0	6,762.2	6,761.4	6,656.7	19.1	16.0	62.44	-371.2	5.6	296.8	268.8	28.01	10.596			
6,900.0	6,799.6	6,800.0	6,681.0	19.1	16.0	61.10	-371.2	-24.3	300.8	272.8	27.97	10.751			
6,950.0	6,834.8	6,844.2	6,707.0	19.1	16.0	59.73	-371.2	-60.1	304.6	276.6	28.00	10.877			
7,000.0	6,867.6	6,885.2	6,729.2	19.1	16.1	58.56	-371.2	-94.6	308.2	280.2	28.07	10.982			
7,050.0	6,897.8	6,926.0	6,749.4	19.1	16.3	57.51	-371.2	-130.0	311.7	283.5	28.20	11.054			
7,100.0	6,925.3	6,966.5	6,767.6	19.1	16.7	56.57	-371.2	-166.2	314.9	286.5	28.39	11.092			
7,150.0	6,950.1	7,006.9	6,783.8	19.2	17.2	55.75	-371.2	-203.2	317.8	289.2	28.68	11.082			
7,200.0	6,971.9	7,050.0	6,798.9	19.2	17.8	54.99	-371.2	-243.5	320.5	291.4	29.11	11.011			
7,250.0	6,990.8	7,087.2	6,810.1	19.4	18.4	54.42	-371.2	-279.0	322.8	293.2	29.61	10.901			
7,300.0	7,006.6	7,127.2	6,820.1	19.7	19.0	53.92	-371.2	-317.7	324.7	294.5	30.26	10.732			
7,350.0	7,019.3	7,167.0	6,828.1	20.3	19.7	53.52	-371.2	-356.7	326.3	295.3	31.04	10.512			
7,400.0	7,028.8	7,206.8	6,834.1	21.1	20.4	53.23	-371.2	-396.0	327.5	295.6	31.96	10.249			
7,450.0	7,035.0	7,250.0	6,838.3	21.9	21.2	53.02	-371.2	-439.0	328.4	295.3	33.05	9.934			
7,500.0	7,038.0	7,286.3	6,839.9	22.9	22.0	52.93	-371.2	-475.2	328.7	294.6	34.18	9.618			
7,519.7	7,038.3	7,301.9	6,840.0	23.2	22.3	52.92	-371.2	-490.9	328.8	294.1	34.67	9.483			
7,600.0	7,038.4	7,381.2	6,839.6	24.8	23.9	52.85	-371.2	-570.2	329.1	291.7	37.35	8.811			
7,700.0	7,038.5	7,481.2	6,839.2	27.0	26.1	52.76	-371.2	-670.2	329.5	288.6	40.89	8.057			
7,800.0	7,038.7	7,581.2	6,838.7	29.2	28.4	52.68	-371.2	-770.2	329.9	285.3	44.60	7.395			
7,900.0	7,038.8	7,681.2	6,838.2	31.6	30.8	52.59	-371.2	-870.2	330.2	281.8	48.45	6.816			
8,000.0	7,038.9	7,781.2	6,837.7	34.0	33.3	52.50	-371.2	-970.2	330.6	278.2	52.39	6.311			
8,100.0	7,039.1	7,881.2	6,837.2	36.4	35.8	52.42	-371.2	-1,070.2	331.0	274.6	56.41	5.868			
8,200.0	7,039.2	7,981.2	6,836.7	38.9	38.3	52.33	-371.2	-1,170.2	331.4	270.9	60.49	5.479			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-214 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,300.0	7,039.4	8,081.2	6,836.2	41.5	40.9	52.24	-371.2	-1,270.2	331.8	267.2	64.61	5.135			
8,400.0	7,039.5	8,181.2	6,835.7	44.1	43.5	52.16	-371.2	-1,370.2	332.2	263.4	68.77	4.830			
8,500.0	7,039.6	8,281.2	6,835.2	46.7	46.1	52.07	-371.2	-1,470.2	332.5	259.6	72.96	4.558			
8,600.0	7,039.8	8,381.2	6,834.8	49.3	48.8	51.99	-371.2	-1,570.2	332.9	255.8	77.17	4.314			
8,700.0	7,039.9	8,481.2	6,834.3	51.9	51.4	51.90	-371.2	-1,670.2	333.3	251.9	81.39	4.095			
8,800.0	7,040.1	8,581.2	6,833.8	54.6	54.1	51.82	-371.2	-1,770.2	333.7	248.1	85.63	3.897			
8,900.0	7,040.2	8,681.2	6,833.3	57.3	56.8	51.73	-371.2	-1,870.2	334.1	244.2	89.88	3.717			
9,000.0	7,040.3	8,781.2	6,832.8	60.0	59.5	51.65	-371.2	-1,970.2	334.5	240.3	94.13	3.553			
9,100.0	7,040.5	8,881.2	6,832.3	62.7	62.2	51.56	-371.2	-2,070.2	334.9	236.5	98.39	3.403			
9,200.0	7,040.6	8,981.2	6,831.8	65.4	64.9	51.48	-371.2	-2,170.2	335.3	232.6	102.66	3.266			
9,300.0	7,040.8	9,081.2	6,831.3	68.1	67.7	51.40	-371.2	-2,270.2	335.7	228.7	106.92	3.139			
9,400.0	7,040.9	9,181.2	6,830.8	70.8	70.4	51.31	-371.2	-2,370.2	336.0	224.9	111.19	3.022			
9,500.0	7,041.0	9,281.2	6,830.4	73.5	73.1	51.23	-371.2	-2,470.2	336.4	221.0	115.45	2.914			
9,600.0	7,041.2	9,381.2	6,829.9	76.3	75.9	51.15	-371.2	-2,570.2	336.8	217.1	119.72	2.814			
9,700.0	7,041.3	9,481.2	6,829.4	79.0	78.6	51.06	-371.2	-2,670.1	337.2	213.3	123.98	2.720			
9,800.0	7,041.5	9,581.2	6,828.9	81.8	81.4	50.98	-371.2	-2,770.1	337.6	209.4	128.23	2.633			
9,900.0	7,041.6	9,681.2	6,828.4	84.5	84.1	50.90	-371.2	-2,870.1	338.0	205.5	132.49	2.551			
10,000.0	7,041.7	9,781.2	6,827.9	87.3	86.9	50.81	-371.2	-2,970.1	338.4	201.7	136.74	2.475			
10,100.0	7,041.9	9,881.2	6,827.4	90.0	89.7	50.73	-371.2	-3,070.1	338.8	197.8	140.98	2.403			
10,200.0	7,042.0	9,981.2	6,826.9	92.8	92.4	50.65	-371.2	-3,170.1	339.2	194.0	145.22	2.336			
10,300.0	7,042.2	10,081.2	6,826.4	95.5	95.2	50.57	-371.2	-3,270.1	339.6	190.2	149.46	2.272			
10,400.0	7,042.3	10,181.2	6,826.0	98.3	98.0	50.49	-371.2	-3,370.1	340.0	186.3	153.68	2.212			
10,500.0	7,042.4	10,281.2	6,825.5	101.1	100.7	50.40	-371.2	-3,470.1	340.4	182.5	157.91	2.156			
10,600.0	7,042.6	10,381.2	6,825.0	103.8	103.5	50.32	-371.2	-3,570.1	340.8	178.7	162.12	2.102			
10,700.0	7,042.7	10,481.2	6,824.5	106.6	106.3	50.24	-371.2	-3,670.1	341.2	174.9	166.33	2.051			
10,800.0	7,042.9	10,581.2	6,824.0	109.4	109.1	50.16	-371.2	-3,770.1	341.6	171.1	170.53	2.003			
10,900.0	7,043.0	10,681.2	6,823.5	112.1	111.8	50.08	-371.2	-3,870.1	342.0	167.3	174.73	1.957			
11,000.0	7,043.1	10,781.2	6,823.0	114.9	114.6	50.00	-371.2	-3,970.1	342.4	163.5	178.92	1.914			
11,100.0	7,043.3	10,881.2	6,822.5	117.7	117.4	49.92	-371.2	-4,070.1	342.8	159.7	183.10	1.872			
11,200.0	7,043.4	10,981.2	6,822.1	120.5	120.2	49.84	-371.2	-4,170.1	343.2	156.0	187.28	1.833			
11,300.0	7,043.6	11,081.2	6,821.6	123.3	123.0	49.76	-371.2	-4,270.1	343.6	152.2	191.44	1.795			
11,400.0	7,043.7	11,181.2	6,821.1	126.0	125.8	49.68	-371.2	-4,370.1	344.0	148.4	195.60	1.759			
11,500.0	7,043.8	11,281.2	6,820.6	128.8	128.5	49.60	-371.2	-4,470.1	344.4	144.7	199.76	1.724			
11,600.0	7,044.0	11,381.1	6,820.1	131.6	131.3	49.52	-371.2	-4,570.1	344.9	141.0	203.90	1.691			
11,618.8	7,044.0	11,399.9	6,820.0	132.1	131.9	49.50	-371.2	-4,588.9	344.9	140.3	204.68	1.685 SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth 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			
0.0	0.0	0.0	0.0	0.0	0.0	-177.33	-717.7	-33.4	718.9						
100.0	100.0	75.0	75.0	0.1	0.1	-177.33	-717.7	-33.4	718.5	718.3	0.20	3,652.339			
200.0	200.0	175.0	175.0	0.3	0.3	-177.33	-717.7	-33.4	718.5	717.9	0.62	1,162.403			
300.0	300.0	275.0	275.0	0.5	0.5	25.96	-717.7	-33.4	717.3	716.3	1.05	680.662			
400.0	399.9	374.9	374.9	0.7	0.7	26.12	-717.7	-33.4	713.8	712.3	1.49	478.190			
500.0	499.7	474.7	474.7	1.0	1.0	26.39	-717.7	-33.4	707.9	706.0	1.95	363.686			
600.0	599.3	574.3	574.3	1.2	1.2	26.78	-717.7	-33.4	699.7	697.3	2.41	290.350			
700.0	698.6	673.6	673.6	1.5	1.4	27.29	-717.7	-33.4	689.2	686.4	2.88	239.121			
730.1	728.4	703.4	703.4	1.6	1.5	27.47	-717.7	-33.4	685.6	682.6	3.03	226.543			
800.0	797.6	772.6	772.6	1.8	1.6	27.85	-717.7	-33.4	677.1	673.7	3.35	202.058			
900.0	896.7	863.1	863.1	2.2	1.8	28.33	-718.1	-33.1	665.3	661.5	3.79	175.680			
1,000.0	995.7	950.8	950.8	2.5	2.0	28.70	-720.2	-31.8	655.3	651.1	4.21	155.793			
1,100.0	1,094.7	1,038.9	1,038.7	2.8	2.1	28.96	-723.9	-29.2	647.0	642.4	4.63	139.798			
1,200.0	1,193.8	1,127.2	1,126.8	3.2	2.3	29.12	-729.3	-25.6	640.6	635.5	5.06	126.493			
1,300.0	1,292.8	1,217.0	1,216.2	3.5	2.5	29.16	-736.5	-20.7	635.9	630.4	5.51	115.320			
1,400.0	1,391.9	1,316.9	1,315.6	3.9	2.8	29.15	-745.3	-14.7	631.9	625.9	6.00	105.344			
1,500.0	1,490.9	1,416.9	1,414.9	4.2	3.0	29.14	-754.0	-8.7	627.9	621.4	6.49	96.723			
1,600.0	1,589.9	1,516.8	1,514.3	4.6	3.3	29.13	-762.8	-2.7	623.9	616.9	6.99	89.232			
1,700.0	1,689.0	1,616.7	1,613.6	4.9	3.5	29.12	-771.6	3.2	619.9	612.4	7.50	82.678			
1,800.0	1,788.0	1,716.6	1,713.0	5.3	3.8	29.11	-780.3	9.2	615.9	607.9	8.01	76.923			
1,900.0	1,887.1	1,816.5	1,812.3	5.6	4.1	29.10	-789.1	15.2	611.9	603.4	8.52	71.819			
2,000.0	1,986.1	1,916.5	1,911.7	6.0	4.4	29.09	-797.8	21.1	607.9	598.9	9.04	67.274			
2,100.0	2,085.1	2,016.4	2,011.0	6.3	4.7	29.09	-806.6	27.1	603.9	594.4	9.56	63.205			
2,200.0	2,184.2	2,116.3	2,110.4	6.7	4.9	29.08	-815.4	33.1	600.0	589.9	10.08	59.543			
2,300.0	2,283.2	2,216.2	2,209.8	7.0	5.2	29.07	-824.1	39.0	596.0	585.4	10.60	56.232			
2,400.0	2,382.2	2,316.1	2,309.1	7.4	5.5	29.06	-832.9	45.0	592.0	580.8	11.12	53.226			
2,500.0	2,481.3	2,416.1	2,408.5	7.7	5.8	29.05	-841.7	51.0	588.0	576.3	11.65	50.484			
2,600.0	2,580.3	2,516.0	2,507.8	8.1	6.1	29.04	-850.4	56.9	584.0	571.8	12.17	47.975			
2,700.0	2,679.4	2,615.9	2,607.2	8.4	6.4	29.03	-859.2	62.9	580.0	567.3	12.70	45.670			
2,800.0	2,778.4	2,715.8	2,706.5	8.8	6.7	29.02	-868.0	68.9	576.0	562.8	13.23	43.546			
2,900.0	2,877.4	2,815.8	2,805.9	9.1	7.0	29.00	-876.7	74.8	572.0	558.3	13.76	41.584			
3,000.0	2,976.5	2,915.7	2,905.3	9.5	7.3	28.99	-885.5	80.8	568.0	553.7	14.28	39.765			
3,100.0	3,075.5	3,015.6	3,004.6	9.8	7.6	28.98	-894.3	86.8	564.0	549.2	14.81	38.074			
3,200.0	3,174.6	3,115.5	3,104.0	10.2	7.9	28.97	-903.0	92.8	560.0	544.7	15.34	36.499			
3,300.0	3,273.6	3,215.4	3,203.3	10.5	8.2	28.96	-911.8	98.7	556.0	540.2	15.87	35.028			
3,400.0	3,372.6	3,315.4	3,302.7	10.9	8.5	28.95	-920.5	104.7	552.1	535.6	16.40	33.652			
3,500.0	3,471.7	3,415.3	3,402.0	11.2	8.8	28.94	-929.3	110.7	548.1	531.1	16.94	32.361			
3,600.0	3,570.7	3,515.2	3,501.4	11.6	9.1	28.93	-938.1	116.6	544.1	526.6	17.47	31.148			
3,700.0	3,669.7	3,615.1	3,600.7	11.9	9.4	28.92	-946.8	122.6	540.1	522.1	18.00	30.007			
3,800.0	3,768.8	3,715.0	3,700.1	12.3	9.7	28.90	-955.6	128.6	536.1	517.6	18.53	28.931			
3,900.0	3,867.8	3,815.0	3,799.5	12.6	10.0	28.89	-964.4	134.5	532.1	513.0	19.06	27.914			
4,000.0	3,966.9	3,914.9	3,898.8	13.0	10.3	28.88	-973.1	140.5	528.1	508.5	19.59	26.952			
4,100.0	4,065.9	4,014.8	3,998.2	13.3	10.6	28.87	-981.9	146.5	524.1	504.0	20.13	26.042			
4,200.0	4,164.9	4,114.7	4,097.5	13.7	10.9	28.85	-990.7	152.4	520.1	499.5	20.66	25.177			
4,300.0	4,264.0	4,214.6	4,196.9	14.0	11.2	28.84	-999.4	158.4	516.1	494.9	21.19	24.357			
4,400.0	4,363.0	4,314.6	4,296.2	14.4	11.5	28.83	-1,008.2	164.4	512.1	490.4	21.72	23.576			
4,500.0	4,462.1	4,414.5	4,395.6	14.7	11.8	28.81	-1,017.0	170.3	508.1	485.9	22.26	22.832			
4,600.0	4,561.1	4,514.4	4,494.9	15.1	12.1	28.80	-1,025.7	176.3	504.2	481.4	22.79	22.124			
4,700.0	4,660.1	4,614.3	4,594.3	15.4	12.4	28.79	-1,034.5	182.3	500.2	476.8	23.32	21.447			
4,800.0	4,759.2	4,714.2	4,693.7	15.8	12.7	28.77	-1,043.2	188.2	496.2	472.3	23.85	20.801			
4,900.0	4,858.2	4,814.2	4,793.0	16.1	13.0	28.76	-1,052.0	194.2	492.2	467.8	24.39	20.183			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			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)				
5,000.0	4,957.2	4,914.1	4,892.4	16.5	13.3	28.74	-1,060.8	200.2	488.2	463.3	24.92	19.592			
5,100.0	5,056.3	5,014.0	4,991.7	16.8	13.6	28.73	-1,069.5	206.2	484.2	458.8	25.45	19.025			
5,200.0	5,155.3	5,113.9	5,091.1	17.2	13.9	28.71	-1,078.3	212.1	480.2	454.2	25.98	18.481			
5,248.8	5,203.7	5,162.7	5,139.6	17.4	14.1	28.71	-1,082.6	215.0	478.3	452.0	26.24	18.224			
5,300.0	5,254.4	5,213.8	5,190.5	17.5	14.2	28.66	-1,087.1	218.1	476.6	450.1	26.50	17.984			
5,378.9	5,332.9	5,292.8	5,268.9	17.7	14.5	28.49	-1,094.0	222.8	475.7	448.8	26.85	17.718	CC		
5,400.0	5,353.9	5,313.8	5,289.9	17.7	14.5	28.43	-1,095.8	224.1	475.7	448.8	26.93	17.663			
5,500.0	5,453.6	5,413.7	5,389.2	17.9	14.8	28.03	-1,104.6	230.0	477.9	450.6	27.31	17.502			
5,600.0	5,553.6	5,513.5	5,488.4	18.0	15.2	27.48	-1,113.3	236.0	483.2	455.6	27.62	17.495			
5,646.4	5,600.0	5,559.7	5,534.3	18.1	15.3	-176.07	-1,117.4	238.7	486.8	455.2	31.56	15.422			
5,700.0	5,653.6	5,612.9	5,587.3	18.2	15.5	-176.48	-1,122.1	241.9	491.3	459.4	31.84	15.432			
5,800.0	5,753.6	5,727.0	5,700.9	18.3	15.7	-177.20	-1,130.5	247.7	498.4	466.1	32.29	15.433			
5,900.0	5,853.6	5,843.1	5,816.9	18.4	15.9	-177.59	-1,135.2	250.9	502.3	469.7	32.66	15.379			
6,000.0	5,953.6	5,954.8	5,928.6	18.5	16.1	-177.67	-1,136.2	251.6	503.2	470.2	32.98	15.255			
6,065.8	6,019.4	6,020.7	5,994.4	18.6	16.2	-177.67	-1,136.2	251.6	503.2	470.0	33.18	15.167			
6,100.0	6,053.6	6,054.8	6,028.5	18.7	16.3	-177.67	-1,136.2	251.6	503.2	469.9	33.27	15.123			
6,200.0	6,153.6	6,151.6	6,125.1	18.8	16.4	-176.94	-1,136.2	245.1	503.5	470.0	33.48	15.040			
6,300.0	6,253.6	6,245.4	6,217.0	18.9	16.4	-174.92	-1,136.2	227.3	504.9	471.3	33.54	15.054			
6,320.8	6,274.3	6,264.2	6,235.2	18.9	16.5	-174.36	-1,136.2	222.4	505.4	471.9	33.53	15.071			
6,350.0	6,303.6	6,290.4	6,260.3	19.0	16.5	-83.49	-1,136.2	214.8	506.3	475.9	30.35	16.681			
6,400.0	6,353.4	6,334.8	6,302.1	19.0	16.5	-82.04	-1,136.2	199.9	508.0	477.4	30.59	16.604			
6,450.0	6,403.0	6,378.5	6,342.4	19.1	16.5	-80.63	-1,136.2	183.0	510.0	479.2	30.80	16.558			
6,500.0	6,451.9	6,421.7	6,381.2	19.1	16.5	-79.26	-1,136.2	164.0	512.3	481.3	30.97	16.541			
6,550.0	6,500.2	6,464.4	6,418.4	19.1	16.5	-77.95	-1,136.2	143.1	514.7	483.6	31.10	16.552			
6,600.0	6,547.4	6,506.6	6,454.0	19.1	16.5	-76.70	-1,136.2	120.4	517.4	486.2	31.19	16.587			
6,650.0	6,593.5	6,550.0	6,489.3	19.1	16.4	-75.47	-1,136.2	95.1	520.1	488.8	31.25	16.642			
6,700.0	6,638.2	6,589.7	6,520.2	19.1	16.4	-74.37	-1,136.2	70.2	522.9	491.6	31.29	16.713			
6,750.0	6,681.3	6,630.8	6,550.8	19.1	16.4	-73.31	-1,136.2	42.8	525.7	494.4	31.31	16.791			
6,800.0	6,722.8	6,671.4	6,579.6	19.1	16.4	-72.31	-1,136.2	14.1	528.5	497.2	31.34	16.867			
6,850.0	6,762.2	6,711.8	6,606.6	19.1	16.4	-71.38	-1,136.2	-15.8	531.3	499.9	31.38	16.934			
6,900.0	6,799.6	6,750.0	6,630.7	19.1	16.4	-70.55	-1,136.2	-45.5	534.0	502.6	31.44	16.984			
6,950.0	6,834.8	6,791.7	6,655.3	19.1	16.4	-69.73	-1,136.2	-79.2	536.6	505.0	31.59	16.986			
7,000.0	6,867.6	6,831.3	6,676.9	19.1	16.4	-69.02	-1,136.2	-112.4	539.0	507.2	31.81	16.946			
7,050.0	6,897.8	6,870.8	6,696.7	19.1	16.4	-68.38	-1,136.2	-146.5	541.3	509.2	32.12	16.853			
7,100.0	6,925.3	6,910.0	6,714.6	19.1	16.6	-67.82	-1,136.2	-181.4	543.3	510.8	32.57	16.681			
7,150.0	6,950.1	6,950.0	6,731.0	19.2	17.1	-67.32	-1,136.2	-217.9	545.2	512.0	33.14	16.451			
7,200.0	6,971.9	6,988.1	6,744.8	19.2	17.6	-66.91	-1,136.2	-253.4	546.8	512.9	33.86	16.145			
7,250.0	6,990.8	7,027.0	6,757.0	19.4	18.2	-66.57	-1,136.2	-290.3	548.1	513.3	34.75	15.771			
7,300.0	7,006.6	7,065.7	6,767.3	19.7	18.8	-66.31	-1,136.2	-327.6	549.1	513.3	35.80	15.340			
7,350.0	7,019.3	7,100.0	6,774.9	20.3	19.4	-66.13	-1,136.2	-361.1	549.9	513.0	36.93	14.890			
7,400.0	7,028.8	7,143.1	6,782.2	21.1	20.2	-66.00	-1,136.2	-403.6	550.3	512.0	38.36	14.346			
7,450.0	7,035.0	7,181.8	6,786.7	21.9	20.9	-65.96	-1,136.2	-442.0	550.5	510.6	39.87	13.808			
7,500.0	7,038.0	7,220.5	6,789.3	22.9	21.7	-66.00	-1,136.2	-480.5	550.3	508.8	41.50	13.262			
7,519.7	7,038.3	7,235.7	6,789.8	23.2	22.0	-66.04	-1,136.2	-495.7	550.2	508.0	42.17	13.046			
7,546.8	7,038.3	7,257.9	6,790.0	23.8	22.4	-66.05	-1,136.2	-517.9	550.1	507.0	43.08	12.769			
7,600.0	7,038.4	7,311.1	6,790.0	24.8	23.5	-66.04	-1,136.2	-571.2	550.1	505.1	45.08	12.205			
7,700.0	7,038.5	7,411.1	6,790.0	27.0	25.7	-66.03	-1,136.2	-671.2	550.2	501.2	49.02	11.223			
7,800.0	7,038.7	7,511.1	6,790.0	29.2	27.9	-66.02	-1,136.2	-771.2	550.3	497.1	53.18	10.347			
7,900.0	7,038.8	7,611.1	6,790.0	31.6	30.3	-66.00	-1,136.2	-871.2	550.3	492.8	57.50	9.571			
8,000.0	7,038.9	7,711.1	6,790.0	34.0	32.7	-65.99	-1,136.2	-971.2	550.4	488.4	61.94	8.885			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-234 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,100.0	7,039.1	7,811.1	6,790.0	36.4	35.2	-65.98	-1,136.2	-1,071.2	550.4	483.9	66.49	8.279			
8,200.0	7,039.2	7,911.1	6,790.0	38.9	37.7	-65.96	-1,136.2	-1,171.2	550.5	479.4	71.12	7.741			
8,300.0	7,039.4	8,011.1	6,790.0	41.5	40.3	-65.95	-1,136.2	-1,271.2	550.5	474.7	75.81	7.262			
8,400.0	7,039.5	8,111.1	6,790.0	44.1	42.9	-65.94	-1,136.2	-1,371.2	550.6	470.0	80.56	6.835			
8,500.0	7,039.6	8,211.1	6,790.0	46.7	45.5	-65.92	-1,136.2	-1,471.2	550.7	465.3	85.36	6.451			
8,600.0	7,039.8	8,311.1	6,790.0	49.3	48.2	-65.91	-1,136.2	-1,571.2	550.7	460.5	90.19	6.106			
8,700.0	7,039.9	8,411.1	6,790.0	51.9	50.8	-65.90	-1,136.2	-1,671.2	550.8	455.7	95.05	5.794			
8,800.0	7,040.1	8,511.1	6,790.0	54.6	53.5	-65.88	-1,136.2	-1,771.2	550.8	450.9	99.95	5.511			
8,900.0	7,040.2	8,611.1	6,790.0	57.3	56.2	-65.87	-1,136.2	-1,871.2	550.9	446.0	104.86	5.253			
9,000.0	7,040.3	8,711.1	6,790.0	60.0	58.9	-65.86	-1,136.2	-1,971.2	550.9	441.1	109.80	5.018			
9,100.0	7,040.5	8,811.1	6,790.0	62.7	61.6	-65.84	-1,136.2	-2,071.2	551.0	436.2	114.75	4.802			
9,200.0	7,040.6	8,911.1	6,790.0	65.4	64.3	-65.83	-1,136.2	-2,171.2	551.1	431.3	119.72	4.603			
9,300.0	7,040.8	9,011.1	6,790.0	68.1	67.0	-65.82	-1,136.2	-2,271.2	551.1	426.4	124.70	4.419			
9,400.0	7,040.9	9,111.1	6,790.0	70.8	69.7	-65.80	-1,136.2	-2,371.2	551.2	421.5	129.69	4.250			
9,500.0	7,041.0	9,211.1	6,790.0	73.5	72.5	-65.79	-1,136.2	-2,471.2	551.2	416.5	134.70	4.092			
9,600.0	7,041.2	9,311.1	6,790.0	76.3	75.2	-65.78	-1,136.2	-2,571.2	551.3	411.6	139.71	3.946			
9,700.0	7,041.3	9,411.1	6,790.0	79.0	77.9	-65.76	-1,136.2	-2,671.2	551.3	406.6	144.73	3.810			
9,800.0	7,041.5	9,511.1	6,790.0	81.8	80.7	-65.75	-1,136.2	-2,771.2	551.4	401.6	149.75	3.682			
9,900.0	7,041.6	9,611.1	6,790.0	84.5	83.4	-65.74	-1,136.2	-2,871.2	551.5	396.7	154.79	3.563			
10,000.0	7,041.7	9,711.1	6,790.0	87.3	86.2	-65.72	-1,136.2	-2,971.2	551.5	391.7	159.82	3.451			
10,100.0	7,041.9	9,811.1	6,790.0	90.0	88.9	-65.71	-1,136.2	-3,071.2	551.6	386.7	164.87	3.346			
10,200.0	7,042.0	9,911.1	6,790.0	92.8	91.7	-65.70	-1,136.2	-3,171.2	551.6	381.7	169.92	3.246			
10,300.0	7,042.2	10,011.1	6,790.0	95.5	94.5	-65.68	-1,136.2	-3,271.2	551.7	376.7	174.97	3.153			
10,400.0	7,042.3	10,111.1	6,790.0	98.3	97.2	-65.67	-1,136.2	-3,371.2	551.7	371.7	180.02	3.065			
10,500.0	7,042.4	10,211.1	6,790.0	101.1	100.0	-65.66	-1,136.2	-3,471.2	551.8	366.7	185.08	2.981			
10,600.0	7,042.6	10,311.1	6,790.0	103.8	102.8	-65.65	-1,136.2	-3,571.2	551.9	361.7	190.14	2.902			
10,700.0	7,042.7	10,411.1	6,790.0	106.6	105.5	-65.63	-1,136.2	-3,671.2	551.9	356.7	195.20	2.827			
10,800.0	7,042.9	10,511.1	6,790.0	109.4	108.3	-65.62	-1,136.2	-3,771.2	552.0	351.7	200.27	2.756			
10,900.0	7,043.0	10,611.1	6,790.0	112.1	111.1	-65.61	-1,136.2	-3,871.2	552.0	346.7	205.34	2.688			
11,000.0	7,043.1	10,711.1	6,790.0	114.9	113.9	-65.59	-1,136.2	-3,971.2	552.1	341.7	210.41	2.624			
11,100.0	7,043.3	10,811.1	6,790.0	117.7	116.6	-65.58	-1,136.2	-4,071.2	552.1	336.7	215.48	2.562			
11,200.0	7,043.4	10,911.1	6,790.0	120.5	119.4	-65.57	-1,136.2	-4,171.2	552.2	331.7	220.55	2.504			
11,300.0	7,043.6	11,011.1	6,790.0	123.3	122.2	-65.55	-1,136.2	-4,271.2	552.3	326.6	225.62	2.448			
11,400.0	7,043.7	11,111.1	6,790.0	126.0	125.0	-65.54	-1,136.2	-4,371.2	552.3	321.6	230.70	2.394			
11,500.0	7,043.8	11,211.1	6,790.0	128.8	127.8	-65.53	-1,136.2	-4,471.2	552.4	316.6	235.77	2.343			
11,600.0	7,044.0	11,311.1	6,790.0	131.6	130.4	-65.51	-1,136.2	-4,571.2	552.4	311.7	240.75	2.295			
11,618.8	7,044.0	11,329.9	6,790.0	132.1	130.8	-65.51	-1,136.2	-4,589.9	552.4	310.9	241.53	2.287 ES, SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-176.22	-717.7	-47.4	719.7						
100.0	100.0	75.0	75.0	0.1	0.1	-176.22	-717.7	-47.4	719.2	719.1	0.20	3,656.196			
200.0	200.0	175.0	175.0	0.3	0.3	-176.22	-717.7	-47.4	719.2	718.6	0.62	1,163.631			
300.0	300.0	275.0	275.0	0.5	0.5	27.07	-717.7	-47.4	718.1	717.0	1.05	681.499			
400.0	399.9	374.9	374.9	0.7	0.7	27.24	-717.7	-47.4	714.6	713.1	1.49	478.843			
500.0	499.7	474.7	474.7	1.0	1.0	27.52	-717.7	-47.4	708.8	706.8	1.95	364.193			
600.0	599.3	574.3	574.3	1.2	1.2	27.92	-717.7	-47.4	700.7	698.3	2.41	290.741			
700.0	698.6	673.6	673.6	1.5	1.4	28.45	-717.7	-47.4	690.3	687.4	2.88	239.417			
730.1	728.4	703.4	703.4	1.6	1.5	28.64	-717.7	-47.4	686.7	683.7	3.03	226.812			
800.0	797.6	772.6	772.6	1.8	1.6	29.03	-717.7	-47.4	678.2	674.9	3.35	202.260			
900.0	896.7	871.7	871.7	2.2	1.8	29.61	-717.7	-47.4	666.2	662.3	3.83	174.068			
1,000.0	995.7	970.7	970.7	2.5	2.1	30.20	-717.7	-47.4	654.1	649.8	4.31	151.851			
1,100.0	1,094.7	1,069.7	1,069.7	2.8	2.3	30.82	-717.7	-47.4	642.2	637.4	4.79	133.949			
1,200.0	1,193.8	1,168.8	1,168.8	3.2	2.5	31.46	-717.7	-47.4	630.3	625.0	5.29	119.249			
1,300.0	1,292.8	1,267.8	1,267.8	3.5	2.7	32.13	-717.7	-47.4	618.5	612.7	5.78	106.981			
1,400.0	1,391.9	1,366.9	1,366.9	3.9	3.0	32.82	-717.7	-47.4	606.8	600.5	6.28	96.601			
1,500.0	1,490.9	1,465.9	1,465.9	4.2	3.2	33.54	-717.7	-47.4	595.2	588.4	6.79	87.711			
1,600.0	1,589.9	1,562.1	1,562.1	4.6	3.4	34.22	-717.9	-46.9	583.9	576.6	7.27	80.263			
1,700.0	1,689.0	1,657.2	1,657.2	4.9	3.6	34.71	-719.2	-44.5	573.3	565.5	7.74	74.029			
1,800.0	1,788.0	1,752.6	1,752.4	5.3	3.8	34.97	-721.6	-40.0	563.4	555.2	8.21	68.621			
1,900.0	1,887.1	1,848.2	1,847.7	5.6	4.0	35.01	-725.1	-33.4	554.3	545.6	8.68	63.835			
2,000.0	1,986.1	1,946.3	1,945.4	6.0	4.2	34.85	-729.7	-24.8	545.7	536.5	9.17	59.525			
2,100.0	2,085.1	2,046.0	2,044.5	6.3	4.4	34.67	-734.4	-16.0	537.2	527.5	9.66	55.585			
2,200.0	2,184.2	2,145.6	2,143.6	6.7	4.6	34.48	-739.1	-7.1	528.7	518.5	10.17	51.997			
2,300.0	2,283.2	2,245.2	2,242.7	7.0	4.9	34.28	-743.8	1.7	520.2	509.5	10.68	48.720			
2,400.0	2,382.2	2,344.8	2,341.8	7.4	5.1	34.08	-748.6	10.5	511.7	500.5	11.19	45.727			
2,500.0	2,481.3	2,444.4	2,441.0	7.7	5.4	33.86	-753.3	19.4	503.2	491.5	11.71	42.981			
2,600.0	2,580.3	2,544.1	2,540.1	8.1	5.6	33.65	-758.0	28.2	494.7	482.5	12.23	40.458			
2,700.0	2,679.4	2,643.7	2,639.2	8.4	5.9	33.42	-762.7	37.1	486.3	473.5	12.75	38.135			
2,800.0	2,778.4	2,743.3	2,738.3	8.8	6.1	33.19	-767.4	45.9	477.8	464.5	13.28	35.990			
2,900.0	2,877.4	2,842.9	2,837.4	9.1	6.4	32.95	-772.1	54.8	469.3	455.5	13.80	34.005			
3,000.0	2,976.5	2,942.6	2,936.5	9.5	6.7	32.69	-776.8	63.6	460.9	446.6	14.33	32.164			
3,100.0	3,075.5	3,042.2	3,035.7	9.8	6.9	32.43	-781.5	72.4	452.5	437.6	14.86	30.454			
3,200.0	3,174.6	3,141.8	3,134.8	10.2	7.2	32.16	-786.2	81.3	444.0	428.6	15.39	28.861			
3,300.0	3,273.6	3,241.4	3,233.9	10.5	7.5	31.88	-791.0	90.1	435.6	419.7	15.91	27.374			
3,400.0	3,372.6	3,341.0	3,333.0	10.9	7.8	31.59	-795.7	99.0	427.2	410.8	16.44	25.984			
3,500.0	3,471.7	3,440.7	3,432.1	11.2	8.0	31.29	-800.4	107.8	418.8	401.8	16.97	24.682			
3,600.0	3,570.7	3,540.3	3,531.2	11.6	8.3	30.97	-805.1	116.6	410.4	392.9	17.49	23.460			
3,700.0	3,669.7	3,639.9	3,630.4	11.9	8.6	30.64	-809.8	125.5	402.1	384.0	18.02	22.312			
3,800.0	3,768.8	3,739.5	3,729.5	12.3	8.9	30.30	-814.5	134.3	393.7	375.2	18.54	21.231			
3,900.0	3,867.8	3,839.2	3,828.6	12.6	9.1	29.94	-819.2	143.2	385.4	366.3	19.07	20.212			
4,000.0	3,966.9	3,938.8	3,927.7	13.0	9.4	29.57	-823.9	152.0	377.0	357.4	19.59	19.250			
4,100.0	4,065.9	4,038.4	4,026.8	13.3	9.7	29.18	-828.7	160.9	368.7	348.6	20.10	18.341			
4,200.0	4,164.9	4,138.0	4,125.9	13.7	10.0	28.77	-833.4	169.7	360.4	339.8	20.62	17.480			
4,300.0	4,264.0	4,237.6	4,225.1	14.0	10.3	28.34	-838.1	178.5	352.2	331.0	21.13	16.664			
4,400.0	4,363.0	4,337.3	4,324.2	14.4	10.6	27.89	-842.8	187.4	343.9	322.3	21.64	15.890			
4,500.0	4,462.1	4,436.9	4,423.3	14.7	10.9	27.42	-847.5	196.2	335.7	313.5	22.15	15.154			
4,600.0	4,561.1	4,536.5	4,522.4	15.1	11.1	26.93	-852.2	205.1	327.5	304.8	22.65	14.455			
4,700.0	4,660.1	4,636.1	4,621.5	15.4	11.4	26.41	-856.9	213.9	319.3	296.1	23.16	13.789			
4,800.0	4,759.2	4,735.7	4,720.6	15.8	11.7	25.86	-861.6	222.7	311.1	287.5	23.65	13.155			
4,900.0	4,858.2	4,835.4	4,819.8	16.1	12.0	25.29	-866.3	231.6	303.0	278.9	24.14	12.551			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-304 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,957.2	4,935.3	4,919.2	16.5	12.3	24.68	-871.1	240.5	294.9	270.3	24.63	11.975			
5,100.0	5,056.3	5,039.7	5,023.3	16.8	12.5	24.40	-875.0	247.8	285.9	260.8	25.10	11.389			
5,200.0	5,155.3	5,143.7	5,127.2	17.2	12.7	24.80	-877.1	251.8	275.3	249.7	25.60	10.751			
5,248.8	5,203.7	5,194.3	5,177.8	17.4	12.8	25.26	-877.5	252.5	269.5	243.6	25.87	10.419			
5,300.0	5,254.4	5,246.0	5,229.4	17.5	12.9	25.82	-877.6	252.6	263.5	237.4	26.15	10.079			
5,400.0	5,353.9	5,345.4	5,328.9	17.7	13.1	26.75	-877.6	252.6	254.3	227.7	26.63	9.550			
5,500.0	5,453.6	5,445.2	5,428.6	17.9	13.3	27.40	-877.6	252.6	248.2	221.1	27.05	9.176			
5,600.0	5,553.6	5,545.1	5,528.6	18.0	13.4	27.74	-877.6	252.6	245.2	217.8	27.40	8.948			
5,646.4	5,600.0	5,591.6	5,575.0	18.1	13.5	-175.46	-877.6	252.6	244.9	215.4	29.50	8.300			
5,700.0	5,653.6	5,645.1	5,628.6	18.2	13.6	-175.46	-877.6	252.6	244.9	215.2	29.68	8.249			
5,800.0	5,753.6	5,745.1	5,728.6	18.3	13.8	-175.46	-877.6	252.6	244.9	214.9	30.01	8.161			
5,900.0	5,853.6	5,845.1	5,828.6	18.4	14.0	-175.46	-877.6	252.6	244.9	214.5	30.33	8.073			
6,000.0	5,953.6	5,945.1	5,928.6	18.5	14.2	-175.46	-877.6	252.6	244.9	214.2	30.66	7.987			
6,100.0	6,053.6	6,045.1	6,028.6	18.7	14.4	-175.46	-877.6	252.6	244.9	213.9	30.99	7.902			
6,164.2	6,117.8	6,109.4	6,092.8	18.7	14.5	-175.46	-877.6	252.6	244.9	213.7	31.20	7.848 CC			
6,200.0	6,153.6	6,145.0	6,128.4	18.8	14.6	-175.45	-877.6	252.6	244.9	213.5	31.32	7.819			
6,300.0	6,253.6	6,241.9	6,225.0	18.9	14.7	-173.83	-877.6	245.6	245.5	214.0	31.49	7.797			
6,320.8	6,274.3	6,261.7	6,244.6	18.9	14.7	-173.15	-877.6	242.7	245.9	214.4	31.50	7.807			
6,350.0	6,303.6	6,289.4	6,271.8	19.0	14.7	-82.08	-877.6	237.7	246.5	216.3	30.20	8.162			
6,400.0	6,353.4	6,336.4	6,317.6	19.0	14.8	-80.30	-877.6	227.1	247.7	217.3	30.46	8.133			
6,450.0	6,403.0	6,383.0	6,362.3	19.1	14.8	-78.58	-877.6	213.8	249.1	218.5	30.67	8.124			
6,500.0	6,451.9	6,429.2	6,405.7	19.1	14.8	-76.93	-877.6	197.9	250.7	219.9	30.83	8.133			
6,550.0	6,500.2	6,475.0	6,447.7	19.1	14.8	-75.36	-877.6	179.6	252.4	221.5	30.93	8.161			
6,600.0	6,547.4	6,520.5	6,488.2	19.1	14.8	-73.86	-877.6	159.0	254.3	223.3	30.99	8.205			
6,650.0	6,593.5	6,565.7	6,527.2	19.1	14.8	-72.45	-877.6	136.2	256.2	225.2	31.01	8.263			
6,700.0	6,638.2	6,610.5	6,564.5	19.1	14.9	-71.12	-877.6	111.3	258.2	227.2	30.98	8.332			
6,750.0	6,681.3	6,655.1	6,600.0	19.1	14.9	-69.88	-877.6	84.4	260.2	229.2	30.94	8.409			
6,800.0	6,722.8	6,700.0	6,634.2	19.1	15.0	-68.73	-877.6	55.3	262.1	231.2	30.88	8.489			
6,850.0	6,762.2	6,743.5	6,665.6	19.1	15.1	-67.68	-877.6	25.2	264.0	233.2	30.83	8.564			
6,900.0	6,799.6	6,787.3	6,695.5	19.1	15.2	-66.72	-877.6	-6.9	265.9	235.1	30.82	8.629			
6,950.0	6,834.8	6,831.0	6,723.3	19.1	15.4	-65.85	-877.6	-40.5	267.7	236.8	30.85	8.675			
7,000.0	6,867.6	6,874.5	6,749.1	19.1	15.7	-65.08	-877.6	-75.5	269.3	238.3	30.97	8.696			
7,050.0	6,897.8	6,917.8	6,772.8	19.1	16.0	-64.39	-877.6	-111.7	270.8	239.6	31.18	8.684			
7,100.0	6,925.3	6,961.0	6,794.4	19.1	16.4	-63.80	-877.6	-149.2	272.1	240.6	31.52	8.634			
7,150.0	6,950.1	7,004.1	6,813.7	19.2	16.8	-63.30	-877.6	-187.7	273.3	241.3	32.00	8.539			
7,200.0	6,971.9	7,050.0	6,831.9	19.2	17.4	-62.86	-877.6	-229.8	274.3	241.6	32.68	8.393			
7,250.0	6,990.8	7,089.9	6,845.7	19.4	17.9	-62.56	-877.6	-267.3	275.1	241.6	33.48	8.216			
7,300.0	7,006.6	7,132.8	6,858.2	19.7	18.6	-62.33	-877.6	-308.3	275.6	241.1	34.49	7.992			
7,350.0	7,019.3	7,175.6	6,868.4	20.3	19.3	-62.19	-877.6	-349.8	276.0	240.3	35.67	7.738			
7,400.0	7,028.8	7,218.3	6,876.3	21.1	20.0	-62.13	-877.6	-391.9	276.1	239.1	37.02	7.459			
7,450.0	7,035.0	7,261.1	6,881.8	21.9	20.8	-62.17	-877.6	-434.3	276.0	237.5	38.53	7.164			
7,500.0	7,038.0	7,303.9	6,884.9	22.9	21.6	-62.29	-877.6	-477.0	275.7	235.5	40.19	6.861			
7,519.7	7,038.3	7,320.8	6,885.5	23.2	21.9	-62.36	-877.6	-493.8	275.5	234.7	40.88	6.741			
7,542.9	7,038.3	7,341.2	6,885.7	23.7	22.3	-62.39	-877.6	-514.3	275.5	233.8	41.67	6.611			
7,600.0	7,038.4	7,397.7	6,885.4	24.8	23.5	-62.34	-877.6	-570.7	275.6	231.9	43.71	6.305			
7,700.0	7,038.5	7,497.7	6,885.1	27.0	25.6	-62.24	-877.6	-670.7	275.8	228.3	47.52	5.805			
7,800.0	7,038.7	7,597.7	6,884.7	29.2	27.9	-62.15	-877.6	-770.7	276.1	224.6	51.52	5.359			
7,900.0	7,038.8	7,697.7	6,884.3	31.6	30.2	-62.05	-877.6	-870.7	276.3	220.7	55.67	4.963			
8,000.0	7,038.9	7,797.7	6,883.9	34.0	32.7	-61.95	-877.6	-970.7	276.6	216.6	59.94	4.614			
8,100.0	7,039.1	7,897.7	6,883.5	36.4	35.2	-61.86	-877.6	-1,070.7	276.8	212.5	64.30	4.305			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design		Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-304 - Wellbore #1 - P											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
8,200.0	7,039.2	7,997.7	6,883.1	38.9	37.7	-61.76	-877.6	-1,170.7	277.1	208.3	68.74	4.031			
8,300.0	7,039.4	8,097.7	6,882.8	41.5	40.2	-61.67	-877.6	-1,270.7	277.3	204.1	73.23	3.787			
8,400.0	7,039.5	8,197.7	6,882.4	44.1	42.8	-61.57	-877.6	-1,370.7	277.6	199.8	77.77	3.569			
8,500.0	7,039.6	8,297.7	6,882.0	46.7	45.5	-61.48	-877.6	-1,470.7	277.8	195.5	82.34	3.374			
8,600.0	7,039.8	8,397.7	6,881.6	49.3	48.1	-61.38	-877.6	-1,570.7	278.1	191.1	86.95	3.198			
8,700.0	7,039.9	8,497.6	6,881.2	51.9	50.8	-61.29	-877.6	-1,670.7	278.3	186.7	91.58	3.039			
8,800.0	7,040.1	8,597.6	6,880.8	54.6	53.4	-61.19	-877.6	-1,770.7	278.6	182.3	96.23	2.895			
8,900.0	7,040.2	8,697.6	6,880.5	57.3	56.1	-61.10	-877.6	-1,870.7	278.8	177.9	100.89	2.763			
9,000.0	7,040.3	8,797.6	6,880.1	60.0	58.8	-61.00	-877.6	-1,970.7	279.1	173.5	105.57	2.643			
9,100.0	7,040.5	8,897.6	6,879.7	62.7	61.5	-60.91	-877.6	-2,070.7	279.3	169.1	110.25	2.533			
9,200.0	7,040.6	8,997.6	6,879.3	65.4	64.2	-60.82	-877.6	-2,170.7	279.6	164.6	114.95	2.432			
9,300.0	7,040.8	9,097.6	6,878.9	68.1	67.0	-60.72	-877.6	-2,270.7	279.8	160.2	119.64	2.339			
9,400.0	7,040.9	9,197.6	6,878.5	70.8	69.7	-60.63	-877.6	-2,370.7	280.1	155.7	124.35	2.252			
9,500.0	7,041.0	9,297.6	6,878.1	73.5	72.4	-60.54	-877.6	-2,470.7	280.3	151.3	129.05	2.172			
9,600.0	7,041.2	9,397.6	6,877.8	76.3	75.2	-60.44	-877.6	-2,570.7	280.6	146.8	133.76	2.098			
9,700.0	7,041.3	9,497.6	6,877.4	79.0	77.9	-60.35	-877.6	-2,670.7	280.9	142.4	138.46	2.028			
9,800.0	7,041.5	9,597.6	6,877.0	81.8	80.6	-60.26	-877.6	-2,770.6	281.1	138.0	143.17	1.964			
9,900.0	7,041.6	9,697.6	6,876.6	84.5	83.4	-60.17	-877.6	-2,870.6	281.4	133.5	147.87	1.903			
10,000.0	7,041.7	9,797.6	6,876.2	87.3	86.2	-60.07	-877.6	-2,970.6	281.6	129.1	152.57	1.846			
10,100.0	7,041.9	9,897.6	6,875.8	90.0	88.9	-59.98	-877.6	-3,070.6	281.9	124.6	157.27	1.792			
10,200.0	7,042.0	9,997.6	6,875.5	92.8	91.7	-59.89	-877.5	-3,170.6	282.2	120.2	161.97	1.742			
10,300.0	7,042.2	10,097.6	6,875.1	95.5	94.4	-59.80	-877.5	-3,270.6	282.4	115.8	166.66	1.695			
10,400.0	7,042.3	10,197.6	6,874.7	98.3	97.2	-59.71	-877.5	-3,370.6	282.7	111.3	171.35	1.650			
10,500.0	7,042.4	10,297.6	6,874.3	101.1	100.0	-59.61	-877.5	-3,470.6	283.0	106.9	176.03	1.607			
10,600.0	7,042.6	10,397.6	6,873.9	103.8	102.7	-59.52	-877.5	-3,570.6	283.2	102.5	180.71	1.567			
10,700.0	7,042.7	10,497.6	6,873.5	106.6	105.5	-59.43	-877.5	-3,670.6	283.5	98.1	185.38	1.529			
10,800.0	7,042.9	10,597.6	6,873.2	109.4	108.3	-59.34	-877.5	-3,770.6	283.8	93.7	190.05	1.493 Level 3			
10,900.0	7,043.0	10,697.6	6,872.8	112.1	111.1	-59.25	-877.5	-3,870.6	284.0	89.3	194.71	1.459 Level 3			
11,000.0	7,043.1	10,797.6	6,872.4	114.9	113.8	-59.16	-877.5	-3,970.6	284.3	84.9	199.37	1.426 Level 3			
11,100.0	7,043.3	10,897.6	6,872.0	117.7	116.6	-59.07	-877.5	-4,070.6	284.6	80.5	204.02	1.395 Level 3			
11,200.0	7,043.4	10,997.6	6,871.6	120.5	119.4	-58.98	-877.5	-4,170.6	284.8	76.2	208.66	1.365 Level 3			
11,300.0	7,043.6	11,097.6	6,871.2	123.3	122.2	-58.89	-877.5	-4,270.6	285.1	71.8	213.30	1.337 Level 3			
11,400.0	7,043.7	11,197.6	6,870.9	126.0	125.0	-58.80	-877.5	-4,370.6	285.4	67.4	217.93	1.309 Level 3			
11,500.0	7,043.8	11,297.6	6,870.5	128.8	127.7	-58.71	-877.5	-4,470.6	285.6	63.1	222.56	1.283 Level 3			
11,600.0	7,044.0	11,397.6	6,870.1	131.6	130.5	-58.62	-877.5	-4,570.6	285.9	58.7	227.18	1.259 Level 3			
11,618.8	7,044.0	11,416.4	6,870.0	132.1	131.0	-58.60	-877.5	-4,589.4	286.0	57.9	228.04	1.254 Level 3, ES, SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-178.44	-717.7	-19.5	718.4						
100.0	100.0	75.0	75.0	0.1	0.1	-178.44	-717.7	-19.5	718.0	717.8	0.20	3,649.707			
200.0	200.0	175.0	175.0	0.3	0.3	-178.44	-717.7	-19.5	718.0	717.4	0.62	1,161.566			
300.0	300.0	275.0	275.0	0.5	0.5	24.85	-717.7	-19.5	716.8	715.7	1.05	680.057			
400.0	399.9	374.9	374.9	0.7	0.7	25.00	-717.7	-19.5	713.2	711.7	1.49	477.704			
500.0	499.7	474.7	474.7	1.0	1.0	25.26	-717.7	-19.5	707.3	705.4	1.95	363.306			
600.0	599.3	574.3	574.3	1.2	1.2	25.64	-717.7	-19.5	699.0	696.6	2.41	290.061			
700.0	698.6	663.2	663.2	1.5	1.4	26.06	-718.2	-19.3	689.0	686.2	2.84	242.484			
730.1	728.4	688.9	688.8	1.6	1.4	26.19	-718.7	-19.1	685.9	682.9	2.97	231.107			
800.0	797.6	748.6	748.6	1.8	1.5	26.44	-720.4	-18.5	679.2	675.9	3.24	209.374			
900.0	896.7	834.4	834.2	2.2	1.7	26.74	-724.4	-16.9	671.3	667.7	3.65	184.030			
1,000.0	995.7	920.5	920.1	2.5	1.9	26.98	-730.2	-14.6	665.6	661.5	4.07	163.577			
1,100.0	1,094.7	1,006.8	1,006.0	2.8	2.1	27.15	-737.9	-11.7	661.8	657.3	4.50	146.963			
1,200.0	1,193.8	1,100.0	1,098.6	3.2	2.3	27.25	-748.2	-7.7	660.2	655.2	4.97	132.956			
1,232.1	1,225.6	1,121.0	1,119.4	3.3	2.4	27.26	-750.8	-6.7	660.0	654.9	5.10	129.488 CC			
1,300.0	1,292.8	1,180.0	1,177.8	3.5	2.5	27.27	-758.7	-3.6	660.5	655.1	5.41	122.084			
1,400.0	1,391.9	1,280.0	1,276.7	3.9	2.8	27.27	-772.7	1.9	661.9	655.9	5.91	111.976			
1,500.0	1,490.9	1,380.0	1,375.5	4.2	3.1	27.26	-786.8	7.3	663.2	656.8	6.42	103.342			
1,600.0	1,589.9	1,480.0	1,474.4	4.6	3.5	27.25	-800.8	12.8	664.5	657.6	6.93	95.892			
1,700.0	1,689.0	1,580.0	1,573.2	4.9	3.8	27.24	-814.9	18.2	665.9	658.4	7.45	89.427			
1,800.0	1,788.0	1,680.0	1,672.1	5.3	4.1	27.23	-828.9	23.7	667.2	659.3	7.97	83.749			
1,900.0	1,887.1	1,780.0	1,770.9	5.6	4.5	27.22	-843.0	29.1	668.6	660.1	8.49	78.744			
2,000.0	1,986.1	1,880.0	1,869.8	6.0	4.8	27.22	-857.0	34.6	669.9	660.9	9.02	74.302			
2,100.0	2,085.1	1,980.0	1,968.6	6.3	5.2	27.21	-871.1	40.0	671.3	661.7	9.54	70.336			
2,200.0	2,184.2	2,080.0	2,067.5	6.7	5.5	27.20	-885.1	45.5	672.6	662.5	10.07	66.775			
2,300.0	2,283.2	2,179.9	2,166.3	7.0	5.9	27.19	-899.2	50.9	674.0	663.4	10.60	63.562			
2,400.0	2,382.2	2,279.9	2,265.2	7.4	6.3	27.18	-913.2	56.4	675.3	664.2	11.13	60.648			
2,500.0	2,481.3	2,379.9	2,364.0	7.7	6.6	27.18	-927.2	61.9	676.6	665.0	11.67	57.996			
2,600.0	2,580.3	2,479.9	2,462.8	8.1	7.0	27.17	-941.3	67.3	678.0	665.8	12.20	55.571			
2,700.0	2,679.4	2,579.9	2,561.7	8.4	7.3	27.16	-955.3	72.8	679.3	666.6	12.73	53.346			
2,800.0	2,778.4	2,679.9	2,660.5	8.8	7.7	27.15	-969.4	78.2	680.7	667.4	13.27	51.299			
2,900.0	2,877.4	2,779.9	2,759.4	9.1	8.1	27.14	-983.4	83.7	682.0	668.2	13.80	49.407			
3,000.0	2,976.5	2,879.9	2,858.2	9.5	8.4	27.14	-997.5	89.1	683.4	669.0	14.34	47.656			
3,100.0	3,075.5	2,979.9	2,957.1	9.8	8.8	27.13	-1,011.5	94.6	684.7	669.8	14.88	46.029			
3,200.0	3,174.6	3,079.9	3,055.9	10.2	9.1	27.12	-1,025.6	100.0	686.1	670.7	15.41	44.515			
3,300.0	3,273.6	3,179.9	3,154.8	10.5	9.5	27.11	-1,039.6	105.5	687.4	671.5	15.95	43.101			
3,400.0	3,372.6	3,279.8	3,253.6	10.9	9.9	27.11	-1,053.7	110.9	688.8	672.3	16.49	41.779			
3,500.0	3,471.7	3,379.8	3,352.5	11.2	10.2	27.10	-1,067.7	116.4	690.1	673.1	17.02	40.540			
3,600.0	3,570.7	3,479.8	3,451.3	11.6	10.6	27.09	-1,081.8	121.8	691.4	673.9	17.56	39.376			
3,700.0	3,669.7	3,579.8	3,550.2	11.9	11.0	27.08	-1,095.8	127.3	692.8	674.7	18.10	38.281			
3,800.0	3,768.8	3,679.8	3,649.0	12.3	11.3	27.07	-1,109.9	132.8	694.1	675.5	18.64	37.248			
3,900.0	3,867.8	3,779.8	3,747.9	12.6	11.7	27.07	-1,123.9	138.2	695.5	676.3	19.17	36.273			
4,000.0	3,966.9	3,879.8	3,846.7	13.0	12.1	27.06	-1,137.9	143.7	696.8	677.1	19.71	35.352			
4,100.0	4,065.9	3,979.8	3,945.6	13.3	12.4	27.05	-1,152.0	149.1	698.2	677.9	20.25	34.479			
4,200.0	4,164.9	4,079.8	4,044.4	13.7	12.8	27.04	-1,166.0	154.6	699.5	678.7	20.79	33.651			
4,300.0	4,264.0	4,179.8	4,143.3	14.0	13.2	27.04	-1,180.1	160.0	700.9	679.5	21.33	32.864			
4,400.0	4,363.0	4,279.8	4,242.1	14.4	13.5	27.03	-1,194.1	165.5	702.2	680.3	21.86	32.116			
4,500.0	4,462.1	4,379.7	4,341.0	14.7	13.9	27.02	-1,208.2	170.9	703.6	681.2	22.40	31.405			
4,600.0	4,561.1	4,479.7	4,439.8	15.1	14.3	27.02	-1,222.2	176.4	704.9	682.0	22.94	30.726			
4,700.0	4,660.1	4,579.7	4,538.7	15.4	14.6	27.01	-1,236.3	181.8	706.3	682.8	23.48	30.078			
4,800.0	4,759.2	4,679.7	4,637.5	15.8	15.0	27.00	-1,250.3	187.3	707.6	683.6	24.02	29.460			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-334 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
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			
4,900.0	4,858.2	4,779.7	4,736.4	16.1	15.4	26.99	-1,264.4	192.7	708.9	684.4	24.56	28.868			
5,000.0	4,957.2	4,879.7	4,835.2	16.5	15.7	26.99	-1,278.4	198.2	710.3	685.2	25.10	28.302			
5,100.0	5,056.3	4,979.7	4,934.1	16.8	16.1	26.98	-1,292.5	203.7	711.6	686.0	25.64	27.760			
5,200.0	5,155.3	5,079.7	5,032.9	17.2	16.5	26.97	-1,306.5	209.1	713.0	686.8	26.17	27.240			
5,248.8	5,203.7	5,128.5	5,081.2	17.4	16.7	26.97	-1,313.4	211.8	713.6	687.2	26.44	26.994			
5,300.0	5,254.4	5,179.7	5,131.8	17.5	16.9	26.96	-1,320.6	214.6	714.7	688.0	26.69	26.775			
5,400.0	5,353.9	5,279.5	5,230.5	17.7	17.2	26.86	-1,334.6	220.0	719.2	692.1	27.13	26.512			
5,500.0	5,453.6	5,379.2	5,329.0	17.9	17.6	26.68	-1,348.6	225.4	726.8	699.3	27.51	26.421			
5,600.0	5,553.6	5,478.5	5,427.2	18.0	18.0	26.40	-1,362.5	230.9	737.6	709.7	27.84	26.495			
5,646.4	5,600.0	5,524.5	5,472.6	18.1	18.1	-176.99	-1,369.0	233.4	743.6	708.9	34.69	21.437			
5,700.0	5,653.6	5,577.4	5,525.0	18.2	18.3	-177.25	-1,376.4	236.3	751.0	716.0	34.98	21.469			
5,800.0	5,753.6	5,694.1	5,640.5	18.3	18.7	-177.76	-1,392.0	242.3	764.2	728.7	35.53	21.509			
5,900.0	5,853.6	5,826.2	5,771.9	18.4	19.0	-178.16	-1,404.6	247.2	773.6	737.6	35.98	21.504			
6,000.0	5,953.6	5,959.3	5,904.7	18.5	19.2	-178.37	-1,411.6	249.9	778.8	742.5	36.35	21.425			
6,100.0	6,053.6	6,083.2	6,028.6	18.7	19.4	-178.42	-1,413.1	250.5	779.9	743.3	36.67	21.271			
6,159.6	6,113.2	6,142.8	6,088.2	18.7	19.5	-178.42	-1,413.1	250.5	779.9	743.1	36.82	21.183			
6,200.0	6,153.6	6,182.7	6,128.1	18.8	19.5	-178.41	-1,413.1	250.3	779.9	743.0	36.92	21.125			
6,300.0	6,253.6	6,279.1	6,224.1	18.9	19.6	-177.80	-1,413.1	242.1	780.2	743.1	37.11	21.026			
6,320.8	6,274.3	6,298.8	6,243.5	18.9	19.6	-177.57	-1,413.1	238.9	780.3	743.2	37.13	21.014			
6,350.0	6,303.6	6,326.3	6,270.5	19.0	19.6	-87.20	-1,413.1	233.7	780.6	750.1	30.53	25.570			
6,400.0	6,353.4	6,372.9	6,315.8	19.0	19.7	-86.59	-1,413.1	222.5	781.0	750.3	30.70	25.438			
6,450.0	6,403.0	6,419.2	6,359.9	19.1	19.7	-86.00	-1,413.1	208.8	781.6	750.7	30.85	25.338			
6,500.0	6,451.9	6,465.0	6,402.8	19.1	19.7	-85.42	-1,413.1	192.6	782.2	751.2	30.96	25.266			
6,550.0	6,500.2	6,510.4	6,444.2	19.1	19.7	-84.86	-1,413.1	174.0	782.8	751.8	31.04	25.217			
6,600.0	6,547.4	6,555.4	6,484.1	19.1	19.7	-84.32	-1,413.1	153.2	783.6	752.4	31.11	25.186			
6,650.0	6,593.5	6,600.0	6,522.4	19.1	19.7	-83.81	-1,413.1	130.3	784.3	753.1	31.17	25.165			
6,700.0	6,638.2	6,644.5	6,559.2	19.1	19.7	-83.32	-1,413.1	105.2	785.0	753.8	31.22	25.143			
6,750.0	6,681.3	6,688.6	6,594.1	19.1	19.7	-82.86	-1,413.1	78.3	785.8	754.5	31.30	25.109			
6,800.0	6,722.8	6,732.5	6,627.3	19.1	19.7	-82.43	-1,413.1	49.7	786.6	755.2	31.40	25.051			
6,850.0	6,762.2	6,776.1	6,658.5	19.1	19.6	-82.03	-1,413.1	19.3	787.3	755.8	31.55	24.955			
6,900.0	6,799.6	6,819.4	6,687.9	19.1	19.6	-81.65	-1,413.1	-12.6	788.0	756.3	31.77	24.808			
6,950.0	6,834.8	6,862.6	6,715.2	19.1	19.6	-81.31	-1,413.1	-46.0	788.7	756.7	32.07	24.595			
7,000.0	6,867.6	6,905.5	6,740.6	19.1	19.7	-81.01	-1,413.1	-80.7	789.4	756.9	32.47	24.308			
7,050.0	6,897.8	6,950.0	6,764.7	19.1	19.7	-80.73	-1,413.1	-118.0	790.0	757.0	33.02	23.927			
7,100.0	6,925.3	6,991.0	6,785.0	19.1	19.7	-80.50	-1,413.1	-153.7	790.5	756.8	33.69	23.467			
7,150.0	6,950.1	7,033.6	6,803.9	19.2	19.8	-80.29	-1,413.1	-191.8	791.0	756.5	34.50	22.927			
7,200.0	6,971.9	7,076.1	6,820.7	19.2	19.8	-80.13	-1,413.1	-230.8	791.4	755.9	35.47	22.311			
7,250.0	6,990.8	7,118.4	6,835.3	19.4	20.0	-79.99	-1,413.1	-270.6	791.7	755.1	36.59	21.635			
7,300.0	7,006.6	7,160.8	6,847.7	19.7	20.3	-79.90	-1,413.1	-311.1	791.9	754.0	37.87	20.913			
7,350.0	7,019.3	7,200.0	6,857.1	20.3	20.7	-79.84	-1,413.1	-349.1	792.0	752.8	39.23	20.189			
7,400.0	7,028.8	7,245.3	6,865.5	21.1	21.2	-79.82	-1,413.1	-393.6	792.1	751.3	40.83	19.399			
7,450.0	7,035.0	7,287.6	6,871.0	21.9	21.9	-79.84	-1,413.1	-435.5	792.1	749.6	42.50	18.636			
7,500.0	7,038.0	7,329.8	6,874.1	22.9	22.6	-79.89	-1,413.1	-477.7	791.9	747.7	44.27	17.889			
7,519.7	7,038.3	7,350.0	6,874.8	23.2	23.0	-79.93	-1,413.1	-497.8	791.9	746.8	45.05	17.577			
7,542.6	7,038.3	7,365.9	6,875.0	23.7	23.3	-79.94	-1,413.1	-513.7	791.8	746.0	45.81	17.283			
7,600.0	7,038.4	7,422.8	6,874.8	24.8	24.4	-79.92	-1,413.1	-570.7	791.9	743.8	48.10	16.463			
7,700.0	7,038.5	7,522.8	6,874.4	27.0	26.5	-79.88	-1,413.1	-670.7	791.9	739.6	52.31	15.140			
7,800.0	7,038.7	7,622.8	6,874.0	29.2	28.7	-79.84	-1,413.1	-770.7	792.0	735.3	56.74	13.958			
7,900.0	7,038.8	7,722.8	6,873.7	31.6	31.0	-79.81	-1,413.1	-870.7	792.1	730.8	61.36	12.910			
8,000.0	7,038.9	7,822.8	6,873.3	34.0	33.4	-79.77	-1,413.1	-970.7	792.2	726.1	66.11	11.983			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33V-334 - Wellbore #1 - P													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
8,100.0	7,039.1	7,922.8	6,872.9	36.4	35.9	-79.74	-1,413.1	-1,070.7	792.3	721.3	70.97	11.164		
8,200.0	7,039.2	8,022.8	6,872.6	38.9	38.4	-79.70	-1,413.1	-1,170.7	792.4	716.5	75.92	10.437		
8,300.0	7,039.4	8,122.8	6,872.2	41.5	40.9	-79.66	-1,413.1	-1,270.7	792.5	711.5	80.95	9.790		
8,400.0	7,039.5	8,222.8	6,871.8	44.1	43.5	-79.63	-1,413.1	-1,370.7	792.6	706.5	86.03	9.212		
8,500.0	7,039.6	8,322.8	6,871.5	46.7	46.1	-79.59	-1,413.1	-1,470.7	792.7	701.5	91.17	8.695		
8,600.0	7,039.8	8,422.8	6,871.1	49.3	48.7	-79.56	-1,413.1	-1,570.7	792.8	696.4	96.34	8.229		
8,700.0	7,039.9	8,522.8	6,870.7	51.9	51.3	-79.52	-1,413.1	-1,670.7	792.8	691.3	101.55	7.807		
8,800.0	7,040.1	8,622.8	6,870.4	54.6	54.0	-79.48	-1,413.1	-1,770.7	792.9	686.1	106.79	7.425		
8,900.0	7,040.2	8,722.8	6,870.0	57.3	56.6	-79.45	-1,413.1	-1,870.7	793.0	681.0	112.06	7.077		
9,000.0	7,040.3	8,822.8	6,869.6	60.0	59.3	-79.41	-1,413.1	-1,970.7	793.1	675.8	117.34	6.759		
9,100.0	7,040.5	8,922.8	6,869.3	62.7	62.0	-79.38	-1,413.1	-2,070.7	793.2	670.6	122.65	6.467		
9,200.0	7,040.6	9,022.8	6,868.9	65.4	64.7	-79.34	-1,413.1	-2,170.6	793.3	665.3	127.97	6.199		
9,300.0	7,040.8	9,122.8	6,868.5	68.1	67.4	-79.31	-1,413.1	-2,270.6	793.4	660.1	133.31	5.952		
9,400.0	7,040.9	9,222.8	6,868.2	70.8	70.1	-79.27	-1,413.1	-2,370.6	793.5	654.8	138.65	5.723		
9,500.0	7,041.0	9,322.8	6,867.8	73.5	72.8	-79.23	-1,413.1	-2,470.6	793.6	649.6	144.01	5.511		
9,600.0	7,041.2	9,422.8	6,867.4	76.3	75.6	-79.20	-1,413.1	-2,570.6	793.7	644.3	149.38	5.313		
9,700.0	7,041.3	9,522.8	6,867.1	79.0	78.3	-79.16	-1,413.1	-2,670.6	793.8	639.0	154.76	5.129		
9,800.0	7,041.5	9,622.8	6,866.7	81.8	81.0	-79.13	-1,413.1	-2,770.6	793.9	633.7	160.14	4.957		
9,900.0	7,041.6	9,722.8	6,866.3	84.5	83.8	-79.09	-1,413.1	-2,870.6	794.0	628.4	165.53	4.797		
10,000.0	7,041.7	9,822.8	6,866.0	87.3	86.5	-79.05	-1,413.1	-2,970.6	794.1	623.1	170.93	4.646		
10,100.0	7,041.9	9,922.8	6,865.6	90.0	89.3	-79.02	-1,413.1	-3,070.6	794.2	617.8	176.33	4.504		
10,200.0	7,042.0	10,022.8	6,865.2	92.8	92.0	-78.98	-1,413.1	-3,170.6	794.3	612.5	181.73	4.370		
10,300.0	7,042.2	10,122.8	6,864.9	95.5	94.8	-78.95	-1,413.1	-3,270.6	794.4	607.2	187.14	4.245		
10,400.0	7,042.3	10,222.8	6,864.5	98.3	97.6	-78.91	-1,413.1	-3,370.6	794.5	601.9	192.56	4.126		
10,500.0	7,042.4	10,322.8	6,864.1	101.1	100.3	-78.87	-1,413.1	-3,470.6	794.6	596.6	197.97	4.013		
10,600.0	7,042.6	10,422.8	6,863.8	103.8	103.1	-78.84	-1,413.1	-3,570.6	794.7	591.3	203.39	3.907		
10,700.0	7,042.7	10,522.8	6,863.4	106.6	105.8	-78.80	-1,413.1	-3,670.6	794.8	585.9	208.81	3.806		
10,800.0	7,042.9	10,622.8	6,863.0	109.4	108.6	-78.77	-1,413.1	-3,770.6	794.8	580.6	214.24	3.710		
10,900.0	7,043.0	10,722.8	6,862.7	112.1	111.4	-78.73	-1,413.1	-3,870.6	794.9	575.3	219.66	3.619		
11,000.0	7,043.1	10,822.8	6,862.3	114.9	114.2	-78.70	-1,413.1	-3,970.6	795.0	570.0	225.09	3.532		
11,100.0	7,043.3	10,922.8	6,861.9	117.7	116.9	-78.66	-1,413.1	-4,070.6	795.1	564.6	230.52	3.449		
11,200.0	7,043.4	11,022.8	6,861.6	120.5	119.7	-78.62	-1,413.1	-4,170.6	795.2	559.3	235.95	3.370		
11,300.0	7,043.6	11,122.8	6,861.2	123.3	122.5	-78.59	-1,413.1	-4,270.6	795.3	554.0	241.38	3.295		
11,400.0	7,043.7	11,222.8	6,860.8	126.0	125.3	-78.55	-1,413.1	-4,370.6	795.4	548.6	246.81	3.223		
11,500.0	7,043.8	11,322.8	6,860.5	128.8	128.0	-78.52	-1,413.1	-4,470.6	795.5	543.3	252.24	3.154		
11,600.0	7,044.0	11,422.8	6,860.1	131.6	130.8	-78.48	-1,413.1	-4,570.6	795.6	538.0	257.68	3.088		
11,618.8	7,044.0	11,441.5	6,860.0	132.1	131.3	-78.47	-1,413.1	-4,589.4	795.7	537.0	258.70	3.076 ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33W-214 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
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			
0.0	0.0	0.0	0.0	0.0	0.0	-179.78	-717.7	-2.8	718.1						
100.0	100.0	76.0	76.0	0.1	0.1	-179.78	-717.7	-2.8	717.7	717.5	0.20	3,627.638			
200.0	200.0	176.0	176.0	0.3	0.3	-179.78	-717.7	-2.8	717.7	717.1	0.62	1,156.919			
300.0	300.0	276.0	276.0	0.5	0.5	23.51	-717.7	-2.8	716.5	715.4	1.06	678.238			
400.0	399.9	375.9	375.9	0.7	0.7	23.66	-717.7	-2.8	712.9	711.4	1.50	476.659			
500.0	499.7	464.2	464.2	1.0	0.9	23.86	-718.2	-2.6	707.5	705.6	1.91	371.065			
600.0	599.3	549.0	548.9	1.2	1.1	24.10	-720.5	-2.0	701.8	699.5	2.31	304.475			
700.0	698.6	633.8	633.6	1.5	1.2	24.38	-724.6	-1.0	695.9	693.2	2.71	256.616			
730.1	728.4	659.4	659.2	1.6	1.3	24.47	-726.2	-0.5	694.1	691.3	2.84	244.520			
800.0	797.6	718.7	718.4	1.8	1.4	24.65	-730.5	0.6	690.4	687.2	3.12	220.952			
900.0	896.7	800.0	799.3	2.2	1.6	24.87	-737.9	2.6	686.8	683.3	3.54	194.003			
1,000.0	995.7	889.2	887.8	2.5	1.9	25.06	-747.9	5.2	685.5	681.5	3.99	171.853			
1,012.9	1,008.5	900.0	898.6	2.5	1.9	25.08	-749.3	5.6	685.4	681.4	4.05	169.434 CC, ES			
1,100.0	1,094.7	974.5	972.3	2.8	2.1	25.19	-759.4	8.2	686.2	681.8	4.44	154.533			
1,200.0	1,193.8	1,059.8	1,056.5	3.2	2.4	25.28	-772.6	11.7	689.1	684.2	4.90	140.548			
1,300.0	1,292.8	1,144.9	1,140.2	3.5	2.7	25.32	-787.7	15.7	694.2	688.8	5.37	129.152			
1,400.0	1,391.9	1,238.4	1,231.8	3.9	3.1	25.32	-805.9	20.5	701.0	695.1	5.88	119.274			
1,500.0	1,490.9	1,338.2	1,329.5	4.2	3.5	25.32	-825.5	25.7	708.0	701.6	6.40	110.640			
1,600.0	1,589.9	1,437.9	1,427.1	4.6	3.9	25.32	-845.0	30.9	715.0	708.1	6.92	103.256			
1,700.0	1,689.0	1,537.7	1,524.8	4.9	4.3	25.32	-864.6	36.0	722.0	714.6	7.45	96.853			
1,800.0	1,788.0	1,637.4	1,622.5	5.3	4.7	25.32	-884.2	41.2	729.0	721.0	7.99	91.260			
1,900.0	1,887.1	1,737.2	1,720.2	5.6	5.2	25.32	-903.8	46.4	736.0	727.5	8.52	86.345			
2,000.0	1,986.1	1,836.9	1,817.8	6.0	5.6	25.31	-923.4	51.6	743.0	734.0	9.06	81.994			
2,100.0	2,085.1	1,936.7	1,915.5	6.3	6.1	25.31	-942.9	56.7	750.0	740.4	9.60	78.117			
2,200.0	2,184.2	2,036.4	2,013.2	6.7	6.5	25.31	-962.5	61.9	757.0	746.9	10.14	74.643			
2,300.0	2,283.2	2,136.2	2,110.9	7.0	6.9	25.31	-982.1	67.1	764.0	753.4	10.68	71.513			
2,400.0	2,382.2	2,235.9	2,208.6	7.4	7.4	25.31	-1,001.7	72.3	771.1	759.8	11.23	68.680			
2,500.0	2,481.3	2,335.7	2,306.2	7.7	7.8	25.31	-1,021.2	77.4	778.1	766.3	11.77	66.104			
2,600.0	2,580.3	2,435.5	2,403.9	8.1	8.3	25.31	-1,040.8	82.6	785.1	772.8	12.31	63.751			
2,700.0	2,679.4	2,535.2	2,501.6	8.4	8.7	25.30	-1,060.4	87.8	792.1	779.2	12.86	61.595			
2,800.0	2,778.4	2,635.0	2,599.3	8.8	9.2	25.30	-1,080.0	92.9	799.1	785.7	13.40	59.611 SF			

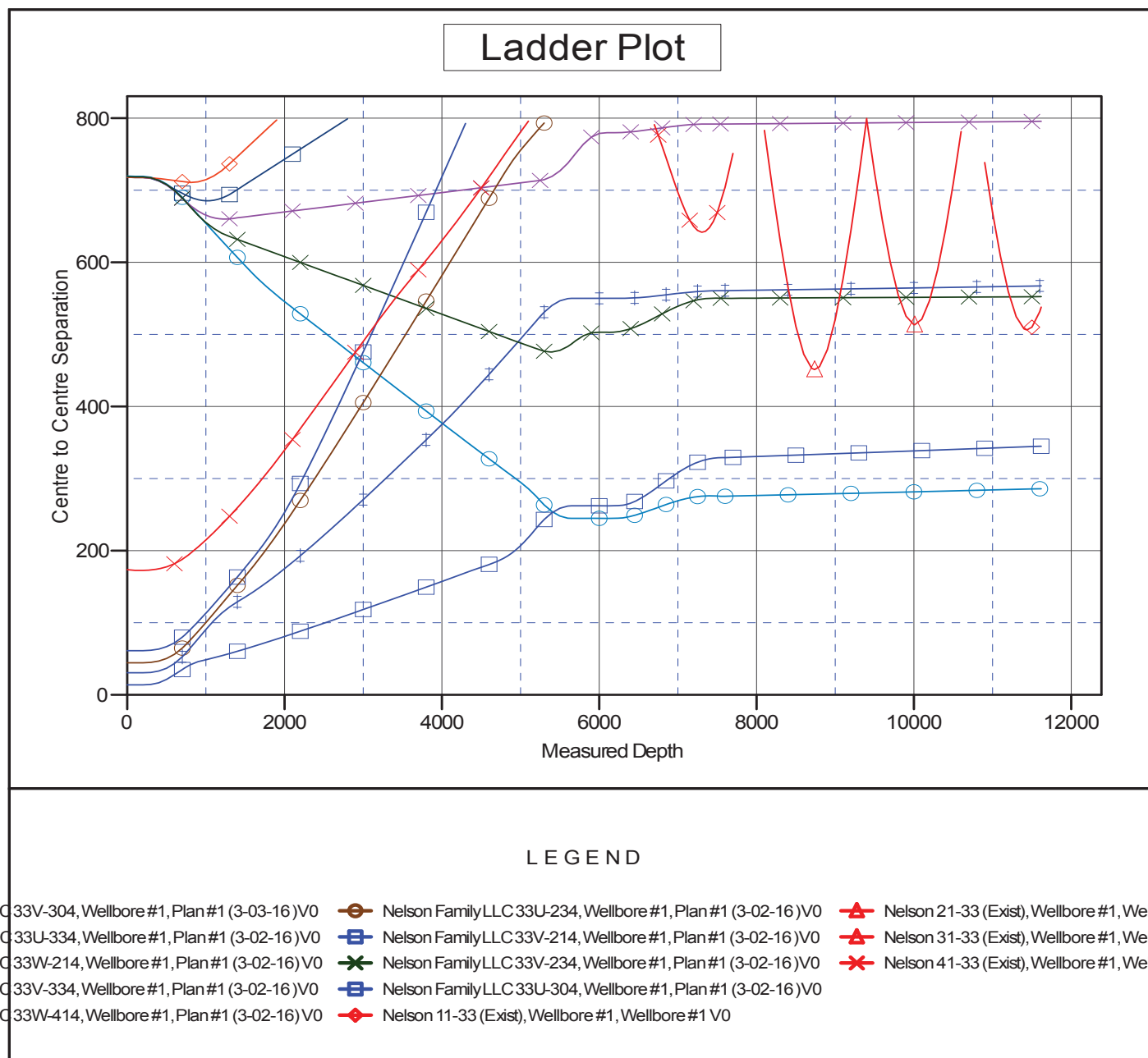
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W - Nelson Family LLC 33W-414 - Wellbore #1 - P														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	179.11	-717.7	11.1	718.2						
100.0	100.0	76.0	76.0	0.1	0.1	179.11	-717.7	11.1	717.8	717.6	0.20	3,628.006			
200.0	200.0	176.0	176.0	0.3	0.3	179.11	-717.7	11.1	717.8	717.2	0.62	1,157.036			
300.0	300.0	264.1	264.1	0.5	0.5	22.38	-718.2	11.3	717.2	716.2	1.01	706.715			
400.0	399.9	348.6	348.5	0.7	0.6	22.45	-720.5	11.7	716.3	714.9	1.40	513.124			
500.0	499.7	433.0	432.9	1.0	0.8	22.56	-724.7	12.5	715.2	713.4	1.79	398.486			
600.0	599.3	517.4	517.1	1.2	1.0	22.72	-730.6	13.7	713.8	711.6	2.21	322.675			
700.0	698.6	600.0	599.3	1.5	1.2	22.91	-738.2	15.3	712.2	709.5	2.64	269.736			
730.1	728.4	627.4	626.5	1.6	1.3	22.98	-741.1	15.9	711.6	708.9	2.78	256.106			
800.0	797.6	686.4	685.1	1.8	1.5	23.13	-748.0	17.2	710.9	707.8	3.08	230.769			
815.5	813.0	700.0	698.6	1.9	1.5	23.16	-749.7	17.6	710.9	707.7	3.15	225.706 CC, ES			
900.0	896.7	771.0	768.8	2.2	1.7	23.32	-759.4	19.5	711.7	708.2	3.53	201.852			
1,000.0	995.7	855.4	852.2	2.5	2.0	23.47	-772.7	22.2	714.7	710.7	3.98	179.435			
1,100.0	1,094.7	939.8	935.2	2.8	2.4	23.60	-787.7	25.2	719.9	715.4	4.45	161.758			
1,200.0	1,193.8	1,023.9	1,017.5	3.2	2.7	23.69	-804.5	28.6	727.2	722.3	4.93	147.616			
1,300.0	1,292.8	1,110.5	1,101.9	3.5	3.1	23.75	-823.5	32.4	736.6	731.2	5.42	135.924			
1,400.0	1,391.9	1,210.0	1,198.7	3.9	3.6	23.81	-846.1	37.0	746.8	740.8	5.95	125.540			
1,500.0	1,490.9	1,309.5	1,295.5	4.2	4.0	23.86	-868.7	41.5	756.9	750.5	6.48	116.828			
1,600.0	1,589.9	1,408.9	1,392.2	4.6	4.5	23.92	-891.3	46.0	767.1	760.1	7.02	109.334			
1,700.0	1,689.0	1,508.4	1,489.0	4.9	5.0	23.97	-913.9	50.6	777.3	769.7	7.56	102.873			
1,800.0	1,788.0	1,607.9	1,585.8	5.3	5.5	24.02	-936.5	55.1	787.4	779.3	8.10	97.245			
1,900.0	1,887.1	1,707.4	1,682.5	5.6	6.0	24.07	-959.1	59.7	797.6	789.0	8.64	92.302 SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4873.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

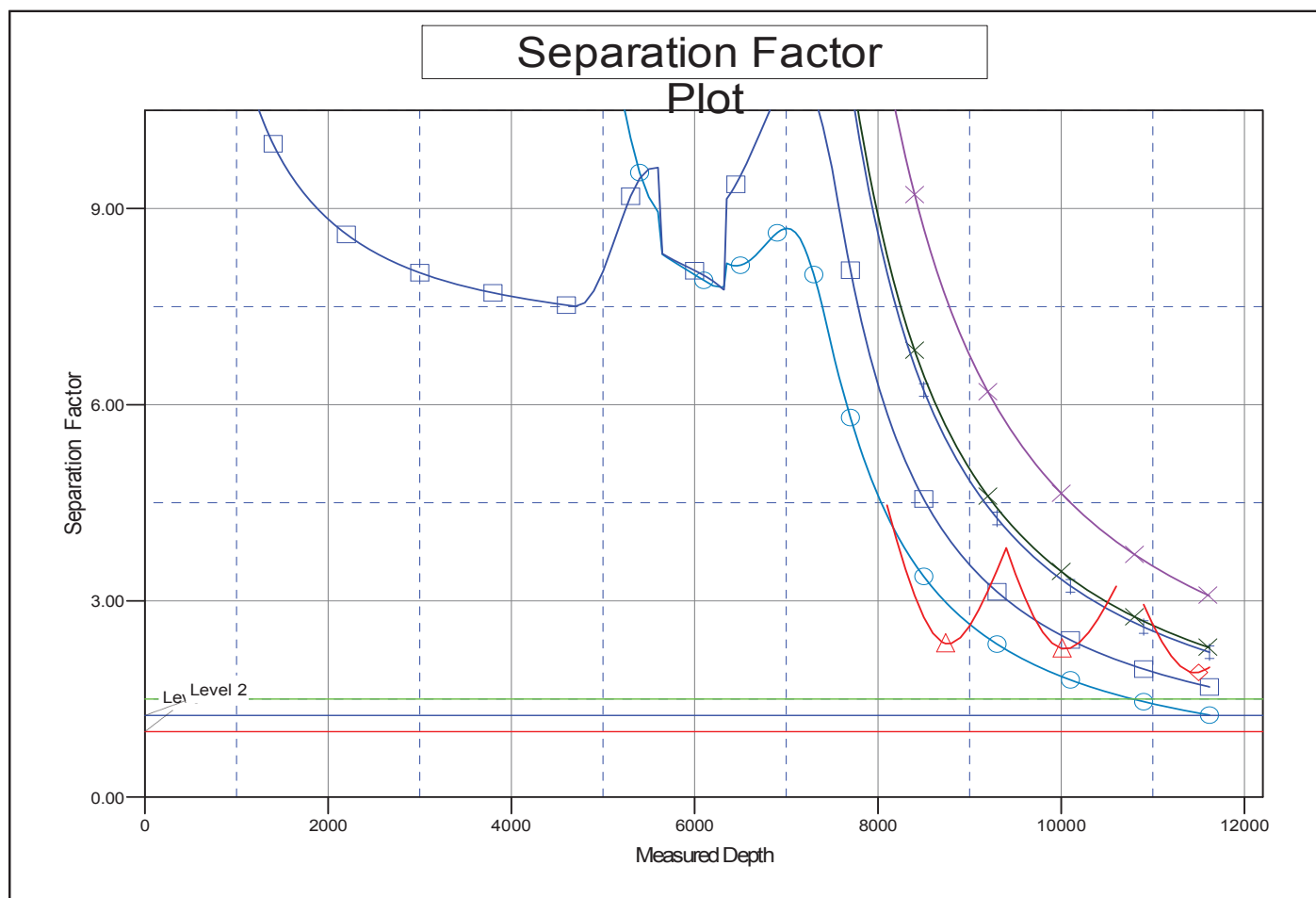
Coordinates are relative to: Nelson Family LLC 33V-404
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.39°



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Nelson Family LLC 33V-404
Project:	SEC.33-T5N-R67W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Reference Site:	Nelson Family LLC 5N67W33U Pad Sec.33-T5N-R67W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Nelson Family LLC 33V-404	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4873.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Nelson Family LLC 33V-404
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°



LEGEND

LC 33V-304, Wellbore #1, Plan #1 (3-03-16) V0	Nelson Family LLC 33U-234, Wellbore #1, Plan #1 (3-02-16) V0	Nelson 21-33 (Exist), Wellbore #1, Wellbo
LC 33U-334, Wellbore #1, Plan #1 (3-02-16) V0	Nelson Family LLC 33V-214, Wellbore #1, Plan #1 (3-02-16) V0	Nelson 31-33 (Exist), Wellbore #1, Wellbo
LC 33W-214, Wellbore #1, Plan #1 (3-02-16) V0	Nelson Family LLC 33V-234, Wellbore #1, Plan #1 (3-02-16) V0	Nelson 41-33 (Exist), Wellbore #1, Wellbo
LC 33V-334, Wellbore #1, Plan #1 (3-02-16) V0	Nelson Family LLC 33U-304, Wellbore #1, Plan #1 (3-02-16) V0	
LC 33W-414, Wellbore #1, Plan #1 (3-02-16) V0	Nelson 11-33 (Exist), Wellbore #1, Wellbore #1 V0	