

PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **High Pointe LLC 10F-202**

Surface Location: High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

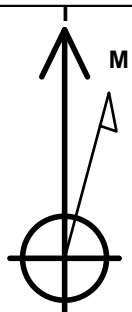
Ground Elevation: 4924.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1396094.25 170735.96 40.419060 -104.886790

Original Well Elev WELL @ 4937.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 799'FNL & 425'FWL	1.0	0.0	0.0	Point
BHL 1240'FNL & 500'FEL	7006.0	-422.2	4215.7	Point



Azimuths to True North
Magnetic North: 9.09°

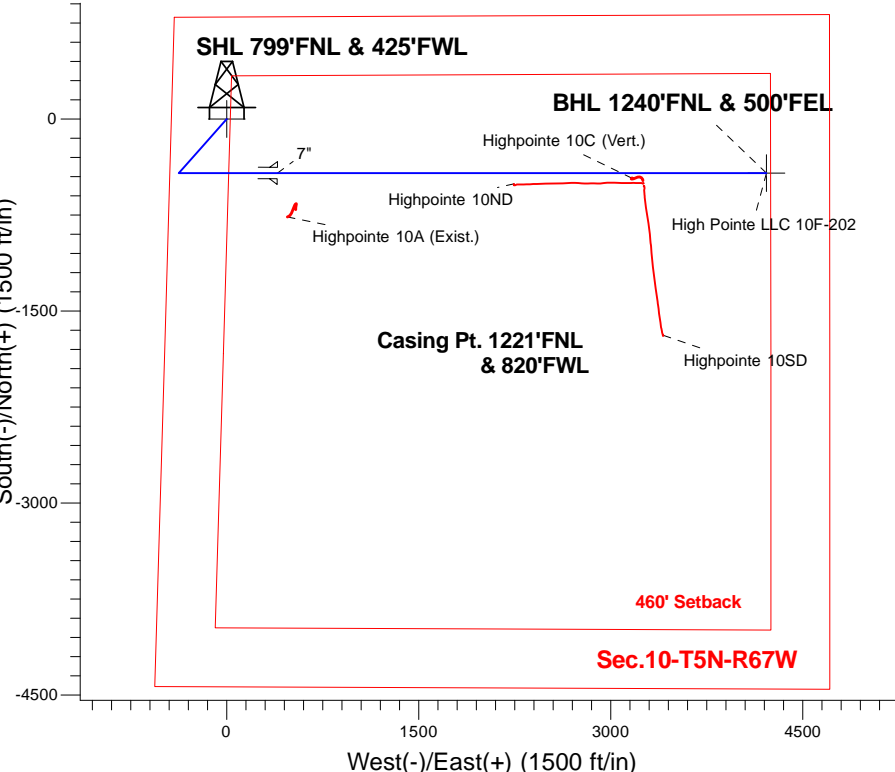
Magnetic Field
Strength: 53300.2snT
Dip Angle: 67.10°
Date: 12/31/2009
Model: IGRF200510

High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
High Pointe LLC 10F-202
Plan #1 (1-18-16)
12:34, February 01 2016

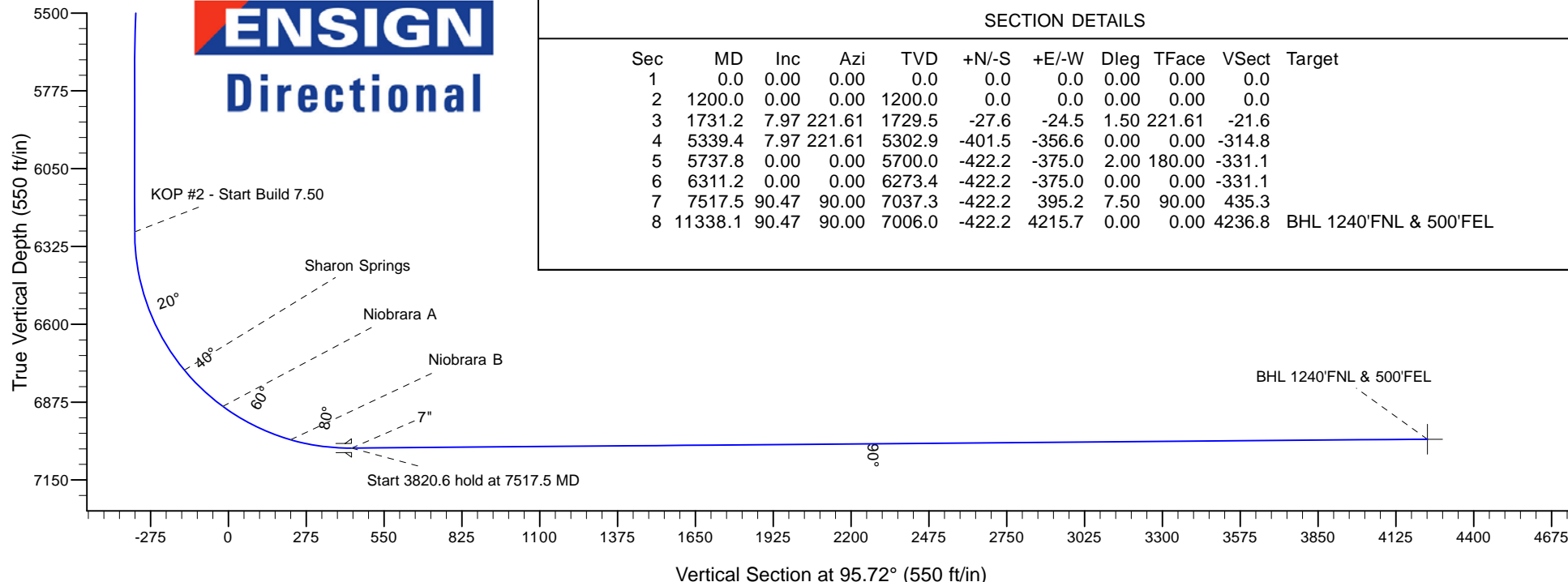
ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP - Start Build 1.50
5302.9	5339.4	Start Drop -2.00
6273.4	6311.2	KOP #2 - Start Build 7.50
7037.3	7517.5	Start 3820.6 hold at 7517.5 MD
7006.0	11338.1	TD at 11338.1

South(-)/North(+) (1500 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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1731.2	7.97	221.61	1729.5	-27.6	-24.5	1.50	221.61	-21.6	
4	5339.4	7.97	221.61	5302.9	-401.5	-356.6	0.00	0.00	-314.8	
5	5737.8	0.00	0.00	5700.0	-422.2	-375.0	2.00	180.00	-331.1	
6	6311.2	0.00	0.00	6273.4	-422.2	-375.0	0.00	0.00	-331.1	
7	7517.5	90.47	90.00	7037.3	-422.2	395.2	7.50	90.00	435.3	
8	11338.1	90.47	90.00	7006.0	-422.2	4215.7	0.00	0.00	4236.8	BHL 1240'FNL & 500'FEL



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W

High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W

High Pointe LLC 10F-202

Wellbore #1

Plan: Plan #1 (1-18-16)

Standard Planning Report

01 February, 2016

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	North Reference:	True
Well:	High Pointe LLC 10F-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-16)		

Project	SEC.10-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		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W			
Site Position:		Northing:	1,396,156.18 usft	Latitude:	40.419230
From:	Lat/Long	Easting:	3,170,735.53 usft	Longitude:	-104.886790
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40

Well	High Pointe LLC 10F-202					
Well Position	+N/-S	-61.9 ft	Northing:	1,396,094.25 usft	Latitude:	40.419060
	+E/-W	0.0 ft	Easting:	3,170,735.96 usft	Longitude:	-104.886790
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,924.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.09	67.10	53,300

Design	Plan #1 (1-18-16)			
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	95.72

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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,731.2	7.97	221.61	1,729.5	-27.6	-24.5	1.50	1.50	0.00	221.61	
5,339.4	7.97	221.61	5,302.9	-401.5	-356.6	0.00	0.00	0.00	0.00	
5,737.8	0.00	0.00	5,700.0	-422.2	-375.0	2.00	-2.00	0.00	180.00	
6,311.2	0.00	0.00	6,273.4	-422.2	-375.0	0.00	0.00	0.00	0.00	
7,517.5	90.47	90.00	7,037.3	-422.2	395.2	7.50	7.50	0.00	90.00	
11,338.1	90.47	90.00	7,006.0	-422.2	4,215.7	0.00	0.00	0.00	0.00	BHL 1240'FNL & 500'

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Well:	High Pointe LLC 10F-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-16)		

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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 799'FNL & 425'FWL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
1,300.0	1.50	221.61	1,300.0	-1.0	-0.9	-0.8	1.50	1.50	0.00
1,400.0	3.00	221.61	1,399.9	-3.9	-3.5	-3.1	1.50	1.50	0.00
1,500.0	4.50	221.61	1,499.7	-8.8	-7.8	-6.9	1.50	1.50	0.00
1,600.0	6.00	221.61	1,599.3	-15.6	-13.9	-12.3	1.50	1.50	0.00
1,700.0	7.50	221.61	1,698.6	-24.4	-21.7	-19.2	1.50	1.50	0.00
1,731.2	7.97	221.61	1,729.5	-27.6	-24.5	-21.6	1.50	1.50	0.00
1,800.0	7.97	221.61	1,797.6	-34.7	-30.8	-27.2	0.00	0.00	0.00
1,900.0	7.97	221.61	1,896.7	-45.1	-40.0	-35.3	0.00	0.00	0.00
2,000.0	7.97	221.61	1,995.7	-55.4	-49.2	-43.5	0.00	0.00	0.00
2,100.0	7.97	221.61	2,094.7	-65.8	-58.4	-51.6	0.00	0.00	0.00
2,200.0	7.97	221.61	2,193.8	-76.2	-67.6	-59.7	0.00	0.00	0.00
2,300.0	7.97	221.61	2,292.8	-86.5	-76.8	-67.8	0.00	0.00	0.00
2,400.0	7.97	221.61	2,391.8	-96.9	-86.1	-76.0	0.00	0.00	0.00
2,500.0	7.97	221.61	2,490.9	-107.2	-95.3	-84.1	0.00	0.00	0.00
2,600.0	7.97	221.61	2,589.9	-117.6	-104.5	-92.2	0.00	0.00	0.00
2,700.0	7.97	221.61	2,688.9	-128.0	-113.7	-100.3	0.00	0.00	0.00
2,800.0	7.97	221.61	2,788.0	-138.3	-122.9	-108.5	0.00	0.00	0.00
2,900.0	7.97	221.61	2,887.0	-148.7	-132.1	-116.6	0.00	0.00	0.00
3,000.0	7.97	221.61	2,986.0	-159.1	-141.3	-124.7	0.00	0.00	0.00
3,100.0	7.97	221.61	3,085.1	-169.4	-150.5	-132.9	0.00	0.00	0.00
3,200.0	7.97	221.61	3,184.1	-179.8	-159.7	-141.0	0.00	0.00	0.00
3,300.0	7.97	221.61	3,283.1	-190.2	-168.9	-149.1	0.00	0.00	0.00
3,400.0	7.97	221.61	3,382.2	-200.5	-178.1	-157.2	0.00	0.00	0.00
3,500.0	7.97	221.61	3,481.2	-210.9	-187.3	-165.4	0.00	0.00	0.00
3,544.2	7.97	221.61	3,525.0	-215.5	-191.4	-169.0	0.00	0.00	0.00
Parkman									
3,600.0	7.97	221.61	3,580.2	-221.2	-196.5	-173.5	0.00	0.00	0.00
3,700.0	7.97	221.61	3,679.3	-231.6	-205.7	-181.6	0.00	0.00	0.00
3,800.0	7.97	221.61	3,778.3	-242.0	-214.9	-189.7	0.00	0.00	0.00
3,900.0	7.97	221.61	3,877.4	-252.3	-224.1	-197.9	0.00	0.00	0.00
4,000.0	7.97	221.61	3,976.4	-262.7	-233.3	-206.0	0.00	0.00	0.00
4,100.0	7.97	221.61	4,075.4	-273.1	-242.5	-214.1	0.00	0.00	0.00
4,200.0	7.97	221.61	4,174.5	-283.4	-251.7	-222.2	0.00	0.00	0.00
4,240.9	7.97	221.61	4,215.0	-287.7	-255.5	-225.6	0.00	0.00	0.00
Sussex									
4,300.0	7.97	221.61	4,273.5	-293.8	-261.0	-230.4	0.00	0.00	0.00

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Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	North Reference:	True
Well:	High Pointe LLC 10F-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-16)		

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)
4,400.0	7.97	221.61	4,372.5	-304.2	-270.2	-238.5	0.00	0.00	0.00
4,500.0	7.97	221.61	4,471.6	-314.5	-279.4	-246.6	0.00	0.00	0.00
4,600.0	7.97	221.61	4,570.6	-324.9	-288.6	-254.8	0.00	0.00	0.00
4,632.7	7.97	221.61	4,603.0	-328.3	-291.6	-257.4	0.00	0.00	0.00
Shannon									
4,700.0	7.97	221.61	4,669.6	-335.3	-297.8	-262.9	0.00	0.00	0.00
4,800.0	7.97	221.61	4,768.7	-345.6	-307.0	-271.0	0.00	0.00	0.00
4,900.0	7.97	221.61	4,867.7	-356.0	-316.2	-279.1	0.00	0.00	0.00
5,000.0	7.97	221.61	4,966.7	-366.3	-325.4	-287.3	0.00	0.00	0.00
5,100.0	7.97	221.61	5,065.8	-376.7	-334.6	-295.4	0.00	0.00	0.00
5,200.0	7.97	221.61	5,164.8	-387.1	-343.8	-303.5	0.00	0.00	0.00
5,300.0	7.97	221.61	5,263.8	-397.4	-353.0	-311.6	0.00	0.00	0.00
5,339.4	7.97	221.61	5,302.9	-401.5	-356.6	-314.8	0.00	0.00	0.00
Start Drop -2.00									
5,400.0	6.76	221.61	5,363.0	-407.3	-361.8	-319.4	2.00	-2.00	0.00
5,500.0	4.76	221.61	5,462.4	-414.8	-368.4	-325.3	2.00	-2.00	0.00
5,600.0	2.76	221.61	5,562.2	-419.7	-372.8	-329.1	2.00	-2.00	0.00
5,700.0	0.76	221.61	5,662.2	-422.0	-374.8	-330.9	2.00	-2.00	0.00
5,737.8	0.00	0.00	5,700.0	-422.2	-375.0	-331.1	2.00	-2.00	0.00
5,800.0	0.00	0.00	5,762.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,862.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,962.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,062.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,162.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,262.2	-422.2	-375.0	-331.1	0.00	0.00	0.00
6,311.2	0.00	0.00	6,273.4	-422.2	-375.0	-331.1	0.00	0.00	0.00
KOP #2 - Start Build 7.50									
6,400.0	6.66	90.00	6,362.0	-422.2	-369.9	-325.9	7.50	7.50	0.00
6,500.0	14.16	90.00	6,460.3	-422.2	-351.8	-308.0	7.50	7.50	0.00
6,600.0	21.66	90.00	6,555.3	-422.2	-321.1	-277.4	7.50	7.50	0.00
6,700.0	29.16	90.00	6,645.6	-422.2	-278.2	-234.7	7.50	7.50	0.00
6,800.0	36.66	90.00	6,729.5	-422.2	-223.9	-180.7	7.50	7.50	0.00
6,841.4	39.76	90.00	6,762.0	-422.2	-198.3	-155.3	7.50	7.50	0.00
Sharon Springs									
6,900.0	44.16	90.00	6,805.6	-422.2	-159.1	-116.3	7.50	7.50	0.00
7,000.0	51.66	90.00	6,872.6	-422.2	-85.0	-42.5	7.50	7.50	0.00
7,028.8	53.81	90.00	6,890.0	-422.2	-62.1	-19.7	7.50	7.50	0.00
Niobrara A									
7,100.0	59.16	90.00	6,929.3	-422.2	-2.7	39.4	7.50	7.50	0.00
7,200.0	66.66	90.00	6,974.8	-422.2	86.2	127.9	7.50	7.50	0.00
7,298.7	74.06	90.00	7,008.0	-422.2	179.2	220.4	7.50	7.50	0.00
Niobrara B									
7,300.0	74.16	90.00	7,008.3	-422.2	180.4	221.6	7.50	7.50	0.00
7,400.0	81.66	90.00	7,029.3	-422.2	278.1	318.8	7.50	7.50	0.00
7,500.0	89.16	90.00	7,037.3	-422.2	377.7	417.9	7.50	7.50	0.00
7,517.5	90.47	90.00	7,037.3	-422.2	395.2	435.3	7.50	7.50	0.00
Start 3820.6 hold at 7517.5 MD - 7"									
7,600.0	90.47	90.00	7,036.7	-422.2	477.7	517.4	0.00	0.00	0.00
7,700.0	90.47	90.00	7,035.8	-422.2	577.7	616.9	0.00	0.00	0.00
7,800.0	90.47	90.00	7,035.0	-422.2	677.7	716.4	0.00	0.00	0.00
7,900.0	90.47	90.00	7,034.2	-422.2	777.7	815.9	0.00	0.00	0.00

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8,000.0	90.47	90.00	7,033.4	-422.2	877.7	915.4	0.00	0.00	0.00
8,100.0	90.47	90.00	7,032.6	-422.2	977.7	1,014.9	0.00	0.00	0.00
8,200.0	90.47	90.00	7,031.7	-422.2	1,077.7	1,114.4	0.00	0.00	0.00
8,300.0	90.47	90.00	7,030.9	-422.2	1,177.7	1,213.9	0.00	0.00	0.00
8,400.0	90.47	90.00	7,030.1	-422.2	1,277.7	1,313.4	0.00	0.00	0.00
8,500.0	90.47	90.00	7,029.3	-422.2	1,377.7	1,412.9	0.00	0.00	0.00
8,600.0	90.47	90.00	7,028.5	-422.2	1,477.7	1,512.4	0.00	0.00	0.00
8,700.0	90.47	90.00	7,027.6	-422.2	1,577.7	1,611.9	0.00	0.00	0.00
8,800.0	90.47	90.00	7,026.8	-422.2	1,677.7	1,711.4	0.00	0.00	0.00
8,900.0	90.47	90.00	7,026.0	-422.2	1,777.6	1,810.9	0.00	0.00	0.00
9,000.0	90.47	90.00	7,025.2	-422.2	1,877.6	1,910.4	0.00	0.00	0.00
9,100.0	90.47	90.00	7,024.4	-422.2	1,977.6	2,009.9	0.00	0.00	0.00
9,200.0	90.47	90.00	7,023.5	-422.2	2,077.6	2,109.4	0.00	0.00	0.00
9,300.0	90.47	90.00	7,022.7	-422.2	2,177.6	2,208.9	0.00	0.00	0.00
9,400.0	90.47	90.00	7,021.9	-422.2	2,277.6	2,308.4	0.00	0.00	0.00
9,500.0	90.47	90.00	7,021.1	-422.2	2,377.6	2,407.9	0.00	0.00	0.00
9,600.0	90.47	90.00	7,020.3	-422.2	2,477.6	2,507.4	0.00	0.00	0.00
9,700.0	90.47	90.00	7,019.4	-422.2	2,577.6	2,606.9	0.00	0.00	0.00
9,800.0	90.47	90.00	7,018.6	-422.2	2,677.6	2,706.4	0.00	0.00	0.00
9,900.0	90.47	90.00	7,017.8	-422.2	2,777.6	2,805.9	0.00	0.00	0.00
10,000.0	90.47	90.00	7,017.0	-422.2	2,877.6	2,905.4	0.00	0.00	0.00
10,100.0	90.47	90.00	7,016.2	-422.2	2,977.6	3,004.9	0.00	0.00	0.00
10,200.0	90.47	90.00	7,015.3	-422.2	3,077.6	3,104.4	0.00	0.00	0.00
10,300.0	90.47	90.00	7,014.5	-422.2	3,177.6	3,203.9	0.00	0.00	0.00
10,400.0	90.47	90.00	7,013.7	-422.2	3,277.6	3,303.4	0.00	0.00	0.00
10,500.0	90.47	90.00	7,012.9	-422.2	3,377.6	3,402.9	0.00	0.00	0.00
10,600.0	90.47	90.00	7,012.1	-422.2	3,477.6	3,502.4	0.00	0.00	0.00
10,700.0	90.47	90.00	7,011.2	-422.2	3,577.6	3,601.9	0.00	0.00	0.00
10,800.0	90.47	90.00	7,010.4	-422.2	3,677.6	3,701.4	0.00	0.00	0.00
10,900.0	90.47	90.00	7,009.6	-422.2	3,777.6	3,800.9	0.00	0.00	0.00
11,000.0	90.47	90.00	7,008.8	-422.2	3,877.6	3,900.4	0.00	0.00	0.00
11,100.0	90.47	90.00	7,008.0	-422.2	3,977.6	3,999.9	0.00	0.00	0.00
11,200.0	90.47	90.00	7,007.1	-422.2	4,077.6	4,099.4	0.00	0.00	0.00
11,300.0	90.47	90.00	7,006.3	-422.2	4,177.6	4,198.9	0.00	0.00	0.00
11,338.1	90.47	90.00	7,006.0	-422.2	4,215.7	4,236.8	0.00	0.00	0.00
TD at 11338.1 - BHL 1240'FNL & 500'FEL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 799'FNL & 425'FWI	0.00	0.00	1.0	0.0	0.0	1,396,094.25	3,170,735.96	40.419060	-104.886790
- plan hits target center									
- Point									
BHL 1240'FNL & 500'FE	0.00	0.00	7,006.0	-422.2	4,215.7	1,395,701.19	3,174,954.31	40.417900	-104.871650
- plan hits target center									
- Point									

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	North Reference:	True
Well:	High Pointe LLC 10F-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-16)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,517.5	7,037.3	7"	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,544.2	3,525.0	Parkman		0.00		
4,240.9	4,215.0	Sussex		0.00		
4,632.7	4,603.0	Shannon		0.00		
6,841.4	6,762.0	Sharon Springs		0.00		
7,028.8	6,890.0	Niobrara A		0.00		
7,298.7	7,008.0	Niobrara B		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 1.50	
5,339.4	5,302.9	-27.6	-24.5	Start Drop -2.00	
6,311.2	6,273.4	-401.5	-356.6	KOP #2 - Start Build 7.50	
7,517.5	7,037.3	-422.2	-375.0	Start 3820.6 hold at 7517.5 MD	
11,338.1	7,006.0	-422.2	-375.0	TD at 11338.1	



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W

High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W

High Pointe LLC 10F-202

Wellbore #1

Plan #1 (1-18-16)

Anticollision Report

01 February, 2016



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (1-18-16)		
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 1,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 2/1/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,337.2	Plan #1 (1-18-16) (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 Pad Sec.10-T5N-R67W						
Highpointe 10A (Exist.) - Wellbore #1 - Wellbore #1	7,600.7	7,029.5	340.9	301.5	8.662	CC, ES
Highpointe 10A (Exist.) - Wellbore #1 - Wellbore #1	7,700.0	7,027.6	355.1	313.6	8.564	SF
High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W						
High Pointe LLC 10F-212 - Wellbore #1 - Plan #1 (1-18-1	1,200.0	1,199.0	32.8	27.6	6.345	CC, ES
High Pointe LLC 10F-212 - Wellbore #1 - Plan #1 (1-18-1	11,338.1	11,327.6	462.7	215.6	1.873	SF
High Pointe LLC 10F-232 - Wellbore #1 - Plan #1 (1-18-1	800.0	800.0	29.3	25.9	8.684	CC, ES
High Pointe LLC 10F-232 - Wellbore #1 - Plan #1 (1-18-1	11,338.1	11,416.5	597.5	350.9	2.423	SF
High Pointe LLC 10F-302 - Wellbore #1 - Plan #1 (1-18-1	1,000.0	1,000.0	14.8	10.6	3.475	CC, ES
High Pointe LLC 10F-302 - Wellbore #1 - Plan #1 (1-18-1	11,338.1	11,422.4	282.1	40.1	1.166	Level 2, SF
High Pointe LLC 10G-312 - Wellbore #1 - Plan #1 (1-18-1	1,200.0	1,200.0	14.6	9.4	2.819	CC
High Pointe LLC 10F-312 - Wellbore #1 - Plan #1 (1-18-1	11,338.1	11,396.0	242.6	4.4	1.019	Level 2, ES, SF
High Pointe LLC 10G-202 - Wellbore #1 - Plan #1 (1-18-1	200.0	200.0	58.4	57.7	86.547	CC, ES
High Pointe LLC 10G-202 - Wellbore #1 - Plan #1 (1-18-1	800.0	786.5	104.1	100.6	30.524	SF
High Pointe LLC 10G-312 - Wellbore #1 - Plan #1 (1-18-1	400.0	400.0	43.8	42.2	27.843	CC, ES
High Pointe LLC 10G-312 - Wellbore #1 - Plan #1 (1-18-1	11,338.1	11,519.0	868.3	622.2	3.528	SF
Highpointe 10ND Pad Sec.10-T5N-R67W						
Highpointe 10C (Vert.) - Wellbore #1 - Wellbore #1	10,286.9	7,037.5	38.5	-69.2	0.357	Level 1, CC, ES, SF
Highpointe 10ND - Wellbore #1 - Wellbore #1	9,364.4	7,175.8	86.5	-6.4	0.932	Level 1, CC, ES, SF
Highpointe 10SD - Wellbore #1 - Wellbore #1						Out of range

Offset Design Existing Wells Pad Sec.10-T5N-R67W - Highpointe 10A (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 270-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	142.75	-706.8	537.4	887.9				
100.0	100.0	98.8	98.8	0.1	0.1	142.73	-706.3	537.4	887.5	887.3	0.24	3,637.302	
200.0	200.0	206.1	206.1	0.3	0.3	142.67	-704.7	537.4	886.4	885.7	0.61	1,449.176	
300.0	300.0	312.4	312.4	0.6	0.5	142.56	-702.0	537.4	884.4	883.3	1.03	854.808	
400.0	400.0	417.3	417.2	0.8	0.8	142.41	-698.4	537.7	881.8	880.2	1.54	572.948	
500.0	500.0	522.3	522.1	1.0	1.0	142.19	-693.8	538.4	878.7	876.6	2.04	429.894	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Pad Sec.10-T5N-R67W - Highpointe 10A (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft
Survey Program:		270-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			
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
600.0	600.0	629.3	628.9	1.2	1.3	141.89	-687.8	539.4	874.8	872.3	2.56	342.179			
700.0	700.0	736.0	735.4	1.5	1.6	141.51	-680.3	540.9	870.2	867.2	3.07	283.559			
800.0	800.0	830.2	829.3	1.7	1.9	141.13	-673.2	542.5	865.4	861.8	3.55	243.898			
900.0	900.0	923.3	922.2	1.9	2.1	140.81	-667.3	544.1	861.5	857.5	4.02	214.122			
1,000.0	1,000.0	1,017.5	1,016.2	2.1	2.4	140.59	-662.9	544.8	858.4	853.9	4.50	190.950			
1,100.0	1,100.0	1,112.8	1,111.5	2.4	2.6	140.55	-660.7	543.6	855.8	850.9	4.93	173.727			
1,200.0	1,200.0	1,201.6	1,200.3	2.6	2.7	140.64	-660.3	541.6	854.1	848.8	5.27	162.072			
1,300.0	1,300.0	1,293.0	1,291.7	2.8	2.8	-80.97	-661.0	540.4	853.5	848.0	5.52	154.529			
1,400.0	1,399.9	1,393.7	1,392.4	3.0	2.8	-81.15	-661.8	539.4	852.9	847.2	5.77	147.802			
1,500.0	1,499.7	1,491.7	1,490.3	3.2	2.9	-81.46	-663.1	537.8	852.0	845.9	6.05	140.913			
1,600.0	1,599.3	1,590.7	1,589.4	3.4	3.0	-81.92	-664.8	536.1	850.9	844.5	6.35	133.983			
1,700.0	1,698.6	1,689.3	1,687.9	3.6	3.1	-82.56	-666.5	534.6	849.5	842.8	6.70	126.748			
1,731.2	1,729.5	1,719.9	1,718.5	3.7	3.2	-82.80	-667.0	534.2	849.1	842.3	6.82	124.539			
1,800.0	1,797.6	1,787.5	1,786.1	3.8	3.3	-83.34	-668.0	533.4	848.2	841.1	7.08	119.811			
1,900.0	1,896.7	1,885.7	1,884.3	4.1	3.4	-84.13	-669.6	532.3	847.1	839.7	7.47	113.374			
2,000.0	1,995.7	1,983.9	1,982.4	4.4	3.5	-84.94	-671.1	531.5	846.4	838.5	7.88	107.447			
2,100.0	2,094.7	2,082.0	2,080.5	4.7	3.6	-85.76	-672.6	530.9	845.9	837.6	8.29	102.011			
2,200.0	2,193.8	2,181.6	2,180.1	5.0	3.8	-86.60	-674.1	530.4	845.7	837.0	8.76	96.506			
2,300.0	2,292.8	2,281.7	2,280.2	5.3	4.0	-87.43	-675.7	529.7	845.6	836.3	9.25	91.397			
2,400.0	2,391.8	2,381.8	2,380.2	5.6	4.2	-88.25	-677.3	528.8	845.6	835.8	9.75	86.756			
2,401.0	2,392.8	2,382.8	2,381.2	5.6	4.2	-88.26	-677.3	528.8	845.6	835.8	9.75	86.712			
2,500.0	2,490.9	2,481.9	2,480.4	5.9	4.4	-89.06	-679.0	527.8	845.6	835.4	10.25	82.530			
2,600.0	2,589.9	2,582.1	2,580.5	6.2	4.6	-89.86	-680.7	526.5	845.7	834.9	10.75	78.673			
2,700.0	2,688.9	2,678.9	2,677.3	6.5	4.8	-90.62	-682.5	525.3	846.0	834.8	11.27	75.079			
2,800.0	2,788.0	2,775.0	2,773.4	6.8	5.0	-91.37	-684.6	524.3	846.9	835.1	11.79	71.814			
2,900.0	2,887.0	2,871.1	2,869.5	7.2	5.2	-92.12	-686.9	523.5	848.3	835.9	12.32	68.858			
3,000.0	2,986.0	2,967.3	2,965.6	7.5	5.4	-92.85	-689.6	522.9	850.2	837.3	12.85	66.175			
3,100.0	3,085.1	3,063.4	3,061.7	7.8	5.6	-93.58	-692.5	522.6	852.6	839.2	13.38	63.735			
3,200.0	3,184.1	3,163.6	3,161.8	8.2	5.8	-94.33	-695.7	522.4	855.4	841.5	13.93	61.417			
3,300.0	3,283.1	3,266.4	3,264.6	8.5	6.0	-95.09	-698.9	521.9	858.0	843.5	14.49	59.208			
3,400.0	3,382.2	3,369.2	3,367.3	8.8	6.2	-95.85	-701.9	521.1	860.4	845.3	15.06	57.147			
3,500.0	3,481.2	3,472.0	3,470.1	9.2	6.5	-96.60	-704.6	519.9	862.5	846.9	15.62	55.216			
3,600.0	3,580.2	3,574.9	3,572.9	9.5	6.7	-97.34	-707.1	518.3	864.3	848.1	16.18	53.403			
3,700.0	3,679.3	3,673.5	3,671.5	9.8	7.0	-98.05	-709.5	516.6	866.1	849.3	16.75	51.696			
3,800.0	3,778.3	3,770.8	3,768.8	10.2	7.2	-98.73	-712.1	515.0	868.2	850.9	17.32	50.118			
3,900.0	3,877.4	3,868.1	3,866.0	10.5	7.4	-99.40	-715.0	513.5	870.7	852.8	17.89	48.662			
4,000.0	3,976.4	3,965.5	3,963.3	10.9	7.7	-100.04	-718.2	512.0	873.5	855.1	18.46	47.314			
4,100.0	4,075.4	4,062.9	4,060.6	11.2	7.9	-100.67	-721.7	510.7	876.7	857.7	19.03	46.067			
4,200.0	4,174.5	4,162.5	4,160.2	11.5	8.1	-101.31	-725.4	509.4	880.2	860.6	19.61	44.886			
4,300.0	4,273.5	4,263.5	4,261.1	11.9	8.4	-101.97	-728.8	508.2	883.6	863.4	20.19	43.762			
4,400.0	4,372.5	4,364.5	4,362.0	12.2	8.7	-102.64	-731.9	506.9	887.0	866.2	20.77	42.701			
4,500.0	4,471.6	4,465.4	4,462.9	12.6	8.9	-103.34	-734.5	505.7	890.3	869.0	21.35	41.698			
4,600.0	4,570.6	4,566.2	4,563.6	12.9	9.2	-104.05	-736.7	504.5	893.6	871.7	21.93	40.750			
4,700.0	4,669.6	4,665.8	4,663.3	13.3	9.4	-104.77	-738.5	503.4	896.9	874.4	22.51	39.852			
4,800.0	4,768.7	4,764.9	4,762.3	13.6	9.7	-105.48	-740.4	502.2	900.4	877.3	23.08	39.007			
4,900.0	4,867.7	4,864.0	4,861.4	13.9	9.9	-106.19	-742.2	501.2	904.0	880.3	23.66	38.212			
5,000.0	4,966.7	4,963.0	4,960.4	14.3	10.2	-106.89	-744.0	500.1	907.8	883.6	24.23	37.465			
5,100.0	5,065.8	5,062.1	5,059.5	14.6	10.4	-107.59	-745.8	499.1	911.8	886.9	24.80	36.760			
5,200.0	5,164.8	5,162.0	5,159.3	15.0	10.7	-108.29	-747.6	498.1	915.8	890.5	25.38	36.091			
5,300.0	5,263.8	5,262.3	5,259.7	15.3	10.9	-108.98	-749.3	497.0	920.0	894.0	25.95	35.452			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.10-T5N-R67W - Highpointe 10A (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:		0.0 ft
Survey Program: 270-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)				
5,339.4	5,302.9	5,301.9	5,299.2	15.5	11.0	-109.26	-750.0	496.5	921.6	895.4	26.18	35.208			
5,400.0	5,363.0	5,362.8	5,360.1	15.6	11.2	-109.68	-751.0	495.8	923.9	897.4	26.49	34.874			
5,500.0	5,462.4	5,463.5	5,460.8	15.9	11.5	-110.21	-752.5	494.5	926.7	899.7	26.95	34.381			
5,600.0	5,562.2	5,564.5	5,561.8	16.1	11.7	-110.50	-754.1	493.1	928.2	900.8	27.39	33.884			
5,700.0	5,662.2	5,665.4	5,662.7	16.2	12.0	-110.57	-755.5	491.6	928.4	900.6	27.81	33.389			
5,737.8	5,700.0	5,703.6	5,700.8	16.3	12.1	111.08	-756.0	491.0	928.2	902.9	25.23	36.791			
5,800.0	5,762.2	5,766.2	5,763.4	16.4	12.2	111.14	-756.7	490.1	927.6	902.1	25.50	36.377			
5,900.0	5,862.2	5,867.0	5,864.2	16.5	12.5	111.24	-757.8	488.6	926.5	900.6	25.93	35.734			
6,000.0	5,962.2	5,967.8	5,965.0	16.7	12.7	111.32	-758.7	487.0	925.4	899.0	26.36	35.106			
6,100.0	6,062.2	6,068.6	6,065.8	16.8	13.0	111.40	-759.4	485.4	924.2	897.4	26.79	34.493			
6,200.0	6,162.2	6,167.2	6,164.4	17.0	13.2	111.47	-759.9	483.9	923.0	895.7	27.22	33.909			
6,300.0	6,262.2	6,264.8	6,262.0	17.1	13.5	111.52	-760.4	482.7	922.0	894.3	27.64	33.354			
6,311.2	6,273.4	6,275.8	6,273.0	17.1	13.5	111.52	-760.4	482.6	921.9	894.2	27.69	33.293			
6,350.0	6,312.2	6,313.6	6,310.8	17.2	13.6	21.60	-760.6	482.2	920.7	890.3	30.36	30.321			
6,400.0	6,362.0	6,362.2	6,359.4	17.2	13.7	21.83	-760.8	481.8	916.5	886.1	30.38	30.165			
6,450.0	6,411.4	6,410.5	6,407.6	17.3	13.8	22.22	-760.9	481.4	909.3	879.0	30.29	30.022			
6,500.0	6,460.3	6,458.1	6,455.3	17.3	13.9	22.78	-761.1	481.2	899.3	869.2	30.09	29.890			
6,550.0	6,508.3	6,505.0	6,502.2	17.3	14.0	23.53	-761.2	481.0	886.4	856.6	29.78	29.761			
6,600.0	6,555.3	6,551.0	6,548.1	17.3	14.2	24.47	-761.3	480.9	870.7	841.3	29.39	29.627			
6,650.0	6,601.2	6,600.0	6,597.1	17.3	14.3	25.71	-761.4	480.8	852.3	823.4	28.93	29.459			
6,700.0	6,645.6	6,640.8	6,637.9	17.2	14.4	27.11	-761.5	480.8	831.4	803.0	28.40	29.268			
6,750.0	6,688.4	6,684.2	6,681.3	17.2	14.5	28.89	-761.6	480.7	807.9	780.0	27.87	28.987			
6,800.0	6,729.5	6,725.8	6,722.9	17.2	14.6	31.03	-761.7	480.6	782.0	754.7	27.36	28.588			
6,850.0	6,768.6	6,765.3	6,762.4	17.1	14.7	33.59	-761.9	480.4	754.0	727.1	26.92	28.012			
6,900.0	6,805.6	6,802.6	6,799.7	17.1	14.8	36.62	-762.0	480.2	724.0	697.4	26.62	27.196			
6,950.0	6,840.3	6,837.5	6,834.6	17.1	14.9	40.18	-762.1	480.0	692.4	665.8	26.55	26.076			
7,000.0	6,872.6	6,869.9	6,867.0	17.0	15.0	44.30	-762.3	479.8	659.3	632.5	26.78	24.621			
7,050.0	6,902.3	6,899.6	6,896.7	17.0	15.0	49.00	-762.4	479.6	625.1	597.7	27.35	22.856			
7,100.0	6,929.3	6,926.5	6,923.6	17.1	15.1	54.23	-762.5	479.4	590.1	561.9	28.26	20.879			
7,150.0	6,953.5	6,950.5	6,947.7	17.2	15.2	59.86	-762.7	479.2	554.9	525.4	29.46	18.835			
7,200.0	6,974.8	6,971.6	6,968.7	17.5	15.2	65.68	-762.8	479.0	519.8	489.0	30.81	16.872			
7,250.0	6,993.1	6,989.5	6,986.6	18.0	15.2	71.41	-762.9	478.8	485.6	453.4	32.17	15.094			
7,300.0	7,008.3	7,004.3	7,001.4	18.7	15.3	76.73	-763.0	478.6	452.9	419.4	33.44	13.544			
7,350.0	7,020.4	7,015.9	7,013.1	19.4	15.3	81.38	-763.0	478.5	422.5	387.9	34.55	12.226			
7,400.0	7,029.3	7,024.3	7,021.4	20.2	15.3	85.15	-763.1	478.4	395.4	359.8	35.55	11.123			
7,450.0	7,034.9	7,029.4	7,026.5	21.1	15.3	87.91	-763.1	478.4	372.7	336.2	36.47	10.220			
7,500.0	7,037.3	7,031.2	7,028.3	22.1	15.4	89.60	-763.1	478.4	355.5	318.1	37.37	9.511			
7,517.5	7,037.3	7,031.1	7,028.2	22.4	15.4	89.93	-763.1	478.4	350.9	313.2	37.70	9.308			
7,600.0	7,036.7	7,029.5	7,026.6	24.1	15.3	89.66	-763.1	478.4	340.9	301.6	39.34	8.666			
7,600.7	7,036.7	7,029.5	7,026.6	24.1	15.3	89.66	-763.1	478.4	340.9	301.5	39.35	8.662 CC, ES			
7,700.0	7,035.8	7,027.6	7,024.8	26.2	15.3	89.35	-763.1	478.4	355.1	313.6	41.46	8.564 SF			
7,800.0	7,035.0	7,025.7	7,022.9	28.5	15.3	89.03	-763.1	478.4	394.9	351.2	43.70	9.035			
7,900.0	7,034.2	7,023.9	7,021.0	30.8	15.3	88.72	-763.1	478.4	453.6	407.6	46.03	9.854			
8,000.0	7,033.4	7,022.0	7,019.1	33.2	15.3	88.40	-763.1	478.5	525.0	476.5	48.44	10.838			
8,100.0	7,032.6	7,020.2	7,017.3	35.7	15.3	88.09	-763.0	478.5	604.5	553.6	50.89	11.877			
8,200.0	7,031.7	7,018.3	7,015.4	38.2	15.3	87.78	-763.0	478.5	689.4	636.0	53.40	12.910			
8,300.0	7,030.9	7,016.5	7,013.6	40.7	15.3	87.47	-763.0	478.5	777.8	721.9	55.94	13.906			
8,400.0	7,030.1	7,014.6	7,011.8	43.3	15.3	87.17	-763.0	478.5	868.8	810.3	58.50	14.851			
8,500.0	7,029.3	7,012.8	7,010.0	45.9	15.3	86.86	-763.0	478.6	961.6	900.5	61.09	15.739			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-212 - Wellbore #1 - Plan #1													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+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	0.00	32.8	0.0	32.8	32.8	0.00	N/A			
100.0	100.0	99.0	99.0	0.1	0.1	0.00	32.8	0.0	32.8	32.6	0.22	146.623			
200.0	200.0	199.0	199.0	0.3	0.3	0.00	32.8	0.0	32.8	32.1	0.67	48.791			
300.0	300.0	299.0	299.0	0.6	0.6	0.00	32.8	0.0	32.8	31.7	1.12	29.235			
400.0	400.0	399.0	399.0	0.8	0.8	0.00	32.8	0.0	32.8	31.2	1.57	20.870			
500.0	500.0	499.0	499.0	1.0	1.0	0.00	32.8	0.0	32.8	30.8	2.02	16.227			
600.0	600.0	599.0	599.0	1.2	1.2	0.00	32.8	0.0	32.8	30.3	2.47	13.274			
700.0	700.0	699.0	699.0	1.5	1.5	0.00	32.8	0.0	32.8	29.9	2.92	11.230			
800.0	800.0	799.0	799.0	1.7	1.7	0.00	32.8	0.0	32.8	29.4	3.37	9.732			
900.0	900.0	899.0	899.0	1.9	1.9	0.00	32.8	0.0	32.8	29.0	3.82	8.586			
1,000.0	1,000.0	999.0	999.0	2.1	2.1	0.00	32.8	0.0	32.8	28.5	4.27	7.682			
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	0.00	32.8	0.0	32.8	28.1	4.72	6.950			
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	0.00	32.8	0.0	32.8	27.6	5.17	6.345 CC, ES			
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	139.85	32.8	0.0	33.8	28.2	5.59	6.040			
1,400.0	1,399.9	1,398.9	1,398.9	3.0	3.0	143.76	32.8	0.0	36.9	30.9	6.00	6.147			
1,500.0	1,499.7	1,498.7	1,498.7	3.2	3.3	148.96	32.8	0.0	42.3	35.9	6.41	6.605			
1,600.0	1,599.3	1,598.3	1,598.3	3.4	3.5	154.27	32.8	0.0	50.4	43.6	6.82	7.389			
1,700.0	1,698.6	1,697.6	1,697.6	3.6	3.7	158.99	32.8	0.0	61.2	54.0	7.23	8.463			
1,731.2	1,729.5	1,728.5	1,728.5	3.7	3.8	160.30	32.8	0.0	65.1	57.8	7.36	8.851			
1,800.0	1,797.6	1,796.6	1,796.6	3.8	3.9	162.78	32.8	0.0	74.2	66.5	7.65	9.698			
1,900.0	1,896.7	1,895.7	1,895.7	4.1	4.1	165.46	32.8	0.0	87.5	79.5	8.08	10.836			
2,000.0	1,995.7	1,994.7	1,994.7	4.4	4.4	167.44	32.8	0.0	101.0	92.5	8.51	11.871			
2,100.0	2,094.7	2,094.6	2,094.6	4.7	4.6	168.61	32.8	-0.8	114.2	105.3	8.93	12.784			
2,200.0	2,193.8	2,194.9	2,194.9	5.0	4.8	168.85	32.9	-3.3	126.6	117.2	9.35	13.536			
2,300.0	2,292.8	2,295.4	2,295.2	5.3	5.0	168.41	32.9	-7.6	138.1	128.3	9.78	14.123			
2,400.0	2,391.8	2,396.0	2,395.6	5.6	5.2	167.44	33.1	-13.7	148.8	138.6	10.22	14.565			
2,500.0	2,490.9	2,496.6	2,496.0	5.9	5.4	166.03	33.2	-21.5	158.8	148.1	10.67	14.882			
2,600.0	2,589.9	2,597.3	2,596.2	6.2	5.6	164.24	33.4	-31.1	168.1	156.9	11.14	15.093			
2,700.0	2,688.9	2,698.0	2,696.2	6.5	5.9	162.12	33.7	-42.5	176.8	165.2	11.62	15.214			
2,800.0	2,788.0	2,798.5	2,795.9	6.8	6.1	159.69	33.9	-55.5	185.2	173.0	12.13	15.262			
2,900.0	2,887.0	2,898.8	2,895.2	7.2	6.4	156.98	34.2	-70.3	193.3	180.6	12.67	15.251			
3,000.0	2,986.0	2,998.3	2,993.3	7.5	6.7	154.18	34.6	-86.3	201.5	188.2	13.24	15.215			
3,100.0	3,085.1	3,097.5	3,091.2	7.8	7.0	151.59	34.9	-102.2	210.1	196.2	13.83	15.192			
3,200.0	3,184.1	3,196.7	3,189.1	8.2	7.3	149.20	35.2	-118.1	219.1	204.6	14.43	15.181			
3,300.0	3,283.1	3,295.9	3,287.1	8.5	7.6	147.01	35.5	-134.0	228.4	213.4	15.05	15.180			
3,400.0	3,382.2	3,395.1	3,385.0	8.8	7.9	144.99	35.9	-150.0	238.1	222.4	15.68	15.187			
3,500.0	3,481.2	3,494.3	3,482.9	9.2	8.2	143.13	36.2	-165.9	248.0	231.7	16.32	15.201			
3,600.0	3,580.2	3,593.5	3,580.8	9.5	8.5	141.41	36.5	-181.8	258.2	241.2	16.96	15.221			
3,700.0	3,679.3	3,692.7	3,678.7	9.8	8.8	139.83	36.8	-197.7	268.6	251.0	17.62	15.245			
3,800.0	3,778.3	3,791.8	3,776.6	10.2	9.2	138.36	37.2	-213.7	279.2	260.9	18.28	15.273			
3,900.0	3,877.4	3,891.0	3,874.5	10.5	9.5	137.00	37.5	-229.6	289.9	271.0	18.94	15.304			
4,000.0	3,976.4	3,990.2	3,972.4	10.9	9.8	135.74	37.8	-245.5	300.8	281.2	19.61	15.338			
4,100.0	4,075.4	4,089.4	4,070.3	11.2	10.2	134.56	38.2	-261.4	311.8	291.5	20.28	15.373			
4,200.0	4,174.5	4,188.6	4,168.2	11.5	10.5	133.47	38.5	-277.4	323.0	302.0	20.96	15.410			
4,300.0	4,273.5	4,287.8	4,266.1	11.9	10.9	132.45	38.8	-293.3	334.2	312.6	21.64	15.448			
4,400.0	4,372.5	4,387.0	4,364.0	12.2	11.2	131.49	39.1	-309.2	345.6	323.3	22.32	15.487			
4,500.0	4,471.6	4,486.2	4,461.9	12.6	11.6	130.60	39.5	-325.1	357.0	334.0	23.00	15.526			
4,600.0	4,570.6	4,585.8	4,560.3	12.9	11.9	129.77	39.8	-341.1	368.6	344.9	23.67	15.570			
4,700.0	4,669.6	4,687.4	4,660.9	13.3	12.2	129.34	40.1	-354.9	379.7	355.5	24.25	15.658			
4,800.0	4,768.7	4,789.2	4,762.2	13.6	12.4	129.46	40.3	-365.1	390.3	365.5	24.78	15.749			
4,900.0	4,867.7	4,890.9	4,863.7	13.9	12.6	130.09	40.4	-371.8	400.3	375.0	25.27	15.843			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-212 - Wellbore #1 - Plan #1													Offset Site Error: 0.0 ft		
Survey Program: 0-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
5,000.0	4,966.7	4,992.3	4,965.0	14.3	12.8	131.18	40.5	-374.8	409.8	384.1	25.70	15.945			
5,100.0	5,065.8	5,092.1	5,064.8	14.6	13.0	132.58	40.5	-375.0	419.1	393.0	26.10	16.058			
5,200.0	5,164.8	5,191.1	5,163.8	15.0	13.1	133.94	40.5	-375.0	428.7	402.2	26.51	16.170			
5,300.0	5,263.8	5,290.1	5,262.8	15.3	13.3	135.24	40.5	-375.0	438.5	411.6	26.92	16.288			
5,339.4	5,302.9	5,329.2	5,301.9	15.5	13.4	135.73	40.5	-375.0	442.4	415.3	27.08	16.337			
5,400.0	5,363.0	5,389.2	5,361.9	15.6	13.5	136.50	40.5	-375.0	448.0	420.7	27.33	16.395			
5,500.0	5,462.4	5,488.7	5,461.4	15.9	13.7	137.47	40.5	-375.0	455.4	427.7	27.69	16.444			
5,600.0	5,562.2	5,588.5	5,561.2	16.1	13.9	138.08	40.5	-375.0	460.2	432.2	28.05	16.409			
5,700.0	5,662.2	5,688.5	5,661.2	16.2	14.1	138.37	40.5	-375.0	462.5	434.1	28.39	16.293			
5,737.8	5,700.0	5,726.3	5,699.0	16.3	14.2	0.00	40.5	-375.0	462.7	435.4	27.24	16.984			
5,800.0	5,762.2	5,788.5	5,761.2	16.4	14.3	0.00	40.5	-375.0	462.7	435.2	27.48	16.838			
5,900.0	5,862.2	5,888.5	5,861.2	16.5	14.5	0.00	40.5	-375.0	462.7	434.8	27.85	16.614			
6,000.0	5,962.2	5,988.5	5,961.2	16.7	14.7	0.00	40.5	-375.0	462.7	434.5	28.22	16.394			
6,100.0	6,062.2	6,088.5	6,061.2	16.8	14.8	0.00	40.5	-375.0	462.7	434.1	28.60	16.179			
6,200.0	6,162.2	6,188.5	6,161.2	17.0	15.0	0.00	40.5	-375.0	462.7	433.7	28.97	15.969			
6,300.0	6,262.2	6,288.5	6,261.2	17.1	15.2	0.00	40.5	-375.0	462.7	433.3	29.35	15.763			
6,311.2	6,273.4	6,299.7	6,272.4	17.1	15.3	0.00	40.5	-375.0	462.7	433.3	29.40	15.740			
6,350.0	6,312.2	6,338.5	6,311.1	17.2	15.3	-90.01	40.5	-374.1	462.7	432.0	30.73	15.057			
6,400.0	6,362.0	6,388.5	6,361.0	17.2	15.4	-90.01	40.5	-370.0	462.7	431.8	30.85	15.000			
6,450.0	6,411.4	6,438.5	6,410.4	17.3	15.4	-90.02	40.5	-362.6	462.7	431.8	30.92	14.962			
6,500.0	6,460.3	6,488.5	6,459.3	17.3	15.5	-90.03	40.5	-352.0	462.7	431.7	30.97	14.941			
6,550.0	6,508.3	6,538.5	6,507.4	17.3	15.5	-90.04	40.5	-338.3	462.7	431.7	30.99	14.932			
6,600.0	6,555.3	6,588.5	6,554.5	17.3	15.5	-90.05	40.5	-321.4	462.7	431.7	30.98	14.933			
6,650.0	6,601.2	6,638.6	6,600.4	17.3	15.5	-90.05	40.5	-301.5	462.7	431.7	30.98	14.937			
6,700.0	6,645.6	6,688.6	6,644.8	17.2	15.5	-90.06	40.5	-278.6	462.7	431.7	30.97	14.939			
6,750.0	6,688.4	6,738.6	6,687.7	17.2	15.5	-90.07	40.5	-252.9	462.7	431.7	30.99	14.931			
6,800.0	6,729.5	6,788.7	6,728.9	17.2	15.6	-90.07	40.5	-224.4	462.7	431.6	31.04	14.904			
6,850.0	6,768.6	6,838.7	6,768.0	17.1	15.6	-90.08	40.5	-193.3	462.7	431.5	31.16	14.851			
6,900.0	6,805.6	6,888.8	6,805.1	17.1	15.8	-90.09	40.5	-159.6	462.7	431.3	31.35	14.760			
6,950.0	6,840.3	6,938.8	6,839.9	17.1	15.9	-90.09	40.5	-123.7	462.7	431.0	31.64	14.624			
7,000.0	6,872.6	6,988.8	6,872.2	17.0	16.2	-90.10	40.5	-85.5	462.7	430.6	32.05	14.435			
7,050.0	6,902.3	7,038.9	6,902.0	17.0	16.5	-90.10	40.5	-45.3	462.7	430.1	32.61	14.190			
7,100.0	6,929.3	7,089.0	6,929.1	17.1	16.8	-90.11	40.5	-3.2	462.7	429.4	33.31	13.889			
7,150.0	6,953.5	7,139.0	6,953.3	17.2	17.3	-90.11	40.5	40.6	462.7	428.5	34.18	13.536			
7,200.0	6,974.8	7,189.1	6,974.7	17.5	17.8	-90.11	40.5	85.9	462.7	427.5	35.22	13.137			
7,250.0	6,993.1	7,239.1	6,993.0	18.0	18.4	-90.12	40.5	132.4	462.7	426.3	36.43	12.702			
7,300.0	7,008.3	7,289.2	7,008.3	18.7	19.1	-90.12	40.5	180.1	462.7	424.9	37.79	12.243			
7,350.0	7,020.4	7,339.3	7,020.4	19.4	19.9	-90.12	40.5	228.7	462.7	423.4	39.31	11.771			
7,400.0	7,029.3	7,389.3	7,029.3	20.2	20.7	-90.12	40.5	277.9	462.7	421.7	40.95	11.298			
7,450.0	7,034.9	7,439.4	7,034.9	21.1	21.6	-90.12	40.5	327.7	462.7	420.0	42.71	10.833			
7,500.0	7,037.3	7,489.5	7,037.3	22.1	22.5	-90.12	40.5	377.7	462.7	418.1	44.56	10.383			
7,517.5	7,037.3	7,507.0	7,037.3	22.4	22.9	-90.12	40.5	395.2	462.7	417.5	45.23	10.231			
7,600.0	7,036.7	7,589.5	7,036.7	24.1	24.5	-90.12	40.5	477.7	462.7	414.2	48.51	9.538			
7,700.0	7,035.8	7,689.5	7,035.8	26.2	26.6	-90.12	40.5	577.7	462.7	409.9	52.76	8.770			
7,800.0	7,035.0	7,789.5	7,035.0	28.5	28.9	-90.12	40.5	677.7	462.7	405.4	57.24	8.084			
7,900.0	7,034.2	7,889.5	7,034.2	30.8	31.2	-90.12	40.5	777.7	462.7	400.8	61.90	7.474			
8,000.0	7,033.4	7,989.5	7,033.4	33.2	33.6	-90.12	40.5	877.7	462.7	396.0	66.71	6.935			
8,100.0	7,032.6	8,089.5	7,032.6	35.7	36.1	-90.12	40.5	977.7	462.7	391.0	71.64	6.458			
8,200.0	7,031.7	8,189.5	7,031.7	38.2	38.6	-90.12	40.5	1,077.7	462.7	386.0	76.66	6.035			
8,300.0	7,030.9	8,289.5	7,030.9	40.7	41.1	-90.12	40.5	1,177.7	462.7	380.9	81.76	5.659			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-212 - Wellbore #1 - Plan #1													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)			
8,400.0	7,030.1	8,389.5	7,030.1	43.3	43.7	-90.12	40.5	1,277.7	462.7	375.8	86.92	5.323		
8,500.0	7,029.3	8,489.5	7,029.3	45.9	46.3	-90.12	40.5	1,377.7	462.7	370.6	92.13	5.022		
8,600.0	7,028.5	8,589.5	7,028.5	48.5	48.9	-90.12	40.5	1,477.7	462.7	365.3	97.39	4.751		
8,700.0	7,027.6	8,689.5	7,027.6	51.2	51.6	-90.12	40.5	1,577.7	462.7	360.0	102.69	4.506		
8,800.0	7,026.8	8,789.5	7,026.8	53.9	54.3	-90.12	40.5	1,677.7	462.7	354.7	108.01	4.284		
8,900.0	7,026.0	8,889.5	7,026.0	56.5	56.9	-90.12	40.5	1,777.7	462.7	349.3	113.37	4.081		
9,000.0	7,025.2	8,989.5	7,025.2	59.2	59.6	-90.12	40.5	1,877.7	462.7	343.9	118.74	3.897		
9,100.0	7,024.4	9,089.5	7,024.4	61.9	62.3	-90.12	40.5	1,977.7	462.7	338.5	124.14	3.727		
9,200.0	7,023.5	9,189.5	7,023.5	64.6	65.0	-90.12	40.5	2,077.7	462.7	333.1	129.56	3.571		
9,300.0	7,022.7	9,289.5	7,022.7	67.3	67.7	-90.12	40.5	2,177.6	462.7	327.7	134.99	3.428		
9,400.0	7,021.9	9,389.5	7,021.9	70.1	70.5	-90.12	40.5	2,277.6	462.7	322.2	140.43	3.295		
9,500.0	7,021.1	9,489.5	7,021.1	72.8	73.2	-90.12	40.5	2,377.6	462.7	316.8	145.89	3.171		
9,600.0	7,020.3	9,589.5	7,020.3	75.5	75.9	-90.12	40.5	2,477.6	462.7	311.3	151.36	3.057		
9,700.0	7,019.4	9,689.5	7,019.4	78.3	78.7	-90.12	40.5	2,577.6	462.7	305.8	156.84	2.950		
9,800.0	7,018.6	9,789.5	7,018.6	81.0	81.4	-90.12	40.5	2,677.6	462.7	300.4	162.33	2.850		
9,900.0	7,017.8	9,889.5	7,017.8	83.8	84.1	-90.12	40.5	2,777.6	462.7	294.9	167.82	2.757		
10,000.0	7,017.0	9,989.5	7,017.0	86.5	86.9	-90.12	40.5	2,877.6	462.7	289.4	173.33	2.669		
10,100.0	7,016.2	10,089.5	7,016.2	89.3	89.7	-90.12	40.5	2,977.6	462.7	283.8	178.84	2.587		
10,200.0	7,015.3	10,189.5	7,015.3	92.0	92.4	-90.12	40.5	3,077.6	462.7	278.3	184.35	2.510		
10,300.0	7,014.5	10,289.5	7,014.5	94.8	95.2	-90.12	40.4	3,177.6	462.7	272.8	189.87	2.437		
10,400.0	7,013.7	10,389.5	7,013.7	97.5	97.9	-90.12	40.4	3,277.6	462.7	267.3	195.40	2.368		
10,500.0	7,012.9	10,489.5	7,012.9	100.3	100.7	-90.12	40.4	3,377.6	462.7	261.7	200.93	2.303		
10,600.0	7,012.1	10,589.5	7,012.1	103.1	103.5	-90.12	40.4	3,477.6	462.7	256.2	206.47	2.241		
10,700.0	7,011.2	10,689.5	7,011.2	105.8	106.2	-90.12	40.4	3,577.6	462.7	250.7	212.01	2.182		
10,800.0	7,010.4	10,789.5	7,010.4	108.6	109.0	-90.12	40.4	3,677.6	462.7	245.1	217.55	2.127		
10,900.0	7,009.6	10,889.5	7,009.6	111.4	111.8	-90.12	40.4	3,777.6	462.7	239.6	223.10	2.074		
11,000.0	7,008.8	10,989.5	7,008.8	114.2	114.6	-90.12	40.4	3,877.6	462.7	234.0	228.64	2.024		
11,100.0	7,008.0	11,089.5	7,008.0	116.9	117.3	-90.12	40.4	3,977.6	462.7	228.5	234.20	1.976		
11,200.0	7,007.1	11,189.5	7,007.1	119.7	120.1	-90.12	40.4	4,077.6	462.7	222.9	239.75	1.930		
11,300.0	7,006.3	11,289.5	7,006.3	122.5	122.9	-90.12	40.4	4,177.6	462.7	217.4	245.31	1.886		
11,338.1	7,006.0	11,327.6	7,006.0	123.2	123.9	-90.12	40.4	4,215.7	462.7	215.6	247.05	1.873 SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-232 - Wellbore #1 - Plan #1													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 Depth (ft)	Measured Depth Depth (ft)	Vertical Depth Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (ft)	Centre +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	-174.54	-29.1	-2.8	29.3	29.3	0.00	N/A			
100.0	100.0	100.0	100.0	0.1	0.1	-174.54	-29.1	-2.8	29.3	29.1	0.22	130.272			
200.0	200.0	200.0	200.0	0.3	0.3	-174.54	-29.1	-2.8	29.3	28.6	0.67	43.421			
300.0	300.0	300.0	300.0	0.6	0.6	-174.54	-29.1	-2.8	29.3	28.2	1.12	26.052			
400.0	400.0	400.0	400.0	0.8	0.8	-174.54	-29.1	-2.8	29.3	27.7	1.57	18.609			
500.0	500.0	500.0	500.0	1.0	1.0	-174.54	-29.1	-2.8	29.3	27.3	2.02	14.473			
600.0	600.0	600.0	600.0	1.2	1.2	-174.54	-29.1	-2.8	29.3	26.8	2.47	11.842			
700.0	700.0	700.0	700.0	1.5	1.5	-174.54	-29.1	-2.8	29.3	26.4	2.92	10.020			
800.0	800.0	800.0	800.0	1.7	1.7	-174.54	-29.1	-2.8	29.3	25.9	3.37	8.684 CC, ES			
900.0	900.0	899.2	899.2	1.9	1.9	-173.91	-30.4	-3.2	30.5	26.7	3.79	8.051			
1,000.0	1,000.0	998.4	998.3	2.1	2.1	-172.27	-34.0	-4.6	34.3	30.1	4.20	8.179			
1,100.0	1,100.0	1,097.2	1,096.9	2.4	2.3	-170.24	-40.0	-6.9	40.7	36.0	4.61	8.817			
1,200.0	1,200.0	1,195.7	1,194.9	2.6	2.5	-168.26	-48.3	-10.0	49.6	44.5	5.04	9.837			
1,300.0	1,300.0	1,293.7	1,292.3	2.8	2.7	-28.70	-58.9	-14.1	59.9	54.5	5.43	11.035			
1,400.0	1,399.9	1,391.5	1,389.1	3.0	2.9	-28.59	-71.9	-19.0	70.5	64.7	5.82	12.125			
1,500.0	1,499.7	1,489.0	1,485.2	3.2	3.2	-29.11	-87.1	-24.7	81.4	75.2	6.22	13.089			
1,600.0	1,599.3	1,586.2	1,580.6	3.4	3.6	-30.04	-104.5	-31.3	92.5	85.9	6.63	13.942			
1,700.0	1,698.6	1,683.2	1,675.3	3.6	3.9	-31.23	-124.2	-38.8	103.9	96.8	7.07	14.695			
1,731.2	1,729.5	1,714.2	1,705.5	3.7	4.0	-31.67	-130.8	-41.3	107.3	100.1	7.21	14.880			
1,800.0	1,797.6	1,782.6	1,772.1	3.8	4.3	-32.68	-145.4	-46.8	114.7	107.2	7.54	15.221			
1,900.0	1,896.7	1,881.9	1,868.9	4.1	4.7	-33.93	-166.5	-54.8	125.5	117.5	8.02	15.647			
2,000.0	1,995.7	1,981.3	1,965.6	4.4	5.2	-34.98	-187.7	-62.8	136.3	127.8	8.52	15.996			
2,100.0	2,094.7	2,080.7	2,062.4	4.7	5.6	-35.88	-208.9	-70.8	147.2	138.2	9.04	16.287			
2,200.0	2,193.8	2,180.1	2,159.2	5.0	6.1	-36.65	-230.0	-78.8	158.1	148.6	9.57	16.529			
2,300.0	2,292.8	2,279.5	2,255.9	5.3	6.5	-37.32	-251.2	-86.8	169.1	159.0	10.10	16.730			
2,400.0	2,391.8	2,378.8	2,352.7	5.6	7.0	-37.92	-272.4	-94.9	180.0	169.4	10.65	16.899			
2,500.0	2,490.9	2,478.2	2,449.5	5.9	7.4	-38.44	-293.5	-102.9	191.0	179.8	11.21	17.040			
2,600.0	2,589.9	2,577.6	2,546.3	6.2	7.9	-38.91	-314.7	-110.9	202.0	190.2	11.77	17.160			
2,700.0	2,688.9	2,677.0	2,643.0	6.5	8.4	-39.33	-335.9	-118.9	213.0	200.6	12.34	17.261			
2,800.0	2,788.0	2,776.4	2,739.8	6.8	8.8	-39.70	-357.0	-126.9	224.0	211.1	12.91	17.346			
2,900.0	2,887.0	2,875.8	2,836.6	7.2	9.3	-40.05	-378.2	-134.9	235.0	221.5	13.49	17.419			
3,000.0	2,986.0	2,975.1	2,933.3	7.5	9.8	-40.36	-399.4	-142.9	246.0	232.0	14.07	17.481			
3,100.0	3,085.1	3,074.5	3,030.1	7.8	10.3	-40.64	-420.5	-151.0	257.1	242.4	14.66	17.534			
3,200.0	3,184.1	3,173.9	3,126.9	8.2	10.7	-40.90	-441.7	-159.0	268.1	252.8	15.25	17.580			
3,300.0	3,283.1	3,273.3	3,223.6	8.5	11.2	-41.15	-462.9	-167.0	279.1	263.3	15.84	17.619			
3,400.0	3,382.2	3,372.7	3,320.4	8.8	11.7	-41.37	-484.0	-175.0	290.2	273.8	16.44	17.653			
3,500.0	3,481.2	3,472.0	3,417.2	9.2	12.2	-41.57	-505.2	-183.0	301.2	284.2	17.04	17.682			
3,600.0	3,580.2	3,571.4	3,514.0	9.5	12.7	-41.77	-526.4	-191.0	312.3	294.7	17.64	17.708			
3,700.0	3,679.3	3,670.8	3,610.7	9.8	13.1	-41.94	-547.6	-199.0	323.4	305.1	18.24	17.729			
3,800.0	3,778.3	3,770.2	3,707.5	10.2	13.6	-42.11	-568.7	-207.0	334.4	315.6	18.84	17.748			
3,900.0	3,877.4	3,869.6	3,804.3	10.5	14.1	-42.27	-589.9	-215.1	345.5	326.0	19.45	17.765			
4,000.0	3,976.4	3,969.0	3,901.0	10.9	14.6	-42.41	-611.1	-223.1	356.6	336.5	20.05	17.779			
4,100.0	4,075.4	4,068.3	3,997.8	11.2	15.1	-42.55	-632.2	-231.1	367.6	347.0	20.66	17.791			
4,200.0	4,174.5	4,167.7	4,094.6	11.5	15.6	-42.68	-653.4	-239.1	378.7	357.4	21.27	17.802			
4,300.0	4,273.5	4,267.1	4,191.4	11.9	16.0	-42.80	-674.6	-247.1	389.8	367.9	21.88	17.811			
4,400.0	4,372.5	4,366.5	4,288.1	12.2	16.5	-42.92	-695.7	-255.1	400.8	378.3	22.50	17.819			
4,500.0	4,471.6	4,465.9	4,384.9	12.6	17.0	-43.03	-716.9	-263.1	411.9	388.8	23.11	17.825			
4,600.0	4,570.6	4,565.2	4,481.7	12.9	17.5	-43.13	-738.1	-271.1	423.0	399.3	23.72	17.831			
4,700.0	4,669.6	4,664.6	4,578.4	13.3	18.0	-43.23	-759.2	-279.2	434.1	409.7	24.34	17.836			
4,800.0	4,768.7	4,764.0	4,675.2	13.6	18.5	-43.32	-780.4	-287.2	445.1	420.2	24.95	17.840			
4,900.0	4,867.7	4,863.4	4,772.0	13.9	18.9	-43.41	-801.6	-295.2	456.2	430.7	25.57	17.844			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-232 - Wellbore #1 - Plan #1													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,966.7	4,962.8	4,868.7	14.3	19.4	-43.49	-822.7	-303.2	467.3	441.1	26.18	17.847			
5,100.0	5,065.8	5,062.2	4,965.5	14.6	19.9	-43.58	-843.9	-311.2	478.4	451.6	26.80	17.849			
5,200.0	5,164.8	5,161.5	5,062.3	15.0	20.4	-43.65	-865.1	-319.2	489.5	462.1	27.42	17.851			
5,300.0	5,263.8	5,260.9	5,159.1	15.3	20.9	-43.73	-886.2	-327.2	500.6	472.5	28.04	17.852			
5,339.4	5,302.9	5,300.1	5,197.2	15.5	21.1	-43.75	-894.6	-330.4	504.9	476.7	28.28	17.853			
5,400.0	5,363.0	5,360.2	5,255.8	15.6	21.4	-43.85	-907.4	-335.2	512.1	483.5	28.63	17.888			
5,500.0	5,462.4	5,459.3	5,352.2	15.9	21.9	-43.81	-928.5	-343.2	526.0	496.9	29.11	18.070			
5,600.0	5,562.2	5,557.9	5,448.3	16.1	22.3	-43.57	-949.5	-351.2	542.3	512.8	29.51	18.376			
5,700.0	5,662.2	5,677.6	5,565.3	16.2	22.8	-43.07	-972.7	-360.0	559.3	529.5	29.83	18.750			
5,737.8	5,700.0	5,723.2	5,610.2	16.3	22.9	178.75	-980.3	-362.8	565.4	528.8	36.63	15.436			
5,800.0	5,762.2	5,798.5	5,684.6	16.4	23.1	179.20	-991.4	-367.1	574.5	537.5	37.00	15.528			
5,900.0	5,862.2	5,920.9	5,806.0	16.5	23.4	179.75	-1,005.6	-372.4	586.1	548.6	37.52	15.622			
6,000.0	5,962.2	6,044.3	5,929.0	16.7	23.6	-179.91	-1,015.0	-376.0	593.7	555.7	37.95	15.642			
6,100.0	6,062.2	6,168.4	6,053.0	16.8	23.8	-179.75	-1,019.4	-377.6	597.3	558.9	38.31	15.589			
6,200.0	6,162.2	6,277.6	6,162.2	17.0	23.9	-179.73	-1,019.7	-377.8	597.6	558.9	38.61	15.478			
6,300.0	6,262.2	6,377.6	6,262.2	17.1	24.0	-179.73	-1,019.7	-377.8	597.6	558.7	38.88	15.371			
6,311.2	6,273.4	6,388.9	6,273.4	17.1	24.0	-179.73	-1,019.7	-377.8	597.6	558.6	38.91	15.359			
6,350.0	6,312.2	6,427.7	6,312.3	17.2	24.1	90.26	-1,019.7	-376.7	597.6	565.6	31.93	18.713			
6,400.0	6,362.0	6,477.9	6,362.3	17.2	24.1	90.24	-1,019.7	-372.4	597.6	565.5	32.04	18.652			
6,450.0	6,411.4	6,528.1	6,411.8	17.3	24.1	90.23	-1,019.7	-364.8	597.5	565.4	32.10	18.615			
6,500.0	6,460.3	6,578.2	6,460.8	17.3	24.1	90.21	-1,019.7	-353.9	597.5	565.4	32.13	18.599			
6,550.0	6,508.3	6,628.4	6,508.9	17.3	24.1	90.19	-1,019.7	-339.9	597.5	565.4	32.12	18.601			
6,600.0	6,555.3	6,678.5	6,556.0	17.3	24.1	90.18	-1,019.7	-322.8	597.5	565.5	32.10	18.617			
6,650.0	6,601.2	6,728.6	6,601.9	17.3	24.1	90.16	-1,019.7	-302.6	597.5	565.5	32.06	18.641			
6,700.0	6,645.6	6,778.7	6,646.3	17.2	24.0	90.14	-1,019.7	-279.5	597.5	565.5	32.01	18.665			
6,750.0	6,688.4	6,828.8	6,689.1	17.2	24.0	90.12	-1,019.7	-253.5	597.5	565.6	31.99	18.681			
6,800.0	6,729.5	6,878.9	6,730.1	17.2	24.0	90.10	-1,019.7	-224.8	597.5	565.6	31.99	18.678			
6,850.0	6,768.6	6,928.9	6,769.2	17.1	23.9	90.08	-1,019.7	-193.4	597.5	565.5	32.05	18.645			
6,900.0	6,805.6	6,979.0	6,806.0	17.1	23.9	90.06	-1,019.7	-159.6	597.5	565.4	32.18	18.571			
6,950.0	6,840.3	7,029.0	6,840.6	17.1	23.8	90.04	-1,019.7	-123.4	597.5	565.1	32.40	18.442			
7,000.0	6,872.6	7,079.0	6,872.7	17.0	23.8	90.02	-1,019.7	-85.1	597.5	564.8	32.74	18.250			
7,050.0	6,902.3	7,129.0	6,902.3	17.0	23.8	89.99	-1,019.7	-44.8	597.5	564.3	33.22	17.989			
7,100.0	6,929.3	7,179.0	6,929.1	17.1	23.7	89.97	-1,019.7	-2.6	597.5	563.7	33.85	17.654			
7,150.0	6,953.5	7,229.0	6,953.1	17.2	23.7	89.95	-1,019.7	41.2	597.5	562.9	34.64	17.250			
7,200.0	6,974.8	7,279.0	6,974.2	17.5	23.7	89.93	-1,019.7	86.5	597.5	561.9	35.60	16.783			
7,250.0	6,993.1	7,328.9	6,992.3	18.0	23.7	89.91	-1,019.7	133.1	597.5	560.8	36.74	16.265			
7,300.0	7,008.3	7,378.8	7,007.2	18.7	23.8	89.89	-1,019.7	180.7	597.5	559.5	38.03	15.710			
7,350.0	7,020.4	7,428.8	7,019.1	19.4	23.9	89.87	-1,019.7	229.2	597.5	558.1	39.49	15.133			
7,400.0	7,029.3	7,478.7	7,027.7	20.2	24.1	89.85	-1,019.7	278.3	597.5	556.5	41.08	14.547			
7,450.0	7,034.9	7,528.6	7,033.2	21.1	24.4	89.83	-1,019.7	327.9	597.5	554.8	42.79	13.966			
7,500.0	7,037.3	7,578.4	7,035.3	22.1	24.8	89.81	-1,019.7	377.7	597.5	552.9	44.59	13.400			
7,517.5	7,037.3	7,595.9	7,035.3	22.4	25.0	89.81	-1,019.7	395.2	597.5	552.3	45.24	13.207			
7,600.0	7,036.7	7,678.4	7,034.6	24.1	26.2	89.80	-1,019.7	477.7	597.5	549.1	48.49	12.324			
7,700.0	7,035.8	7,778.4	7,033.7	26.2	28.0	89.79	-1,019.7	577.7	597.5	544.9	52.67	11.344			
7,800.0	7,035.0	7,878.4	7,032.7	28.5	30.0	89.78	-1,019.7	677.7	597.5	540.4	57.11	10.463			
7,900.0	7,034.2	7,978.4	7,031.8	30.8	32.2	89.77	-1,019.7	777.7	597.5	535.8	61.73	9.679			
8,000.0	7,033.4	8,078.4	7,030.9	33.2	34.5	89.76	-1,019.7	877.7	597.5	531.0	66.51	8.984			
8,100.0	7,032.6	8,178.4	7,030.0	35.7	36.8	89.75	-1,019.7	977.7	597.5	526.1	71.41	8.367			
8,200.0	7,031.7	8,278.4	7,029.0	38.2	39.3	89.74	-1,019.7	1,077.7	597.5	521.1	76.41	7.820			
8,300.0	7,030.9	8,378.4	7,028.1	40.7	41.8	89.73	-1,019.7	1,177.6	597.5	516.0	81.48	7.333			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-232 - Wellbore #1 - Plan #1											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)						
8,400.0	7,030.1	8,478.4	7,027.2	43.3	44.3	89.72	-1,019.7	1,277.6	597.5	510.9	86.63	6.898					
8,500.0	7,029.3	8,578.4	7,026.3	45.9	46.8	89.71	-1,019.7	1,377.6	597.5	505.7	91.82	6.507					
8,600.0	7,028.5	8,678.4	7,025.3	48.5	49.4	89.70	-1,019.7	1,477.6	597.5	500.5	97.07	6.156					
8,700.0	7,027.6	8,778.4	7,024.4	51.2	52.0	89.69	-1,019.7	1,577.6	597.5	495.2	102.35	5.838					
8,800.0	7,026.8	8,878.4	7,023.5	53.9	54.6	89.68	-1,019.7	1,677.6	597.5	489.9	107.66	5.550					
8,900.0	7,026.0	8,978.4	7,022.6	56.5	57.3	89.67	-1,019.7	1,777.6	597.5	484.5	113.01	5.287					
9,000.0	7,025.2	9,078.4	7,021.6	59.2	59.9	89.66	-1,019.7	1,877.6	597.5	479.1	118.38	5.048					
9,100.0	7,024.4	9,178.4	7,020.7	61.9	62.6	89.65	-1,019.7	1,977.6	597.5	473.8	123.77	4.828					
9,200.0	7,023.5	9,278.4	7,019.8	64.6	65.2	89.64	-1,019.7	2,077.6	597.5	468.3	129.17	4.626					
9,300.0	7,022.7	9,378.4	7,018.9	67.3	67.9	89.63	-1,019.7	2,177.6	597.5	462.9	134.60	4.439					
9,400.0	7,021.9	9,478.4	7,017.9	70.1	70.6	89.62	-1,019.7	2,277.6	597.5	457.5	140.04	4.267					
9,500.0	7,021.1	9,578.4	7,017.0	72.8	73.3	89.61	-1,019.7	2,377.6	597.5	452.0	145.49	4.107					
9,600.0	7,020.3	9,678.4	7,016.1	75.5	76.0	89.60	-1,019.7	2,477.6	597.5	446.6	150.96	3.958					
9,700.0	7,019.4	9,778.4	7,015.2	78.3	78.8	89.59	-1,019.7	2,577.6	597.5	441.1	156.43	3.820					
9,800.0	7,018.6	9,878.4	7,014.2	81.0	81.5	89.58	-1,019.7	2,677.6	597.5	435.6	161.91	3.690					
9,900.0	7,017.8	9,978.4	7,013.3	83.8	84.2	89.57	-1,019.7	2,777.6	597.5	430.1	167.40	3.569					
10,000.0	7,017.0	10,078.4	7,012.4	86.5	86.9	89.56	-1,019.7	2,877.6	597.5	424.6	172.90	3.456					
10,100.0	7,016.2	10,178.4	7,011.5	89.3	89.7	89.55	-1,019.7	2,977.6	597.5	419.1	178.41	3.349					
10,200.0	7,015.3	10,278.4	7,010.5	92.0	92.4	89.54	-1,019.7	3,077.6	597.5	413.6	183.92	3.249					
10,300.0	7,014.5	10,378.4	7,009.6	94.8	95.2	89.53	-1,019.7	3,177.6	597.5	408.1	189.44	3.154					
10,400.0	7,013.7	10,478.4	7,008.7	97.5	97.9	89.52	-1,019.7	3,277.6	597.5	402.5	194.96	3.065					
10,500.0	7,012.9	10,578.4	7,007.8	100.3	100.7	89.51	-1,019.7	3,377.6	597.5	397.0	200.49	2.980					
10,600.0	7,012.1	10,678.4	7,006.8	103.1	103.4	89.50	-1,019.7	3,477.5	597.5	391.5	206.02	2.900					
10,700.0	7,011.2	10,778.4	7,005.9	105.8	106.2	89.49	-1,019.7	3,577.5	597.5	385.9	211.56	2.824					
10,800.0	7,010.4	10,878.4	7,005.0	108.6	108.9	89.48	-1,019.7	3,677.5	597.5	380.4	217.10	2.752					
10,900.0	7,009.6	10,978.4	7,004.1	111.4	111.7	89.47	-1,019.7	3,777.5	597.5	374.9	222.64	2.684					
11,000.0	7,008.8	11,078.4	7,003.1	114.2	114.5	89.46	-1,019.7	3,877.5	597.5	369.3	228.19	2.618					
11,100.0	7,008.0	11,178.4	7,002.2	116.9	117.2	89.45	-1,019.7	3,977.5	597.5	363.8	233.74	2.556					
11,200.0	7,007.1	11,278.4	7,001.3	119.7	120.0	89.44	-1,019.7	4,077.5	597.5	358.2	239.29	2.497					
11,300.0	7,006.3	11,378.4	7,000.4	122.5	122.8	89.43	-1,019.7	4,177.5	597.5	352.7	244.85	2.440					
11,338.1	7,006.0	11,416.5	7,000.0	123.2	123.8	89.42	-1,019.7	4,215.7	597.5	350.9	246.59	2.423 SF					

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-302 - Wellbore #1 - Plan #1											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	-169.19	-14.6	-2.8	14.8	14.8	0.00	N/A			
100.0	100.0	100.0	100.0	0.1	0.1	-169.19	-14.6	-2.8	14.8	14.6	0.22	66.031			
200.0	200.0	200.0	200.0	0.3	0.3	-169.19	-14.6	-2.8	14.8	14.2	0.67	22.009			
300.0	300.0	300.0	300.0	0.6	0.6	-169.19	-14.6	-2.8	14.8	13.7	1.12	13.205			
400.0	400.0	400.0	400.0	0.8	0.8	-169.19	-14.6	-2.8	14.8	13.3	1.57	9.432			
500.0	500.0	500.0	500.0	1.0	1.0	-169.19	-14.6	-2.8	14.8	12.8	2.02	7.336			
600.0	600.0	600.0	600.0	1.2	1.2	-169.19	-14.6	-2.8	14.8	12.4	2.47	6.002			
700.0	700.0	700.0	700.0	1.5	1.5	-169.19	-14.6	-2.8	14.8	11.9	2.92	5.079			
800.0	800.0	800.0	800.0	1.7	1.7	-169.19	-14.6	-2.8	14.8	11.5	3.37	4.402			
900.0	900.0	900.0	900.0	1.9	1.9	-169.19	-14.6	-2.8	14.8	11.0	3.82	3.884			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-169.19	-14.6	-2.8	14.8	10.6	4.27	3.475 CC, ES			
1,100.0	1,100.0	1,099.6	1,099.6	2.4	2.3	-167.76	-15.7	-3.4	16.1	11.4	4.69	3.428			
1,200.0	1,200.0	1,199.1	1,199.0	2.6	2.5	-164.58	-19.1	-5.3	19.9	14.8	5.10	3.898			
1,300.0	1,300.0	1,298.4	1,298.1	2.8	2.7	-24.06	-24.8	-8.4	25.0	19.6	5.48	4.568			
1,400.0	1,399.9	1,397.5	1,396.8	3.0	2.9	-23.73	-32.7	-12.7	30.4	24.5	5.85	5.192			
1,500.0	1,499.7	1,496.5	1,495.1	3.2	3.1	-24.37	-42.8	-18.3	35.9	29.7	6.24	5.755			
1,600.0	1,599.3	1,595.4	1,593.0	3.4	3.4	-25.61	-55.2	-25.0	41.6	34.9	6.63	6.264			
1,700.0	1,698.6	1,694.8	1,691.0	3.6	3.7	-27.35	-69.5	-32.8	47.0	39.9	7.05	6.665			
1,731.2	1,729.5	1,725.9	1,721.8	3.7	3.8	-28.09	-74.0	-35.3	48.3	41.1	7.18	6.721			
1,800.0	1,797.6	1,794.7	1,789.6	3.8	4.0	-29.76	-84.0	-40.8	50.9	43.4	7.49	6.795			
1,900.0	1,896.7	1,894.6	1,888.1	4.1	4.3	-31.91	-98.5	-48.8	54.8	46.9	7.96	6.887			
2,000.0	1,995.7	1,994.5	1,986.6	4.4	4.6	-33.76	-113.0	-56.7	58.8	50.4	8.45	6.961			
2,100.0	2,094.7	2,094.4	2,085.1	4.7	4.9	-35.38	-127.6	-64.7	62.8	53.9	8.95	7.021			
2,200.0	2,193.8	2,194.3	2,183.6	5.0	5.3	-36.81	-142.1	-72.6	66.9	57.4	9.47	7.068			
2,300.0	2,292.8	2,294.2	2,282.2	5.3	5.6	-38.07	-156.6	-80.6	71.0	61.0	9.99	7.104			
2,400.0	2,391.8	2,394.1	2,380.7	5.6	6.0	-39.19	-171.1	-88.6	75.1	64.6	10.54	7.132			
2,500.0	2,490.9	2,494.0	2,479.2	5.9	6.4	-40.20	-185.7	-96.5	79.3	68.2	11.09	7.153			
2,600.0	2,589.9	2,593.9	2,577.7	6.2	6.7	-41.10	-200.2	-104.5	83.5	71.8	11.65	7.168			
2,700.0	2,688.9	2,693.8	2,676.2	6.5	7.1	-41.92	-214.7	-112.4	87.7	75.5	12.22	7.178			
2,800.0	2,788.0	2,793.7	2,774.8	6.8	7.5	-42.66	-229.3	-120.4	91.9	79.1	12.79	7.185			
2,900.0	2,887.0	2,893.6	2,873.3	7.2	7.8	-43.34	-243.8	-128.4	96.1	82.8	13.37	7.189			
3,000.0	2,986.0	2,993.5	2,971.8	7.5	8.2	-43.96	-258.3	-136.3	100.4	86.4	13.96	7.191			
3,100.0	3,085.1	3,093.4	3,070.3	7.8	8.6	-44.53	-272.8	-144.3	104.6	90.1	14.55	7.190			
3,200.0	3,184.1	3,193.3	3,168.8	8.2	9.0	-45.06	-287.4	-152.2	108.9	93.8	15.15	7.188			
3,300.0	3,283.1	3,293.2	3,267.4	8.5	9.3	-45.54	-301.9	-160.2	113.2	97.4	15.75	7.185			
3,400.0	3,382.2	3,393.1	3,365.9	8.8	9.7	-45.99	-316.4	-168.2	117.5	101.1	16.36	7.181			
3,500.0	3,481.2	3,493.1	3,464.4	9.2	10.1	-46.41	-331.0	-176.1	121.8	104.8	16.96	7.177			
3,600.0	3,580.2	3,593.0	3,562.9	9.5	10.5	-46.80	-345.5	-184.1	126.0	108.5	17.58	7.172			
3,700.0	3,679.3	3,692.9	3,661.5	9.8	10.9	-47.17	-360.0	-192.0	130.3	112.2	18.19	7.166			
3,800.0	3,778.3	3,792.8	3,760.0	10.2	11.2	-47.51	-374.5	-200.0	134.7	115.8	18.81	7.160			
3,900.0	3,877.4	3,892.7	3,858.5	10.5	11.6	-47.83	-389.1	-207.9	139.0	119.5	19.42	7.154			
4,000.0	3,976.4	3,992.6	3,957.0	10.9	12.0	-48.13	-403.6	-215.9	143.3	123.2	20.04	7.148			
4,100.0	4,075.4	4,092.5	4,055.5	11.2	12.4	-48.41	-418.1	-223.9	147.6	126.9	20.67	7.142			
4,200.0	4,174.5	4,192.4	4,154.1	11.5	12.8	-48.68	-432.6	-231.8	151.9	130.6	21.29	7.135			
4,300.0	4,273.5	4,292.3	4,252.6	11.9	13.2	-48.93	-447.2	-239.8	156.2	134.3	21.92	7.129			
4,400.0	4,372.5	4,392.2	4,351.1	12.2	13.5	-49.17	-461.7	-247.7	160.6	138.0	22.54	7.123			
4,500.0	4,471.6	4,492.1	4,449.6	12.6	13.9	-49.40	-476.2	-255.7	164.9	141.7	23.17	7.116			
4,600.0	4,570.6	4,592.0	4,548.1	12.9	14.3	-49.61	-490.8	-263.7	169.2	145.4	23.80	7.110			
4,700.0	4,669.6	4,691.9	4,646.7	13.3	14.7	-49.82	-505.3	-271.6	173.6	149.1	24.43	7.104			
4,800.0	4,768.7	4,791.8	4,745.2	13.6	15.1	-50.01	-519.8	-279.6	177.9	152.8	25.06	7.098			
4,900.0	4,867.7	4,891.7	4,843.7	13.9	15.5	-50.19	-534.3	-287.5	182.2	156.5	25.70	7.092			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design											High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-302 - Wellbore #1 - Plan #1			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	4,966.7	4,991.6	4,942.2	14.3	15.9	-50.37	-548.9	-295.5	186.6	160.2	26.33	7.086				
5,100.0	5,065.8	5,091.5	5,040.8	14.6	16.3	-50.54	-563.4	-303.5	190.9	164.0	26.96	7.081				
5,200.0	5,164.8	5,191.4	5,139.3	15.0	16.6	-50.70	-577.9	-311.4	195.3	167.7	27.60	7.075				
5,300.0	5,263.8	5,291.3	5,237.8	15.3	17.0	-50.85	-592.5	-319.4	199.6	171.4	28.23	7.070				
5,339.4	5,302.9	5,330.7	5,276.6	15.5	17.2	-50.91	-598.2	-322.5	201.3	172.8	28.49	7.067				
5,400.0	5,363.0	5,391.2	5,336.3	15.6	17.4	-50.91	-607.0	-327.3	204.4	175.5	28.83	7.088				
5,500.0	5,462.4	5,490.9	5,434.7	15.9	17.8	-50.34	-621.5	-335.3	211.1	181.9	29.26	7.217				
5,600.0	5,562.2	5,590.4	5,532.7	16.1	18.2	-49.16	-635.9	-343.2	220.2	190.7	29.55	7.452				
5,700.0	5,662.2	5,689.5	5,630.4	16.2	18.6	-47.47	-650.4	-351.1	231.8	202.0	29.73	7.795				
5,737.8	5,700.0	5,726.8	5,667.2	16.3	18.7	174.88	-655.8	-354.1	236.8	205.0	31.75	7.459				
5,800.0	5,762.2	5,788.3	5,727.9	16.4	19.0	176.22	-664.7	-359.0	245.5	213.2	32.26	7.609				
5,900.0	5,862.2	5,895.3	5,833.7	16.5	19.2	178.10	-678.5	-366.5	258.0	225.0	32.95	7.829				
6,000.0	5,962.2	6,003.3	5,941.1	16.7	19.5	179.39	-688.8	-372.2	267.4	233.9	33.52	7.978				
6,100.0	6,062.2	6,112.0	6,049.5	16.8	19.7	-179.81	-695.6	-375.9	273.7	239.7	33.99	8.052				
6,200.0	6,162.2	6,221.2	6,158.7	17.0	19.9	-179.45	-698.8	-377.6	276.6	242.3	34.37	8.048				
6,300.0	6,262.2	6,324.7	6,262.2	17.1	20.0	-179.42	-699.1	-377.8	276.9	242.2	34.69	7.982				
6,311.2	6,273.4	6,336.0	6,273.4	17.1	20.0	-179.42	-699.1	-377.8	276.9	242.2	34.72	7.974				
6,350.0	6,312.2	6,374.7	6,312.2	17.2	20.1	90.78	-699.1	-377.8	276.9	245.7	31.20	8.876				
6,400.0	6,362.0	6,424.9	6,362.3	17.2	20.1	91.50	-699.1	-377.1	277.0	245.8	31.22	8.872				
6,450.0	6,411.4	6,475.3	6,412.6	17.3	20.2	92.26	-699.1	-373.3	277.1	245.9	31.20	8.882				
6,500.0	6,460.3	6,526.0	6,462.8	17.3	20.2	93.01	-699.1	-366.2	277.3	246.1	31.14	8.904				
6,550.0	6,508.3	6,577.0	6,512.7	17.3	20.2	93.75	-699.1	-355.7	277.5	246.4	31.06	8.934				
6,600.0	6,555.3	6,628.2	6,561.9	17.3	20.2	94.47	-699.1	-341.8	277.7	246.8	30.96	8.972				
6,650.0	6,601.2	6,679.7	6,610.4	17.3	20.2	95.18	-699.1	-324.5	278.0	247.2	30.84	9.013				
6,700.0	6,645.6	6,731.4	6,657.8	17.2	20.2	95.86	-699.1	-303.9	278.3	247.6	30.74	9.056				
6,750.0	6,688.4	6,783.3	6,704.0	17.2	20.1	96.52	-699.1	-280.1	278.7	248.0	30.65	9.094				
6,800.0	6,729.5	6,835.5	6,748.5	17.2	20.1	97.14	-699.1	-253.0	279.1	248.5	30.59	9.123				
6,850.0	6,768.6	6,887.9	6,791.4	17.1	20.1	97.74	-699.1	-222.8	279.4	248.8	30.58	9.136				
6,900.0	6,805.6	6,940.5	6,832.2	17.1	20.0	98.30	-699.1	-189.6	279.8	249.2	30.65	9.128				
6,950.0	6,840.3	6,993.3	6,870.8	17.1	20.0	98.82	-699.1	-153.6	280.2	249.4	30.82	9.091				
7,000.0	6,872.6	7,046.4	6,906.9	17.0	19.9	99.31	-699.1	-114.8	280.6	249.5	31.10	9.021				
7,050.0	6,902.3	7,099.5	6,940.3	17.0	19.9	99.75	-699.1	-73.4	280.9	249.4	31.53	8.911				
7,100.0	6,929.3	7,152.9	6,970.9	17.1	19.8	100.15	-699.1	-29.7	281.3	249.2	32.11	8.760				
7,150.0	6,953.5	7,206.4	6,998.5	17.2	19.8	100.50	-699.1	16.1	281.6	248.7	32.87	8.568				
7,200.0	6,974.8	7,260.0	7,022.8	17.5	19.7	100.81	-699.1	63.9	281.9	248.1	33.80	8.340				
7,250.0	6,993.1	7,313.8	7,043.7	18.0	19.7	101.06	-699.1	113.4	282.1	247.2	34.92	8.080				
7,300.0	7,008.3	7,367.6	7,061.1	18.7	19.7	101.27	-699.1	164.4	282.3	246.1	36.19	7.800				
7,350.0	7,020.4	7,421.6	7,075.0	19.4	20.0	101.42	-699.1	216.5	282.5	244.8	37.64	7.504				
7,400.0	7,029.3	7,475.5	7,085.1	20.2	20.7	101.53	-699.1	269.5	282.6	243.3	39.24	7.202				
7,450.0	7,034.9	7,529.5	7,091.4	21.1	21.6	101.58	-699.1	323.1	282.6	241.7	40.96	6.900				
7,500.0	7,037.3	7,583.5	7,094.0	22.1	22.6	101.58	-699.1	377.0	282.6	239.8	42.79	6.604				
7,517.5	7,037.3	7,602.2	7,094.0	22.4	23.0	101.57	-699.1	395.7	282.6	239.2	43.45	6.504				
7,600.0	7,036.7	7,684.7	7,093.3	24.1	24.6	101.55	-699.1	478.2	282.6	235.9	46.66	6.056				
7,700.0	7,035.8	7,784.7	7,092.4	26.2	26.7	101.54	-699.1	578.2	282.6	231.8	50.82	5.561				
7,800.0	7,035.0	7,884.7	7,091.5	28.5	29.0	101.53	-699.1	678.2	282.6	227.4	55.21	5.118				
7,900.0	7,034.2	7,984.7	7,090.6	30.8	31.3	101.51	-699.1	778.2	282.6	222.8	59.79	4.726				
8,000.0	7,033.4	8,084.7	7,089.7	33.2	33.6	101.50	-699.1	878.2	282.5	218.0	64.51	4.380				
8,100.0	7,032.6	8,184.7	7,088.8	35.7	36.1	101.49	-699.1	978.2	282.5	213.2	69.36	4.074				
8,200.0	7,031.7	8,284.7	7,087.9	38.2	38.6	101.47	-699.1	1,078.2	282.5	208.2	74.29	3.803				
8,300.0	7,030.9	8,384.7	7,087.0	40.7	41.1	101.46	-699.1	1,178.2	282.5	203.2	79.30	3.562				

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-302 - Wellbore #1 - Plan #1													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)					
8,400.0	7,030.1	8,484.7	7,086.1	43.3	43.7	101.44	-699.1	1,278.2	282.5	198.1	84.38	3.348				
8,500.0	7,029.3	8,584.7	7,085.3	45.9	46.3	101.43	-699.1	1,378.2	282.5	193.0	89.50	3.156				
8,600.0	7,028.5	8,684.7	7,084.4	48.5	48.9	101.42	-699.1	1,478.2	282.5	187.8	94.67	2.984				
8,700.0	7,027.6	8,784.7	7,083.5	51.2	51.5	101.40	-699.1	1,578.2	282.5	182.6	99.88	2.828				
8,800.0	7,026.8	8,884.7	7,082.6	53.9	54.2	101.39	-699.1	1,678.1	282.4	177.3	105.12	2.687				
8,900.0	7,026.0	8,984.7	7,081.7	56.5	56.8	101.37	-699.1	1,778.1	282.4	172.0	110.39	2.558				
9,000.0	7,025.2	9,084.7	7,080.8	59.2	59.5	101.36	-699.1	1,878.1	282.4	166.7	115.68	2.441				
9,100.0	7,024.4	9,184.7	7,079.9	61.9	62.2	101.35	-699.1	1,978.1	282.4	161.4	120.99	2.334				
9,200.0	7,023.5	9,284.7	7,079.0	64.6	64.9	101.33	-699.1	2,078.1	282.4	156.1	126.32	2.236				
9,300.0	7,022.7	9,384.7	7,078.1	67.3	67.6	101.32	-699.1	2,178.1	282.4	150.7	131.66	2.145				
9,400.0	7,021.9	9,484.7	7,077.2	70.1	70.3	101.31	-699.1	2,278.1	282.4	145.3	137.02	2.061				
9,500.0	7,021.1	9,584.7	7,076.4	72.8	73.0	101.29	-699.1	2,378.1	282.3	140.0	142.39	1.983				
9,600.0	7,020.3	9,684.7	7,075.5	75.5	75.7	101.28	-699.1	2,478.1	282.3	134.6	147.77	1.911				
9,700.0	7,019.4	9,784.7	7,074.6	78.3	78.5	101.26	-699.1	2,578.1	282.3	129.2	153.16	1.843				
9,800.0	7,018.6	9,884.7	7,073.7	81.0	81.2	101.25	-699.1	2,678.1	282.3	123.7	158.57	1.780				
9,900.0	7,017.8	9,984.7	7,072.8	83.8	83.9	101.24	-699.1	2,778.1	282.3	118.3	163.98	1.722				
10,000.0	7,017.0	10,084.7	7,071.9	86.5	86.7	101.22	-699.1	2,878.1	282.3	112.9	169.39	1.666				
10,100.0	7,016.2	10,184.7	7,071.0	89.3	89.4	101.21	-699.1	2,978.1	282.3	107.4	174.82	1.615				
10,200.0	7,015.3	10,284.7	7,070.1	92.0	92.2	101.19	-699.1	3,078.1	282.2	102.0	180.25	1.566				
10,300.0	7,014.5	10,384.7	7,069.2	94.8	94.9	101.18	-699.1	3,178.1	282.2	96.6	185.68	1.520				
10,400.0	7,013.7	10,484.7	7,068.3	97.5	97.7	101.17	-699.1	3,278.1	282.2	91.1	191.12	1.477	Level 3			
10,500.0	7,012.9	10,584.7	7,067.5	100.3	100.5	101.15	-699.1	3,378.1	282.2	85.6	196.57	1.436	Level 3			
10,600.0	7,012.1	10,684.7	7,066.6	103.1	103.2	101.14	-699.1	3,478.1	282.2	80.2	202.02	1.397	Level 3			
10,700.0	7,011.2	10,784.7	7,065.7	105.8	106.0	101.12	-699.1	3,578.1	282.2	74.7	207.48	1.360	Level 3			
10,800.0	7,010.4	10,884.7	7,064.8	108.6	108.7	101.11	-699.1	3,678.1	282.2	69.2	212.94	1.325	Level 3			
10,900.0	7,009.6	10,984.7	7,063.9	111.4	111.5	101.10	-699.1	3,778.1	282.2	63.8	218.40	1.292	Level 3			
11,000.0	7,008.8	11,084.7	7,063.0	114.2	114.3	101.08	-699.1	3,878.1	282.1	58.3	223.87	1.260	Level 3			
11,100.0	7,008.0	11,184.7	7,062.1	116.9	117.1	101.07	-699.1	3,978.1	282.1	52.8	229.34	1.230	Level 2			
11,200.0	7,007.1	11,284.7	7,061.2	119.7	119.8	101.05	-699.1	4,078.1	282.1	47.3	234.81	1.201	Level 2			
11,300.0	7,006.3	11,384.7	7,060.3	122.5	122.6	101.04	-699.1	4,178.0	282.1	41.8	240.28	1.174	Level 2			
11,326.9	7,006.1	11,411.6	7,060.1	123.0	123.4	101.04	-699.1	4,204.9	282.1	40.6	241.49	1.168	Level 2			
11,338.1	7,006.0	11,422.4	7,060.0	123.2	123.7	101.04	-699.1	4,215.8	282.1	40.1	241.99	1.166	Level 2, SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design													High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-312 - Wellbore #1 - Plan #1		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	0.00	14.6	0.0	14.6	14.6	0.00	N/A				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	14.6	0.0	14.6	14.3	0.22	64.841				
200.0	200.0	200.0	200.0	0.3	0.3	0.00	14.6	0.0	14.6	13.9	0.67	21.612				
300.0	300.0	300.0	300.0	0.6	0.6	0.00	14.6	0.0	14.6	13.4	1.12	12.967				
400.0	400.0	400.0	400.0	0.8	0.8	0.00	14.6	0.0	14.6	13.0	1.57	9.262				
500.0	500.0	500.0	500.0	1.0	1.0	0.00	14.6	0.0	14.6	12.5	2.02	7.204				
600.0	600.0	600.0	600.0	1.2	1.2	0.00	14.6	0.0	14.6	12.1	2.47	5.894				
700.0	700.0	700.0	700.0	1.5	1.5	0.00	14.6	0.0	14.6	11.7	2.92	4.987				
800.0	800.0	800.0	800.0	1.7	1.7	0.00	14.6	0.0	14.6	11.2	3.37	4.322				
900.0	900.0	900.0	900.0	1.9	1.9	0.00	14.6	0.0	14.6	10.8	3.82	3.814				
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	14.6	0.0	14.6	10.3	4.27	3.412				
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	14.6	0.0	14.6	9.9	4.72	3.087				
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	14.6	0.0	14.6	9.4	5.17	2.819 CC				
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	141.58	14.6	0.0	15.6	10.0	5.59	2.784				
1,400.0	1,399.9	1,399.9	1,399.9	3.0	3.0	149.00	14.6	0.0	18.8	12.8	6.00	3.135				
1,500.0	1,499.7	1,500.1	1,500.1	3.2	3.2	154.69	13.9	-1.2	23.7	17.3	6.39	3.712				
1,600.0	1,599.3	1,600.5	1,600.4	3.4	3.4	156.87	12.1	-4.6	29.2	22.5	6.76	4.323				
1,700.0	1,698.6	1,700.9	1,700.6	3.6	3.6	157.08	8.9	-10.4	35.3	28.1	7.15	4.932				
1,731.2	1,729.5	1,732.3	1,731.9	3.7	3.7	156.89	7.7	-12.7	37.2	30.0	7.28	5.120				
1,800.0	1,797.6	1,801.5	1,800.7	3.8	3.8	155.84	4.5	-18.5	41.2	33.7	7.56	5.449				
1,900.0	1,896.7	1,902.2	1,900.7	4.1	4.1	152.63	-1.2	-29.0	45.5	37.5	8.01	5.677				
2,000.0	1,995.7	2,002.1	1,999.8	4.4	4.3	148.55	-7.6	-40.7	48.8	40.3	8.48	5.750				
2,100.0	2,094.7	2,102.0	2,098.8	4.7	4.6	144.98	-14.0	-52.5	52.3	43.3	8.99	5.822				
2,200.0	2,193.8	2,201.9	2,197.8	5.0	4.8	141.88	-20.4	-64.3	56.0	46.5	9.51	5.890				
2,300.0	2,292.8	2,301.8	2,296.8	5.3	5.1	139.17	-26.8	-76.1	59.9	49.8	10.06	5.953				
2,400.0	2,391.8	2,401.7	2,395.7	5.6	5.4	136.79	-33.2	-87.9	63.9	53.2	10.62	6.011				
2,500.0	2,490.9	2,501.6	2,494.7	5.9	5.7	134.69	-39.6	-99.7	67.9	56.7	11.20	6.063				
2,600.0	2,589.9	2,601.5	2,593.7	6.2	6.0	132.84	-46.0	-111.5	72.1	60.3	11.80	6.110				
2,700.0	2,688.9	2,701.4	2,692.7	6.5	6.3	131.18	-52.4	-123.3	76.3	63.9	12.40	6.152				
2,800.0	2,788.0	2,801.3	2,791.7	6.8	6.6	129.70	-58.8	-135.0	80.6	67.6	13.01	6.190				
2,900.0	2,887.0	2,901.1	2,890.7	7.2	6.9	128.37	-65.2	-146.8	84.9	71.3	13.64	6.225				
3,000.0	2,986.0	3,001.0	2,989.6	7.5	7.2	127.17	-71.6	-158.6	89.3	75.0	14.27	6.257				
3,100.0	3,085.1	3,100.9	3,088.6	7.8	7.6	126.08	-78.0	-170.4	93.7	78.8	14.90	6.285				
3,200.0	3,184.1	3,200.8	3,187.6	8.2	7.9	125.09	-84.4	-182.2	98.1	82.5	15.54	6.311				
3,300.0	3,283.1	3,300.7	3,286.6	8.5	8.2	124.19	-90.8	-194.0	102.5	86.4	16.19	6.335				
3,400.0	3,382.2	3,400.6	3,385.6	8.8	8.5	123.36	-97.2	-205.8	107.0	90.2	16.83	6.357				
3,500.0	3,481.2	3,500.5	3,484.6	9.2	8.8	122.60	-103.6	-217.5	111.5	94.0	17.49	6.377				
3,600.0	3,580.2	3,600.4	3,583.5	9.5	9.2	121.89	-110.0	-229.3	116.0	97.9	18.14	6.396				
3,700.0	3,679.3	3,700.2	3,682.5	9.8	9.5	121.24	-116.4	-241.1	120.6	101.8	18.80	6.413				
3,800.0	3,778.3	3,800.1	3,781.5	10.2	9.8	120.64	-122.8	-252.9	125.1	105.7	19.46	6.429				
3,900.0	3,877.4	3,900.0	3,880.5	10.5	10.2	120.08	-129.2	-264.7	129.7	109.6	20.12	6.444				
4,000.0	3,976.4	3,999.9	3,979.5	10.9	10.5	119.56	-135.6	-276.5	134.3	113.5	20.79	6.458				
4,100.0	4,075.4	4,099.8	4,078.5	11.2	10.8	119.07	-142.0	-288.3	138.8	117.4	21.45	6.471				
4,200.0	4,174.5	4,199.7	4,177.4	11.5	11.1	118.61	-148.4	-300.1	143.4	121.3	22.12	6.484				
4,300.0	4,273.5	4,299.6	4,276.4	11.9	11.5	118.18	-154.8	-311.8	148.0	125.2	22.79	6.495				
4,400.0	4,372.5	4,399.5	4,375.4	12.2	11.8	117.78	-161.2	-323.6	152.6	129.2	23.46	6.506				
4,500.0	4,471.6	4,499.4	4,474.4	12.6	12.1	117.40	-167.6	-335.4	157.3	133.1	24.13	6.516				
4,600.0	4,570.6	4,599.2	4,573.4	12.9	12.5	117.04	-174.0	-347.2	161.9	137.1	24.81	6.526				
4,700.0	4,669.6	4,698.7	4,672.0	13.3	12.8	116.90	-180.1	-358.4	166.6	141.1	25.44	6.547				
4,800.0	4,768.7	4,797.8	4,770.6	13.6	13.0	117.80	-184.7	-366.9	171.7	145.7	25.94	6.618				
4,900.0	4,867.7	4,896.5	4,869.1	13.9	13.2	119.74	-187.7	-372.4	177.4	151.1	26.36	6.732				

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-312 - Wellbore #1 - Plan #1													Offset Site Error: 0.0 ft		
Survey Program: 0-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,966.7	4,994.6	4,967.2	14.3	13.4	122.57	-189.0	-374.8	184.1	157.4	26.67	6.902			
5,100.0	5,065.8	5,093.2	5,065.8	14.6	13.5	125.97	-189.1	-375.0	191.9	165.0	26.91	7.131			
5,200.0	5,164.8	5,192.2	5,164.8	15.0	13.7	129.16	-189.1	-375.0	200.4	173.2	27.14	7.384			
5,300.0	5,263.8	5,291.3	5,263.8	15.3	13.9	132.08	-189.1	-375.0	209.5	182.1	27.37	7.653			
5,339.4	5,302.9	5,330.3	5,302.9	15.5	13.9	133.17	-189.1	-375.0	213.2	185.7	27.46	7.763			
5,400.0	5,363.0	5,390.4	5,363.0	15.6	14.0	134.72	-189.1	-375.0	218.6	191.0	27.60	7.921			
5,500.0	5,462.4	5,489.9	5,462.4	15.9	14.2	136.63	-189.1	-375.0	225.8	198.0	27.82	8.115			
5,600.0	5,562.2	5,589.6	5,562.2	16.1	14.4	137.81	-189.1	-375.0	230.6	202.5	28.08	8.212			
5,700.0	5,662.2	5,689.6	5,662.2	16.2	14.5	138.35	-189.1	-375.0	232.9	204.5	28.37	8.209			
5,737.8	5,700.0	5,727.4	5,700.0	16.3	14.6	0.00	-189.1	-375.0	233.1	205.3	27.77	8.394			
5,800.0	5,762.2	5,789.6	5,762.2	16.4	14.7	0.00	-189.1	-375.0	233.1	205.1	27.99	8.327			
5,900.0	5,862.2	5,889.6	5,862.2	16.5	14.9	0.00	-189.1	-375.0	233.1	204.7	28.34	8.224			
6,000.0	5,962.2	5,989.6	5,962.2	16.7	15.1	0.00	-189.1	-375.0	233.1	204.4	28.70	8.122			
6,100.0	6,062.2	6,089.6	6,062.2	16.8	15.2	0.00	-189.1	-375.0	233.1	204.0	29.05	8.022			
6,200.0	6,162.2	6,189.6	6,162.2	17.0	15.4	0.00	-189.1	-375.0	233.1	203.7	29.41	7.924			
6,300.0	6,262.2	6,289.6	6,262.2	17.1	15.6	0.00	-189.1	-375.0	233.1	203.3	29.77	7.828			
6,311.2	6,273.4	6,300.8	6,273.4	17.1	15.6	0.00	-189.1	-375.0	233.1	203.3	29.81	7.818			
6,318.6	6,280.7	6,308.1	6,280.7	17.1	15.6	-90.01	-189.1	-375.0	233.1	202.5	30.55	7.629			
6,350.0	6,312.2	6,339.6	6,312.2	17.2	15.7	-90.24	-189.1	-375.0	233.1	202.4	30.68	7.597			
6,400.0	6,362.0	6,389.5	6,362.1	17.2	15.8	-91.19	-189.1	-374.7	233.1	202.2	30.91	7.543			
6,450.0	6,411.4	6,439.8	6,412.3	17.3	15.8	-92.27	-189.1	-371.7	233.3	202.2	31.10	7.501			
6,500.0	6,460.3	6,490.4	6,462.4	17.3	15.9	-93.35	-189.1	-365.3	233.5	202.2	31.24	7.473			
6,550.0	6,508.3	6,541.2	6,512.3	17.3	15.9	-94.41	-189.1	-355.6	233.8	202.4	31.35	7.457			
6,600.0	6,555.3	6,592.4	6,561.8	17.3	15.9	-95.45	-189.1	-342.4	234.1	202.7	31.41	7.454			
6,650.0	6,601.2	6,643.9	6,610.5	17.3	15.9	-96.46	-189.1	-325.9	234.6	203.1	31.44	7.461			
6,700.0	6,645.6	6,695.6	6,658.3	17.2	15.9	-97.45	-189.1	-306.0	235.1	203.6	31.45	7.475			
6,750.0	6,688.4	6,747.7	6,704.9	17.2	15.9	-98.41	-189.1	-282.8	235.6	204.2	31.44	7.494			
6,800.0	6,729.5	6,800.1	6,750.0	17.2	15.9	-99.32	-189.1	-256.3	236.2	204.8	31.44	7.514			
6,850.0	6,768.6	6,852.7	6,793.5	17.1	15.9	-100.19	-189.1	-226.6	236.8	205.4	31.46	7.529			
6,900.0	6,805.6	6,905.6	6,835.0	17.1	15.9	-101.02	-189.1	-193.8	237.5	206.0	31.52	7.534			
6,950.0	6,840.3	6,958.8	6,874.3	17.1	16.0	-101.80	-189.1	-158.1	238.1	206.5	31.65	7.523			
7,000.0	6,872.6	7,012.2	6,911.3	17.0	16.1	-102.52	-189.1	-119.5	238.8	206.9	31.89	7.488			
7,050.0	6,902.3	7,065.9	6,945.5	17.0	16.3	-103.18	-189.1	-78.2	239.4	207.2	32.24	7.426			
7,100.0	6,929.3	7,119.7	6,977.0	17.1	16.5	-103.78	-189.1	-34.5	240.0	207.3	32.74	7.331			
7,150.0	6,953.5	7,173.8	7,005.3	17.2	16.9	-104.32	-189.1	11.6	240.6	207.2	33.41	7.201			
7,200.0	6,974.8	7,228.1	7,030.4	17.5	17.4	-104.80	-189.1	59.7	241.1	206.8	34.26	7.038			
7,250.0	6,993.1	7,282.5	7,052.1	18.0	18.0	-105.20	-189.1	109.6	241.5	206.3	35.29	6.844			
7,300.0	7,008.3	7,337.1	7,070.2	18.7	18.7	-105.54	-189.1	161.0	241.9	205.4	36.52	6.624			
7,350.0	7,020.4	7,391.7	7,084.7	19.4	19.4	-105.81	-189.1	213.7	242.3	204.3	37.93	6.386			
7,400.0	7,029.3	7,446.5	7,095.3	20.2	20.3	-106.01	-189.1	267.4	242.5	203.0	39.51	6.137			
7,450.0	7,034.9	7,501.3	7,102.1	21.1	21.3	-106.13	-189.1	321.8	242.6	201.4	41.25	5.883			
7,500.0	7,037.3	7,556.2	7,104.9	22.1	22.3	-106.19	-189.1	376.6	242.7	199.6	43.11	5.630			
7,517.5	7,037.3	7,575.3	7,105.0	22.4	22.7	-106.19	-189.1	395.8	242.7	198.9	43.79	5.542			
7,600.0	7,036.7	7,657.8	7,104.3	24.1	24.3	-106.18	-189.1	478.3	242.7	195.7	46.96	5.168			
7,700.0	7,035.8	7,757.8	7,103.5	26.2	26.4	-106.18	-189.1	578.3	242.7	191.7	51.05	4.755			
7,800.0	7,035.0	7,857.8	7,102.6	28.5	28.7	-106.18	-189.1	678.2	242.7	187.3	55.35	4.385			
7,900.0	7,034.2	7,957.8	7,101.8	30.8	31.0	-106.17	-189.1	778.2	242.7	182.9	59.84	4.056			
8,000.0	7,033.4	8,057.8	7,101.0	33.2	33.4	-106.17	-189.1	878.2	242.7	178.2	64.47	3.765			
8,100.0	7,032.6	8,157.8	7,100.1	35.7	35.9	-106.16	-189.1	978.2	242.7	173.5	69.21	3.507			
8,200.0	7,031.7	8,257.8	7,099.3	38.2	38.4	-106.16	-189.1	1,078.2	242.7	168.7	74.04	3.278			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10F-312 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,300.0	7,030.9	8,357.8	7,098.4	40.7	40.9	-106.16	-189.1	1,178.2	242.7	163.7	78.94	3.074		
8,400.0	7,030.1	8,457.8	7,097.6	43.3	43.5	-106.15	-189.1	1,278.2	242.7	158.8	83.91	2.892		
8,500.0	7,029.3	8,557.8	7,096.8	45.9	46.1	-106.15	-189.1	1,378.2	242.7	153.8	88.92	2.729		
8,600.0	7,028.5	8,657.8	7,095.9	48.5	48.7	-106.14	-189.1	1,478.2	242.7	148.7	93.98	2.582		
8,700.0	7,027.6	8,757.8	7,095.1	51.2	51.4	-106.14	-189.1	1,578.2	242.7	143.6	99.08	2.449		
8,800.0	7,026.8	8,857.8	7,094.3	53.9	54.0	-106.14	-189.1	1,678.2	242.7	138.5	104.21	2.329		
8,900.0	7,026.0	8,957.8	7,093.4	56.5	56.7	-106.13	-189.1	1,778.2	242.7	133.3	109.36	2.219		
9,000.0	7,025.2	9,057.8	7,092.6	59.2	59.4	-106.13	-189.1	1,878.2	242.7	128.1	114.54	2.119		
9,100.0	7,024.4	9,157.8	7,091.7	61.9	62.1	-106.12	-189.1	1,978.2	242.7	122.9	119.74	2.027		
9,200.0	7,023.5	9,257.8	7,090.9	64.6	64.8	-106.12	-189.1	2,078.2	242.7	117.7	124.95	1.942		
9,300.0	7,022.7	9,357.8	7,090.1	67.3	67.5	-106.11	-189.1	2,178.2	242.7	112.5	130.18	1.864		
9,400.0	7,021.9	9,457.8	7,089.2	70.1	70.2	-106.11	-189.1	2,278.2	242.7	107.2	135.43	1.792		
9,500.0	7,021.1	9,557.8	7,088.4	72.8	73.0	-106.11	-189.1	2,378.2	242.7	102.0	140.68	1.725		
9,600.0	7,020.3	9,657.8	7,087.6	75.5	75.7	-106.10	-189.1	2,478.2	242.6	96.7	145.95	1.663		
9,700.0	7,019.4	9,757.8	7,086.7	78.3	78.4	-106.10	-189.1	2,578.2	242.6	91.4	151.23	1.604		
9,800.0	7,018.6	9,857.8	7,085.9	81.0	81.2	-106.09	-189.1	2,678.2	242.6	86.1	156.52	1.550		
9,900.0	7,017.8	9,957.8	7,085.0	83.8	83.9	-106.09	-189.1	2,778.2	242.6	80.8	161.81	1.500 Level 3		
10,000.0	7,017.0	10,057.8	7,084.2	86.5	86.7	-106.09	-189.1	2,878.2	242.6	75.5	167.11	1.452 Level 3		
10,100.0	7,016.2	10,157.8	7,083.4	89.3	89.4	-106.08	-189.1	2,978.2	242.6	70.2	172.42	1.407 Level 3		
10,200.0	7,015.3	10,257.8	7,082.5	92.0	92.2	-106.08	-189.1	3,078.2	242.6	64.9	177.73	1.365 Level 3		
10,300.0	7,014.5	10,357.8	7,081.7	94.8	94.9	-106.07	-189.1	3,178.2	242.6	59.6	183.05	1.325 Level 3		
10,400.0	7,013.7	10,457.8	7,080.9	97.5	97.7	-106.07	-189.1	3,278.2	242.6	54.2	188.38	1.288 Level 3		
10,500.0	7,012.9	10,557.8	7,080.0	100.3	100.5	-106.07	-189.1	3,378.2	242.6	48.9	193.71	1.253 Level 3		
10,600.0	7,012.1	10,657.8	7,079.2	103.1	103.2	-106.06	-189.1	3,478.2	242.6	43.6	199.04	1.219 Level 2		
10,700.0	7,011.2	10,757.8	7,078.3	105.8	106.0	-106.06	-189.1	3,578.1	242.6	38.2	204.38	1.187 Level 2		
10,800.0	7,010.4	10,857.8	7,077.5	108.6	108.8	-106.05	-189.1	3,678.1	242.6	32.9	209.72	1.157 Level 2		
10,900.0	7,009.6	10,957.8	7,076.7	111.4	111.6	-106.05	-189.1	3,778.1	242.6	27.5	215.07	1.128 Level 2		
11,000.0	7,008.8	11,057.8	7,075.8	114.2	114.3	-106.05	-189.1	3,878.1	242.6	22.2	220.42	1.101 Level 2		
11,100.0	7,008.0	11,157.8	7,075.0	116.9	117.1	-106.04	-189.1	3,978.1	242.6	16.8	225.77	1.075 Level 2		
11,200.0	7,007.1	11,257.8	7,074.2	119.7	119.9	-106.04	-189.1	4,078.1	242.6	11.5	231.12	1.050 Level 2		
11,300.0	7,006.3	11,357.8	7,073.3	122.5	122.7	-106.03	-189.1	4,178.1	242.6	6.1	236.48	1.026 Level 2		
11,338.1	7,006.0	11,396.0	7,073.0	123.2	123.7	-106.03	-189.1	4,216.3	242.6	4.4	238.15	1.019 Level 2, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10G-202 - Wellbore #1 - Plan #											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	-177.27	-58.3	-2.8	58.4						
100.0	100.0	100.0	100.0	0.1	0.1	-177.27	-58.3	-2.8	58.4	58.1	0.22	259.658			
200.0	200.0	200.0	200.0	0.3	0.3	-177.27	-58.3	-2.8	58.4	57.7	0.67	86.547	CC, ES		
300.0	300.0	298.5	298.5	0.6	0.5	-177.04	-59.5	-3.1	59.6	58.5	1.10	54.318			
400.0	400.0	396.9	396.8	0.8	0.7	-176.41	-63.2	-4.0	63.4	61.9	1.52	41.655			
500.0	500.0	495.0	494.7	1.0	1.0	-175.51	-69.4	-5.4	69.8	67.8	1.97	35.454			
600.0	600.0	592.7	592.0	1.2	1.2	-174.51	-77.9	-7.5	78.7	76.2	2.43	32.359			
700.0	700.0	689.9	688.6	1.5	1.5	-173.51	-88.8	-10.1	90.1	87.2	2.91	30.948			
800.0	800.0	786.5	784.2	1.7	1.8	-172.59	-102.0	-13.3	104.1	100.6	3.41	30.524	SF		
900.0	900.0	882.3	878.7	1.9	2.1	-171.78	-117.4	-17.0	120.5	116.6	3.92	30.706			
1,000.0	1,000.0	977.3	971.9	2.1	2.5	-171.08	-134.9	-21.2	139.4	135.0	4.46	31.273			
1,100.0	1,100.0	1,071.3	1,063.7	2.4	2.9	-170.49	-154.5	-25.9	160.8	155.8	5.01	32.088			
1,200.0	1,200.0	1,164.2	1,154.0	2.6	3.4	-170.00	-176.0	-31.0	184.5	179.0	5.58	33.063			
1,300.0	1,300.0	1,256.3	1,242.9	2.8	3.8	-31.18	-199.4	-36.7	209.6	203.9	5.62	37.261			
1,400.0	1,399.9	1,347.7	1,330.5	3.0	4.3	-31.09	-224.7	-42.7	234.7	228.7	6.06	38.743			
1,500.0	1,499.7	1,440.2	1,418.5	3.2	4.9	-31.24	-252.3	-49.3	260.0	253.5	6.51	39.910			
1,600.0	1,599.3	1,537.3	1,510.7	3.4	5.5	-31.64	-281.8	-56.4	283.7	276.7	6.99	40.594			
1,700.0	1,698.6	1,634.8	1,603.4	3.6	6.1	-32.23	-311.5	-63.6	305.3	297.8	7.48	40.804			
1,731.2	1,729.5	1,665.3	1,632.4	3.7	6.3	-32.44	-320.8	-65.8	311.6	304.0	7.64	40.786			
1,800.0	1,797.6	1,732.7	1,696.3	3.8	6.7	-33.03	-341.3	-70.7	325.3	317.3	8.00	40.681			
1,900.0	1,896.7	1,830.6	1,789.3	4.1	7.3	-33.80	-371.1	-77.8	345.3	336.8	8.53	40.497			
2,000.0	1,995.7	1,928.5	1,882.3	4.4	7.9	-34.49	-400.8	-85.0	365.3	356.2	9.07	40.289			
2,100.0	2,094.7	2,026.3	1,975.3	4.7	8.5	-35.10	-430.6	-92.1	385.4	375.8	9.62	40.065			
2,200.0	2,193.8	2,124.2	2,068.2	5.0	9.1	-35.65	-460.4	-99.3	405.5	395.3	10.18	39.833			
2,300.0	2,292.8	2,222.1	2,161.2	5.3	9.7	-36.15	-490.2	-106.4	425.6	414.9	10.75	39.599			
2,400.0	2,391.8	2,320.0	2,254.2	5.6	10.4	-36.61	-520.0	-113.6	445.8	434.5	11.32	39.366			
2,500.0	2,490.9	2,417.9	2,347.1	5.9	11.0	-37.03	-549.8	-120.7	466.0	454.1	11.91	39.137			
2,600.0	2,589.9	2,515.8	2,440.1	6.2	11.6	-37.41	-579.6	-127.9	486.2	473.7	12.49	38.914			
2,700.0	2,688.9	2,613.7	2,533.1	6.5	12.2	-37.76	-609.3	-135.0	506.4	493.3	13.09	38.698			
2,800.0	2,788.0	2,711.5	2,626.1	6.8	12.8	-38.08	-639.1	-142.2	526.7	513.0	13.68	38.489			
2,900.0	2,887.0	2,809.4	2,719.0	7.2	13.4	-38.38	-668.9	-149.3	546.9	532.6	14.28	38.288			
3,000.0	2,986.0	2,907.3	2,812.0	7.5	14.1	-38.66	-698.7	-156.5	567.2	552.3	14.89	38.096			
3,100.0	3,085.1	3,005.2	2,905.0	7.8	14.7	-38.92	-728.5	-163.6	587.5	572.0	15.50	37.911			
3,200.0	3,184.1	3,103.1	2,997.9	8.2	15.3	-39.17	-758.3	-170.8	607.8	591.7	16.11	37.734			
3,300.0	3,283.1	3,201.0	3,090.9	8.5	15.9	-39.39	-788.0	-177.9	628.1	611.4	16.72	37.565			
3,400.0	3,382.2	3,298.9	3,183.9	8.8	16.5	-39.60	-817.8	-185.1	648.4	631.1	17.34	37.403			
3,500.0	3,481.2	3,396.8	3,276.8	9.2	17.2	-39.80	-847.6	-192.2	668.7	650.8	17.95	37.248			
3,600.0	3,580.2	3,494.6	3,369.8	9.5	17.8	-39.99	-877.4	-199.4	689.1	670.5	18.57	37.100			
3,700.0	3,679.3	3,592.5	3,462.8	9.8	18.4	-40.17	-907.2	-206.5	709.4	690.2	19.19	36.959			
3,800.0	3,778.3	3,690.4	3,555.8	10.2	19.0	-40.34	-937.0	-213.7	729.8	709.9	19.82	36.823			
3,900.0	3,877.4	3,788.3	3,648.7	10.5	19.7	-40.49	-966.8	-220.8	750.1	729.7	20.44	36.693			
4,000.0	3,976.4	3,886.2	3,741.7	10.9	20.3	-40.64	-996.5	-228.0	770.5	749.4	21.07	36.569			
4,100.0	4,075.4	3,984.1	3,834.7	11.2	20.9	-40.79	-1,026.3	-235.1	790.8	769.1	21.70	36.450			
4,200.0	4,174.5	4,082.0	3,927.6	11.5	21.5	-40.92	-1,056.1	-242.3	811.2	788.9	22.32	36.336			
4,300.0	4,273.5	4,179.9	4,020.6	11.9	22.1	-41.05	-1,085.9	-249.4	831.6	808.6	22.95	36.227			
4,400.0	4,372.5	4,277.7	4,113.6	12.2	22.8	-41.17	-1,115.7	-256.6	851.9	828.4	23.58	36.122			
4,500.0	4,471.6	4,375.6	4,206.6	12.6	23.4	-41.29	-1,145.5	-263.7	872.3	848.1	24.22	36.021			
4,600.0	4,570.6	4,473.5	4,299.5	12.9	24.0	-41.40	-1,175.3	-270.9	892.7	867.8	24.85	35.925			
4,700.0	4,669.6	4,571.4	4,392.5	13.3	24.6	-41.51	-1,205.0	-278.0	913.1	887.6	25.48	35.832			
4,800.0	4,768.7	4,669.3	4,485.5	13.6	25.3	-41.61	-1,234.8	-285.2	933.5	907.4	26.12	35.742			
4,900.0	4,867.7	4,767.2	4,578.4	13.9	25.9	-41.70	-1,264.6	-292.3	953.9	927.1	26.75	35.656			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	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	4,966.7	4,865.1	4,671.4	14.3	26.5	-41.80	-1,294.4	-299.4	974.2	946.9	27.39	35.574			
5,100.0	5,065.8	4,962.9	4,764.4	14.6	27.1	-41.89	-1,324.2	-306.6	994.6	966.6	28.02	35.494			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design													High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10G-312 - Wellbore #1 - Plan #		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	-176.36	-43.7	-2.8	43.8							
100.0	100.0	100.0	100.0	0.1	0.1	-176.36	-43.7	-2.8	43.8	43.6	0.22	194.916				
200.0	200.0	200.0	200.0	0.3	0.3	-176.36	-43.7	-2.8	43.8	43.1	0.67	64.968				
300.0	300.0	300.0	300.0	0.6	0.6	-176.36	-43.7	-2.8	43.8	42.7	1.12	38.980				
400.0	400.0	400.0	400.0	0.8	0.8	-176.36	-43.7	-2.8	43.8	42.2	1.57	27.843	CC, ES			
500.0	500.0	498.9	498.9	1.0	1.0	-175.99	-44.9	-3.2	45.1	43.1	1.99	22.593				
600.0	600.0	597.6	597.5	1.2	1.2	-174.99	-48.6	-4.3	48.9	46.5	2.41	20.299				
700.0	700.0	696.1	695.8	1.5	1.4	-173.65	-54.7	-6.1	55.2	52.4	2.84	19.456				
800.0	800.0	794.2	793.5	1.7	1.6	-172.21	-63.2	-8.6	64.1	60.8	3.28	19.514				
900.0	900.0	891.7	890.4	1.9	1.9	-170.87	-74.0	-11.9	75.5	71.8	3.75	20.148				
1,000.0	1,000.0	988.7	986.3	2.1	2.2	-169.69	-87.1	-15.8	89.5	85.3	4.23	21.156				
1,100.0	1,100.0	1,084.8	1,081.2	2.4	2.5	-168.71	-102.3	-20.4	106.0	101.3	4.73	22.403				
1,200.0	1,200.0	1,180.1	1,174.7	2.6	2.8	-167.90	-119.7	-25.7	125.0	119.8	5.25	23.800				
1,300.0	1,300.0	1,274.7	1,267.1	2.8	3.2	-167.21	-139.2	-31.5	145.4	139.9	5.50	26.435				
1,400.0	1,399.9	1,368.8	1,358.4	3.0	3.6	-166.85	-160.7	-38.0	165.8	159.9	5.92	28.020				
1,500.0	1,499.7	1,466.1	1,452.5	3.2	4.1	-166.69	-184.4	-45.2	185.7	179.3	6.36	29.190				
1,600.0	1,599.3	1,564.5	1,547.7	3.4	4.6	-166.69	-208.5	-52.4	203.3	196.5	6.81	29.846				
1,700.0	1,698.6	1,663.2	1,643.1	3.6	5.1	-166.69	-232.6	-59.6	218.7	211.4	7.28	30.032				
1,731.2	1,729.5	1,694.1	1,673.0	3.7	5.3	-166.69	-240.1	-61.9	223.1	215.6	7.43	30.011				
1,800.0	1,797.6	1,762.2	1,738.8	3.8	5.6	-166.69	-256.7	-66.9	232.5	224.7	7.78	29.900				
1,900.0	1,896.7	1,861.1	1,834.5	4.1	6.1	-166.69	-280.9	-74.2	246.3	238.0	8.29	29.723				
2,000.0	1,995.7	1,960.1	1,930.2	4.4	6.6	-166.69	-305.1	-81.5	260.1	251.3	8.81	29.531				
2,100.0	2,094.7	2,059.1	2,025.9	4.7	7.2	-166.69	-329.2	-88.7	273.9	264.6	9.34	29.332				
2,200.0	2,193.8	2,158.0	2,121.6	5.0	7.7	-166.69	-353.4	-96.0	287.9	278.0	9.88	29.130				
2,300.0	2,292.8	2,257.0	2,217.3	5.3	8.2	-166.69	-377.5	-103.3	301.8	291.4	10.43	28.928				
2,400.0	2,391.8	2,356.0	2,313.0	5.6	8.7	-166.69	-401.7	-110.6	315.8	304.8	10.99	28.730				
2,500.0	2,490.9	2,454.9	2,408.7	5.9	9.2	-166.69	-425.9	-117.8	329.8	318.2	11.56	28.537				
2,600.0	2,589.9	2,553.9	2,504.4	6.2	9.8	-166.69	-450.0	-125.1	343.8	331.7	12.13	28.349				
2,700.0	2,688.9	2,652.9	2,600.1	6.5	10.3	-166.69	-474.2	-132.4	357.9	345.2	12.71	28.168				
2,800.0	2,788.0	2,751.9	2,695.8	6.8	10.8	-166.69	-498.3	-139.7	372.0	358.7	13.29	27.994				
2,900.0	2,887.0	2,850.8	2,791.5	7.2	11.3	-166.69	-522.5	-146.9	386.1	372.2	13.87	27.827				
3,000.0	2,986.0	2,949.8	2,887.2	7.5	11.9	-166.69	-546.7	-154.2	400.2	385.7	14.47	27.667				
3,100.0	3,085.1	3,048.8	2,982.9	7.8	12.4	-166.69	-570.8	-161.5	414.3	399.3	15.06	27.513				
3,200.0	3,184.1	3,147.7	3,078.6	8.2	12.9	-166.69	-595.0	-168.8	428.5	412.8	15.66	27.367				
3,300.0	3,283.1	3,246.7	3,174.3	8.5	13.4	-166.69	-619.1	-176.0	442.6	426.4	16.26	27.227				
3,400.0	3,382.2	3,345.7	3,270.0	8.8	14.0	-166.69	-643.3	-183.3	456.8	439.9	16.86	27.094				
3,500.0	3,481.2	3,444.6	3,365.7	9.2	14.5	-166.69	-667.5	-190.6	471.0	453.5	17.47	26.967				
3,600.0	3,580.2	3,543.6	3,461.4	9.5	15.0	-166.69	-691.6	-197.8	485.2	467.1	18.07	26.845				
3,700.0	3,679.3	3,642.6	3,557.1	9.8	15.6	-166.69	-715.8	-205.1	499.4	480.7	18.68	26.729				
3,800.0	3,778.3	3,741.5	3,652.8	10.2	16.1	-166.69	-740.0	-212.4	513.6	494.3	19.29	26.617				
3,900.0	3,877.4	3,840.5	3,748.5	10.5	16.6	-166.69	-764.1	-219.7	527.8	507.9	19.91	26.511				
4,000.0	3,976.4	3,939.5	3,844.2	10.9	17.1	-166.69	-788.3	-226.9	542.0	521.5	20.52	26.410				
4,100.0	4,075.4	4,038.4	3,939.9	11.2	17.7	-166.69	-812.4	-234.2	556.2	535.1	21.14	26.312				
4,200.0	4,174.5	4,137.4	4,035.6	11.5	18.2	-166.69	-836.6	-241.5	570.4	548.7	21.76	26.219				
4,300.0	4,273.5	4,236.4	4,131.3	11.9	18.7	-166.69	-860.8	-248.8	584.7	562.3	22.37	26.130				
4,400.0	4,372.5	4,335.4	4,227.0	12.2	19.3	-166.69	-884.9	-256.0	598.9	575.9	22.99	26.044				
4,500.0	4,471.6	4,434.3	4,322.7	12.6	19.8	-166.69	-909.1	-263.3	613.1	589.5	23.62	25.962				
4,600.0	4,570.6	4,533.3	4,418.4	12.9	20.3	-166.69	-933.2	-270.6	627.4	603.1	24.24	25.883				
4,700.0	4,669.6	4,632.3	4,514.1	13.3	20.9	-166.69	-957.4	-277.9	641.6	616.8	24.86	25.808				
4,800.0	4,768.7	4,731.2	4,609.8	13.6	21.4	-166.69	-981.6	-285.1	655.9	630.4	25.49	25.735				
4,900.0	4,867.7	4,830.2	4,705.5	13.9	21.9	-166.69	-1,005.7	-292.4	670.1	644.0	26.11	25.665				

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10G-312 - Wellbore #1 - Plan #													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,966.7	4,929.2	4,801.2	14.3	22.4	-42.76	-1,029.9	-299.7	684.4	657.6	26.74	25.598			
5,100.0	5,065.8	5,028.1	4,896.9	14.6	23.0	-42.87	-1,054.0	-307.0	698.6	671.3	27.36	25.533			
5,200.0	5,164.8	5,127.1	4,992.6	15.0	23.5	-42.98	-1,078.2	-314.2	712.9	684.9	27.99	25.471			
5,300.0	5,263.8	5,226.1	5,088.3	15.3	24.0	-43.09	-1,102.4	-321.5	727.2	698.5	28.62	25.410			
5,339.4	5,302.9	5,265.1	5,126.0	15.5	24.2	-43.13	-1,111.9	-324.4	732.8	703.9	28.86	25.387			
5,400.0	5,363.0	5,325.0	5,183.9	15.6	24.6	-43.29	-1,126.5	-328.8	741.9	712.7	29.21	25.396			
5,500.0	5,462.4	5,423.5	5,279.2	15.9	25.1	-43.42	-1,150.6	-336.0	758.9	729.2	29.71	25.544			
5,600.0	5,562.2	5,521.5	5,373.9	16.1	25.6	-43.42	-1,174.5	-343.2	778.5	748.3	30.14	25.825			
5,700.0	5,662.2	5,618.8	5,468.1	16.2	26.1	-43.29	-1,198.3	-350.4	800.5	770.0	30.52	26.233			
5,737.8	5,700.0	5,668.4	5,516.0	16.3	26.4	178.47	-1,210.0	-353.9	809.2	769.0	40.21	20.126			
5,800.0	5,762.2	5,751.5	5,597.1	16.4	26.7	178.88	-1,227.9	-359.3	822.6	781.9	40.67	20.223			
5,900.0	5,862.2	5,887.4	5,730.5	16.5	27.1	179.42	-1,252.2	-366.6	840.4	799.1	41.31	20.344			
6,000.0	5,962.2	6,025.5	5,867.3	16.7	27.4	179.81	-1,270.7	-372.2	853.8	812.0	41.86	20.397			
6,100.0	6,062.2	6,165.1	6,006.3	16.8	27.7	-179.94	-1,283.0	-375.9	862.6	820.3	42.32	20.384			
6,200.0	6,162.2	6,305.7	6,146.7	17.0	27.9	-179.83	-1,288.8	-377.6	866.8	824.1	42.69	20.305			
6,300.0	6,262.2	6,421.2	6,262.2	17.1	28.0	-179.82	-1,289.3	-377.8	867.1	824.1	42.97	20.179			
6,311.2	6,273.4	6,432.4	6,273.4	17.1	28.0	-179.82	-1,289.3	-377.8	867.1	824.1	43.00	20.166			
6,350.0	6,312.2	6,471.2	6,312.2	17.2	28.0	90.25	-1,289.3	-377.8	867.1	834.3	32.83	26.411			
6,400.0	6,362.0	6,521.3	6,362.3	17.2	28.1	90.48	-1,289.3	-377.1	867.1	834.2	32.90	26.355			
6,450.0	6,411.4	6,571.8	6,412.6	17.3	28.1	90.72	-1,289.3	-373.3	867.2	834.2	32.94	26.329			
6,500.0	6,460.3	6,622.5	6,462.8	17.3	28.1	90.96	-1,289.3	-366.2	867.2	834.3	32.93	26.333			
6,550.0	6,508.3	6,673.4	6,512.7	17.3	28.1	91.20	-1,289.3	-355.7	867.3	834.4	32.90	26.363			
6,600.0	6,555.3	6,724.6	6,561.9	17.3	28.1	91.43	-1,289.3	-341.8	867.4	834.5	32.84	26.411			
6,650.0	6,601.2	6,776.1	6,610.4	17.3	28.1	91.66	-1,289.3	-324.5	867.5	834.7	32.77	26.472			
6,700.0	6,645.6	6,827.8	6,657.8	17.2	28.1	91.88	-1,289.3	-303.9	867.6	834.9	32.69	26.536			
6,750.0	6,688.4	6,879.8	6,704.0	17.2	28.1	92.09	-1,289.3	-280.1	867.7	835.1	32.63	26.591			
6,800.0	6,729.5	6,931.9	6,748.5	17.2	28.0	92.29	-1,289.3	-253.0	867.8	835.2	32.60	26.623			
6,850.0	6,768.6	6,984.3	6,791.4	17.1	28.0	92.48	-1,289.3	-222.8	867.9	835.3	32.61	26.617			
6,900.0	6,805.6	7,036.9	6,832.2	17.1	28.0	92.67	-1,289.3	-189.6	868.0	835.4	32.69	26.555			
6,950.0	6,840.3	7,089.8	6,870.8	17.1	27.9	92.84	-1,289.3	-153.6	868.2	835.3	32.86	26.420			
7,000.0	6,872.6	7,142.8	6,906.9	17.0	27.9	93.00	-1,289.3	-114.8	868.3	835.1	33.15	26.196			
7,050.0	6,902.3	7,196.0	6,940.3	17.0	27.8	93.14	-1,289.3	-73.4	868.4	834.8	33.57	25.872			
7,100.0	6,929.3	7,249.3	6,970.9	17.1	27.8	93.27	-1,289.3	-29.7	868.5	834.4	34.14	25.441			
7,150.0	6,953.5	7,302.8	6,998.5	17.2	27.8	93.39	-1,289.3	16.1	868.6	833.7	34.88	24.901			
7,200.0	6,974.8	7,356.5	7,022.8	17.5	27.8	93.49	-1,289.3	63.9	868.7	832.9	35.81	24.261			
7,250.0	6,993.1	7,410.2	7,043.7	18.0	27.8	93.57	-1,289.3	113.4	868.8	831.9	36.90	23.541			
7,300.0	7,008.3	7,464.1	7,061.2	18.7	27.8	93.64	-1,289.3	164.4	868.9	830.7	38.18	22.757			
7,350.0	7,020.4	7,518.0	7,075.0	19.4	27.9	93.69	-1,289.3	216.5	868.9	829.3	39.62	21.932			
7,400.0	7,029.3	7,572.0	7,085.1	20.2	28.0	93.73	-1,289.3	269.5	868.9	827.7	41.21	21.088			
7,450.0	7,034.9	7,626.0	7,091.5	21.1	28.2	93.74	-1,289.3	323.1	869.0	826.0	42.92	20.245			
7,500.0	7,037.3	7,680.0	7,094.0	22.1	28.5	93.74	-1,289.3	377.0	869.0	824.2	44.74	19.420			
7,517.5	7,037.3	7,698.8	7,094.0	22.4	28.6	93.74	-1,289.3	395.8	868.9	823.5	45.40	19.140			
7,600.0	7,036.7	7,781.3	7,093.1	24.1	29.2	93.72	-1,289.3	478.3	868.9	820.3	48.59	17.882			
7,700.0	7,035.8	7,881.3	7,092.0	26.2	30.4	93.71	-1,289.3	578.3	868.9	816.2	52.73	16.478			
7,800.0	7,035.0	7,981.3	7,090.9	28.5	32.0	93.69	-1,289.3	678.3	868.9	811.8	57.12	15.211			
7,900.0	7,034.2	8,081.3	7,089.8	30.8	33.9	93.67	-1,289.3	778.3	868.9	807.2	61.71	14.080			
8,000.0	7,033.4	8,181.3	7,088.7	33.2	35.9	93.65	-1,289.3	878.3	868.9	802.4	66.45	13.075			
8,100.0	7,032.6	8,281.3	7,087.6	35.7	38.2	93.63	-1,289.3	978.3	868.8	797.5	71.32	12.183			
8,200.0	7,031.7	8,381.3	7,086.5	38.2	40.5	93.61	-1,289.3	1,078.3	868.8	792.5	76.29	11.389			
8,300.0	7,030.9	8,481.3	7,085.4	40.7	42.8	93.60	-1,289.3	1,178.3	868.8	787.5	81.34	10.682			

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 High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W - High Pointe LLC 10G-312 - Wellbore #1 - Plan #										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 +N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
8,400.0	7,030.1	8,581.3	7,084.3	43.3	45.3	93.58	-1,289.3	1,278.3	868.8	782.3	86.46	10.049		
8,500.0	7,029.3	8,681.3	7,083.2	45.9	47.7	93.56	-1,289.3	1,378.3	868.8	777.1	91.63	9.481		
8,600.0	7,028.5	8,781.3	7,082.1	48.5	50.3	93.54	-1,289.3	1,478.2	868.7	771.9	96.85	8.970		
8,700.0	7,027.6	8,881.3	7,081.0	51.2	52.8	93.52	-1,289.3	1,578.2	868.7	766.6	102.12	8.507		
8,800.0	7,026.8	8,981.3	7,079.9	53.9	55.4	93.50	-1,289.3	1,678.2	868.7	761.3	107.42	8.087		
8,900.0	7,026.0	9,081.3	7,078.8	56.5	58.0	93.49	-1,289.3	1,778.2	868.7	755.9	112.74	7.705		
9,000.0	7,025.2	9,181.3	7,077.7	59.2	60.6	93.47	-1,289.3	1,878.2	868.7	750.6	118.10	7.356		
9,100.0	7,024.4	9,281.3	7,076.6	61.9	63.2	93.45	-1,289.3	1,978.2	868.7	745.2	123.47	7.035		
9,200.0	7,023.5	9,381.3	7,075.5	64.6	65.9	93.43	-1,289.3	2,078.2	868.6	739.8	128.87	6.740		
9,300.0	7,022.7	9,481.3	7,074.4	67.3	68.5	93.41	-1,289.3	2,178.2	868.6	734.3	134.28	6.469		
9,400.0	7,021.9	9,581.3	7,073.3	70.1	71.2	93.39	-1,289.3	2,278.2	868.6	728.9	139.71	6.217		
9,500.0	7,021.1	9,681.3	7,072.2	72.8	73.9	93.37	-1,289.3	2,378.2	868.6	723.4	145.15	5.984		
9,600.0	7,020.3	9,781.3	7,071.1	75.5	76.6	93.36	-1,289.3	2,478.2	868.6	718.0	150.60	5.767		
9,700.0	7,019.4	9,881.3	7,070.0	78.3	79.3	93.34	-1,289.3	2,578.2	868.6	712.5	156.07	5.565		
9,800.0	7,018.6	9,981.3	7,068.9	81.0	82.0	93.32	-1,289.3	2,678.2	868.5	707.0	161.54	5.376		
9,900.0	7,017.8	10,081.3	7,067.8	83.8	84.7	93.30	-1,289.3	2,778.2	868.5	701.5	167.03	5.200		
10,000.0	7,017.0	10,181.3	7,066.7	86.5	87.4	93.28	-1,289.3	2,878.2	868.5	696.0	172.52	5.034		
10,100.0	7,016.2	10,281.3	7,065.6	89.3	90.1	93.26	-1,289.3	2,978.2	868.5	690.5	178.02	4.879		
10,200.0	7,015.3	10,381.3	7,064.5	92.0	92.8	93.25	-1,289.3	3,078.1	868.5	684.9	183.52	4.732		
10,300.0	7,014.5	10,481.3	7,063.4	94.8	95.6	93.23	-1,289.3	3,178.1	868.5	679.4	189.03	4.594		
10,400.0	7,013.7	10,581.3	7,062.3	97.5	98.3	93.21	-1,289.3	3,278.1	868.4	673.9	194.55	4.464		
10,500.0	7,012.9	10,681.3	7,061.2	100.3	101.0	93.19	-1,289.3	3,378.1	868.4	668.3	200.07	4.341		
10,600.0	7,012.1	10,781.3	7,060.1	103.1	103.8	93.17	-1,289.3	3,478.1	868.4	662.8	205.60	4.224		
10,700.0	7,011.2	10,881.3	7,059.0	105.8	106.5	93.15	-1,289.3	3,578.1	868.4	657.3	211.13	4.113		
10,800.0	7,010.4	10,981.3	7,057.9	108.6	109.3	93.14	-1,289.3	3,678.1	868.4	651.7	216.66	4.008		
10,900.0	7,009.6	11,081.3	7,056.8	111.4	112.0	93.12	-1,289.3	3,778.1	868.4	646.2	222.20	3.908		
11,000.0	7,008.8	11,181.3	7,055.7	114.2	114.8	93.10	-1,289.3	3,878.1	868.3	640.6	227.74	3.813		
11,100.0	7,008.0	11,281.3	7,054.6	116.9	117.5	93.08	-1,289.3	3,978.1	868.3	635.0	233.29	3.722		
11,200.0	7,007.1	11,381.3	7,053.5	119.7	120.3	93.06	-1,289.3	4,078.1	868.3	629.5	238.84	3.636		
11,300.0	7,006.3	11,481.3	7,052.4	122.5	123.1	93.04	-1,289.3	4,178.1	868.3	623.9	244.39	3.553		
11,331.3	7,006.1	11,512.5	7,052.1	123.0	123.9	93.04	-1,289.3	4,209.3	868.3	622.5	245.81	3.532		
11,338.1	7,006.0	11,519.0	7,052.0	123.2	124.1	93.04	-1,289.3	4,215.9	868.3	622.2	246.12	3.528 SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design Highpointe 10ND Pad Sec.10-T5N-R67W - Highpointe 10C (Vert.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1400-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)			
9,300.0	7,022.7	7,031.1	7,029.6	67.3	13.4	81.19	-460.8	3,164.4	987.6	907.7	79.88	12.363		
9,400.0	7,021.9	7,031.8	7,030.3	70.1	13.4	82.17	-460.8	3,164.4	887.7	804.9	82.75	10.727		
9,500.0	7,021.1	7,032.5	7,031.0	72.8	13.4	83.14	-460.8	3,164.4	787.8	702.2	85.62	9.201		
9,600.0	7,020.3	7,033.1	7,031.6	75.5	13.4	84.11	-460.8	3,164.4	687.9	599.4	88.47	7.775		
9,700.0	7,019.4	7,033.8	7,032.3	78.3	13.4	85.07	-460.8	3,164.4	588.1	496.8	91.32	6.440		
9,800.0	7,018.6	7,034.4	7,032.9	81.0	13.4	86.03	-460.8	3,164.4	488.4	394.2	94.16	5.187		
9,900.0	7,017.8	7,035.1	7,033.6	83.8	13.4	86.98	-460.8	3,164.4	388.8	291.8	96.98	4.009		
10,000.0	7,017.0	7,035.7	7,034.2	86.5	13.4	87.92	-460.8	3,164.4	289.4	189.6	99.79	2.900		
10,100.0	7,016.2	7,036.3	7,034.8	89.3	13.4	88.86	-460.7	3,164.4	190.8	88.2	102.57	1.860		
10,200.0	7,015.3	7,037.0	7,035.5	92.0	13.4	89.79	-460.7	3,164.5	95.0	-10.3	105.34	0.902 Level 1		
10,286.9	7,014.6	7,037.5	7,036.0	94.4	13.4	90.59	-460.7	3,164.5	38.5	-69.2	107.72	0.357 Level 1, CC, ES, SF		
10,300.0	7,014.5	7,037.6	7,036.1	94.8	13.4	90.71	-460.7	3,164.5	40.7	-67.4	108.08	0.376 Level 1		
10,400.0	7,013.7	7,038.2	7,036.7	97.5	13.4	91.63	-460.7	3,164.5	119.5	8.7	110.80	1.079 Level 2		
10,500.0	7,012.9	7,038.8	7,037.3	100.3	13.4	92.53	-460.7	3,164.5	216.6	103.1	113.50	1.908		
10,600.0	7,012.1	7,039.4	7,037.9	103.1	13.4	93.42	-460.7	3,164.5	315.5	199.3	116.16	2.716		
10,700.0	7,011.2	7,040.0	7,038.5	105.8	13.4	94.31	-460.7	3,164.5	414.9	296.1	118.80	3.493		
10,800.0	7,010.4	7,040.6	7,039.1	108.6	13.4	95.19	-460.7	3,164.5	514.6	393.2	121.42	4.238		
10,900.0	7,009.6	7,041.2	7,039.7	111.4	13.4	96.05	-460.7	3,164.5	614.3	490.3	124.00	4.954		
11,000.0	7,008.8	7,041.8	7,040.3	114.2	13.4	96.91	-460.7	3,164.5	714.2	587.6	126.55	5.643		
11,100.0	7,008.0	7,042.3	7,040.9	116.9	13.4	97.75	-460.7	3,164.5	814.0	685.0	129.07	6.307		
11,200.0	7,007.1	7,042.9	7,041.4	119.7	13.4	98.59	-460.7	3,164.5	913.9	782.4	131.57	6.947		

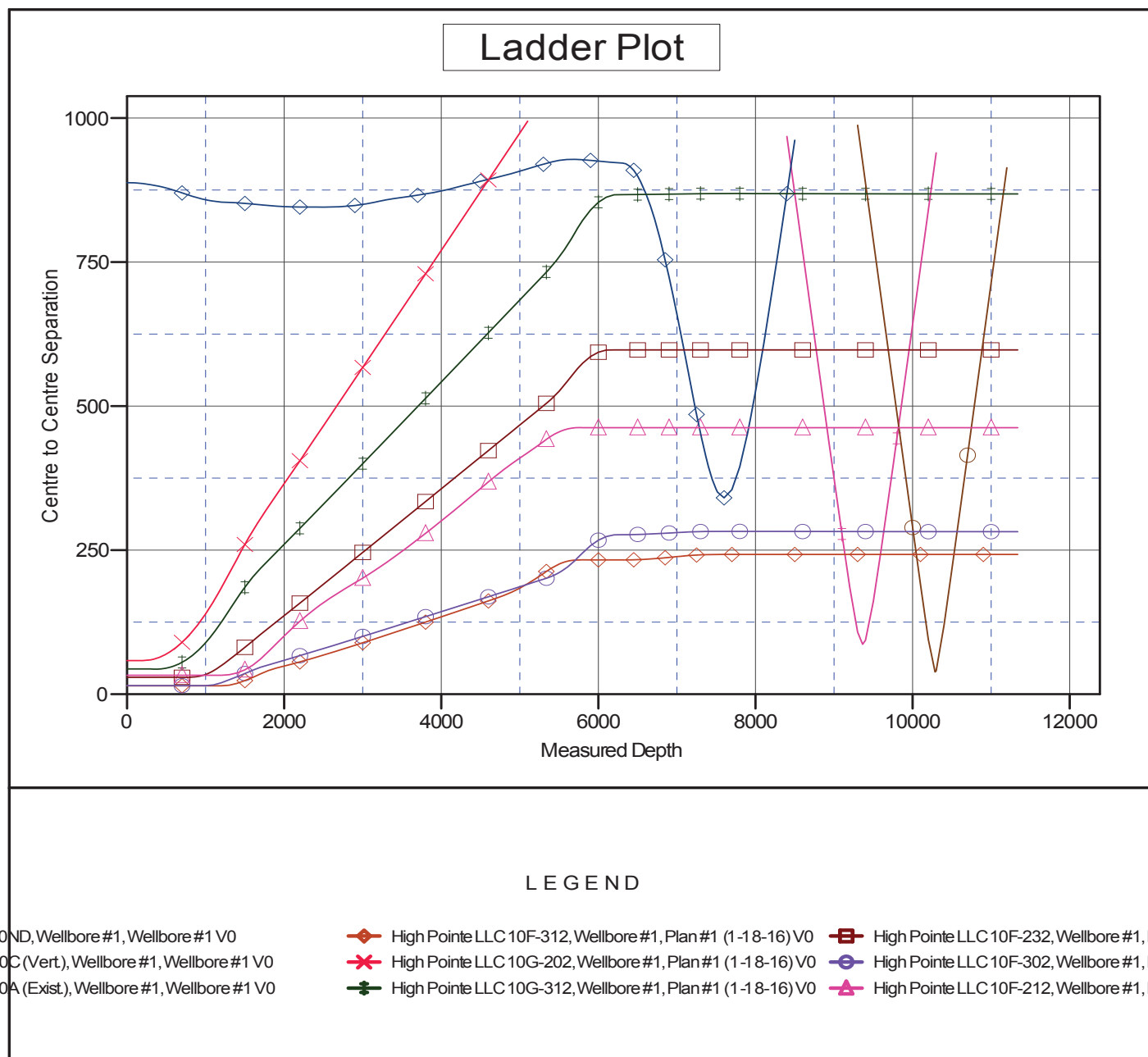
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Offset Design Highpointe 10ND Pad Sec.10-T5N-R67W - Highpointe 10ND - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 119-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)			
8,400.0	7,030.1	7,181.1	7,049.1	43.3	23.9	93.89	-508.7	2,242.0	968.2	901.3	66.89	14.475		
8,500.0	7,029.3	7,180.5	7,048.5	45.9	23.9	93.54	-508.7	2,242.0	868.7	799.1	69.52	12.495		
8,600.0	7,028.5	7,180.0	7,048.0	48.5	23.9	93.19	-508.7	2,242.0	769.2	697.1	72.18	10.658		
8,700.0	7,027.6	7,179.5	7,047.5	51.2	23.9	92.84	-508.7	2,242.0	670.0	595.1	74.85	8.951		
8,800.0	7,026.8	7,178.9	7,046.9	53.9	23.9	92.49	-508.7	2,242.0	570.9	493.4	77.54	7.363		
8,900.0	7,026.0	7,178.4	7,046.4	56.5	23.9	92.13	-508.7	2,242.0	472.3	392.1	80.24	5.887		
9,000.0	7,025.2	7,177.9	7,045.8	59.2	23.9	91.77	-508.7	2,242.0	374.5	291.5	82.95	4.515		
9,100.0	7,024.4	7,177.3	7,045.3	61.9	23.9	91.40	-508.7	2,242.0	278.2	192.5	85.67	3.247		
9,200.0	7,023.5	7,176.8	7,044.7	64.6	23.9	91.04	-508.7	2,242.0	185.7	97.4	88.39	2.101		
9,300.0	7,022.7	7,176.2	7,044.2	67.3	23.9	90.67	-508.7	2,242.0	107.8	16.7	91.12	1.183 Level 2		
9,364.4	7,022.2	7,175.8	7,043.8	69.1	23.9	90.43	-508.7	2,242.0	86.5	-6.4	92.88	0.932 Level 1, CC, ES, SF		
9,400.0	7,021.9	7,175.6	7,043.6	70.1	23.9	90.30	-508.7	2,242.0	93.6	-0.3	93.86	0.997 Level 1		
9,500.0	7,021.1	7,175.1	7,043.1	72.8	23.9	89.92	-508.8	2,242.0	160.9	64.3	96.59	1.666		
9,600.0	7,020.3	7,174.5	7,042.5	75.5	23.9	89.55	-508.8	2,242.0	251.0	151.7	99.33	2.527		
9,700.0	7,019.4	7,173.9	7,041.9	78.3	23.9	89.17	-508.8	2,242.0	346.6	244.5	102.07	3.396		
9,800.0	7,018.6	7,173.4	7,041.3	81.0	23.9	88.78	-508.8	2,242.0	444.1	339.3	104.80	4.238		
9,900.0	7,017.8	7,172.8	7,040.8	83.8	23.9	88.40	-508.8	2,242.0	542.6	435.0	107.54	5.045		
10,000.0	7,017.0	7,172.2	7,040.2	86.5	23.9	88.01	-508.8	2,242.0	641.5	531.2	110.28	5.817		
10,100.0	7,016.2	7,171.6	7,039.6	89.3	23.9	87.62	-508.8	2,242.0	740.7	627.7	113.01	6.554		
10,200.0	7,015.3	7,171.0	7,039.0	92.0	23.9	87.23	-508.8	2,242.0	840.1	724.4	115.74	7.259		
10,300.0	7,014.5	7,170.4	7,038.4	94.8	23.9	86.83	-508.8	2,242.0	939.6	821.2	118.46	7.932		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4937.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: High Pointe LLC 10F-202
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.40°



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10F-202
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10F-202	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 (1-18-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4937.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: High Pointe LLC 10F-202
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.40°

