PETROLEUM DEVELOPMENT CORP DJ Basin

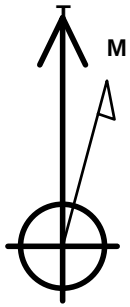
Well Name: **High Pointe LLC 10G-312**
Surface Location: High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4924.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1396050.51	3170733.48	40.418940	-104.886800	

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

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 844'FNL & 425'FWL	1.0	0.0	0.0	Point
BHL 2110'FNL & 500'FEL	7052.0	-1245.6	4218.6	Point



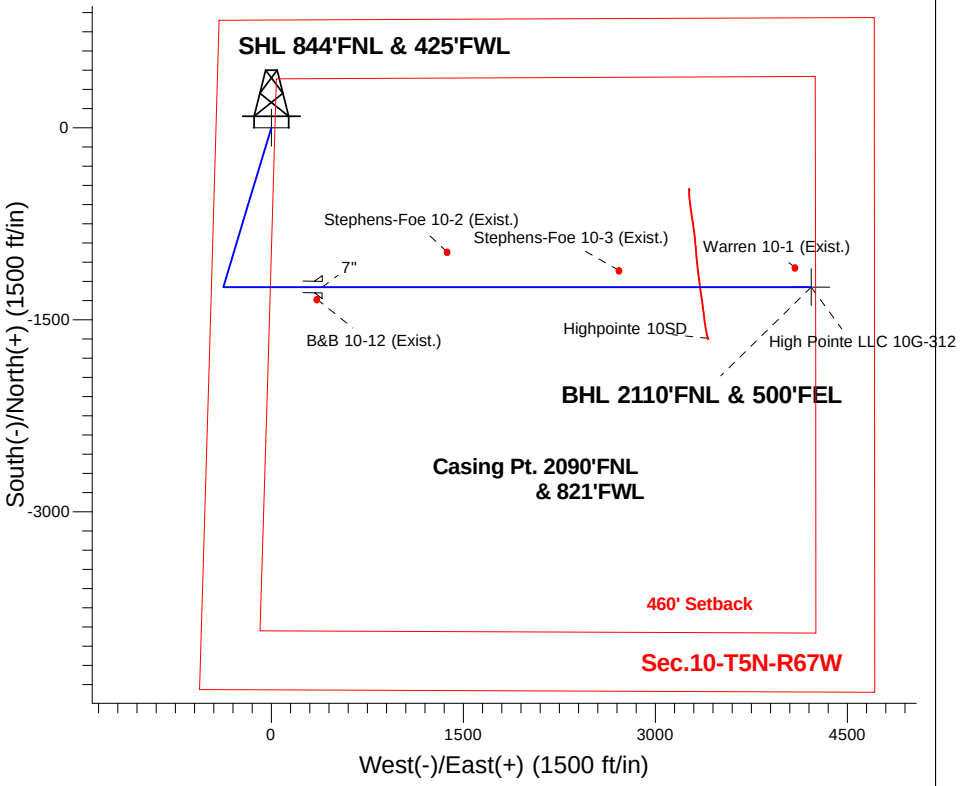
Azimuths to True North
Magnetic North: 9.09°

Magnetic Field
Strength: 53300.1snT
Dip Angle: 67.10°
Date: 12/31/2009
Model: IGRF200510

High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
High Pointe LLC 10G-312
Plan #1 (1-18-16)
14:20, February 01 2016

ANNOTATIONS

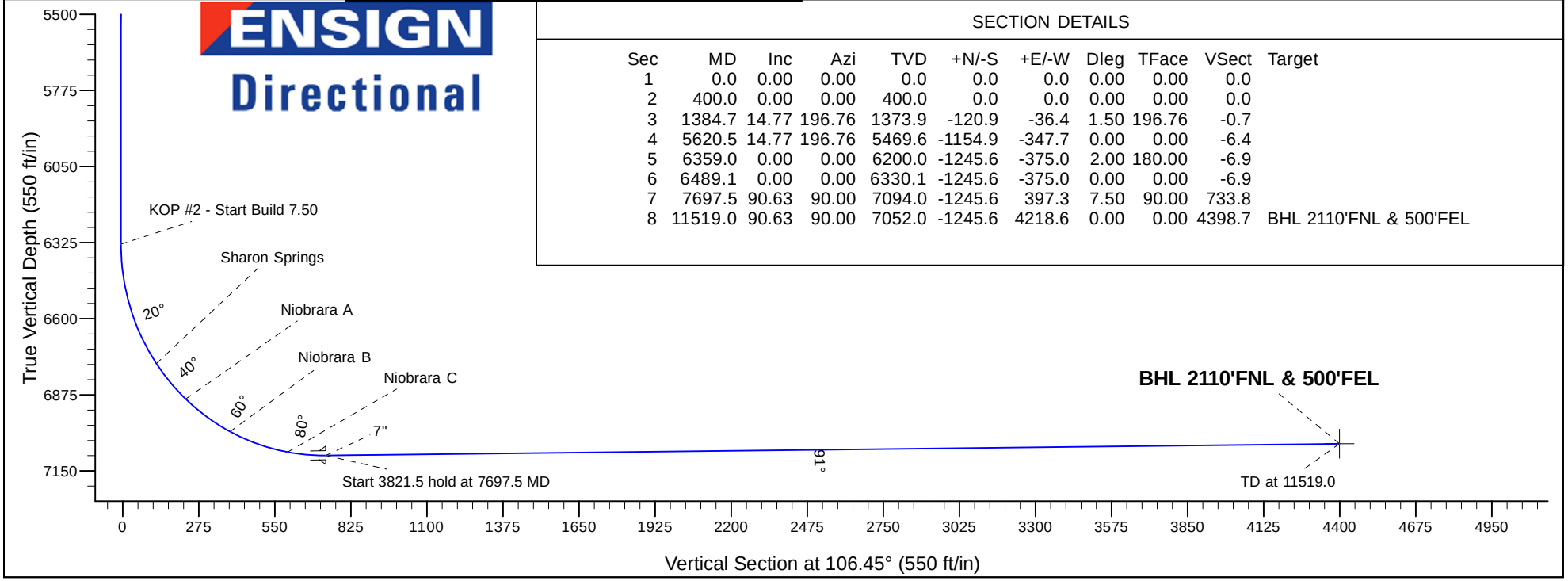
TVD	MD	Annotation
400.0	400.0	KOP - Start Build 1.50
5469.7	5620.5	Start Drop -2.00
6330.1	6489.1	KOP #2 - Start Build 7.50
7094.0	7697.5	Start 3821.5 hold at 7697.5 MD
7052.0	11519.0	TD at 11519.0



ENSIGN Directional

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1384.7	14.77	196.76	1373.9	-120.9	-36.4	1.50	196.76	-0.7	
4	5620.5	14.77	196.76	5469.6	-1154.9	-347.7	0.00	0.00	-6.4	
5	6359.0	0.00	0.00	6200.0	-1245.6	-375.0	2.00	180.00	-6.9	
6	6489.1	0.00	0.00	6330.1	-1245.6	-375.0	0.00	0.00	-6.9	
7	7697.5	90.63	90.00	7094.0	-1245.6	397.3	7.50	90.00	733.8	
8	11519.0	90.63	90.00	7052.0	-1245.6	4218.6	0.00	0.00	4398.7	BHL 2110'FNL & 500'FEL



ENSIGN Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W
High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
High Pointe LLC 10G-312

Wellbore #1

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

Standard Planning Report

01 February, 2016

PDC ENERGY
Growing E&P Value

Database:	US_EDM	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 10G-312

Well Position	**+N/-S**	-105.7 ft	**Northing:**	1,396,050.51 usft	**Latitude:**	40.418940
	+E/-W	-2.8 ft	**Easting:**	3,170,733.48 usft	**Longitude:**	-104.886800
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	106.45

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,384.7	14.77	196.76	1,373.9	-120.9	-36.4	1.50	1.50	0.00	196.76	
5,620.5	14.77	196.76	5,469.6	-1,154.9	-347.7	0.00	0.00	0.00	0.00	
6,359.0	0.00	0.00	6,200.0	-1,245.6	-375.0	2.00	-2.00	0.00	180.00	
6,489.1	0.00	0.00	6,330.1	-1,245.6	-375.0	0.00	0.00	0.00	0.00	
7,697.5	90.63	90.00	7,094.0	-1,245.6	397.3	7.50	7.50	0.00	90.00	
11,519.0	90.63	90.00	7,052.0	-1,245.6	4,218.6	0.00	0.00	0.00	0.00	BHL 2110'FNL & 500'I

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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 10G-312	**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 844'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
KOP - Start Build 1.50									
500.0	1.50	196.76	500.0	-1.3	-0.4	0.0	1.50	1.50	0.00
600.0	3.00	196.76	599.9	-5.0	-1.5	0.0	1.50	1.50	0.00
700.0	4.50	196.76	699.7	-11.3	-3.4	-0.1	1.50	1.50	0.00
800.0	6.00	196.76	799.3	-20.0	-6.0	-0.1	1.50	1.50	0.00
900.0	7.50	196.76	898.6	-31.3	-9.4	-0.2	1.50	1.50	0.00
1,000.0	9.00	196.76	997.5	-45.0	-13.6	-0.3	1.50	1.50	0.00
1,100.0	10.50	196.76	1,096.1	-61.2	-18.4	-0.3	1.50	1.50	0.00
1,200.0	12.00	196.76	1,194.2	-79.9	-24.1	-0.4	1.50	1.50	0.00
1,300.0	13.50	196.76	1,291.7	-101.1	-30.4	-0.6	1.50	1.50	0.00
1,384.7	14.77	196.76	1,373.9	-120.9	-36.4	-0.7	1.50	1.50	0.00
1,400.0	14.77	196.76	1,388.6	-124.6	-37.5	-0.7	0.00	0.00	0.00
1,500.0	14.77	196.76	1,485.3	-149.0	-44.9	-0.8	0.00	0.00	0.00
1,600.0	14.77	196.76	1,582.0	-173.4	-52.2	-1.0	0.00	0.00	0.00
1,700.0	14.77	196.76	1,678.7	-197.8	-59.6	-1.1	0.00	0.00	0.00
1,800.0	14.77	196.76	1,775.4	-222.2	-66.9	-1.2	0.00	0.00	0.00
1,900.0	14.77	196.76	1,872.1	-246.7	-74.3	-1.4	0.00	0.00	0.00
2,000.0	14.77	196.76	1,968.8	-271.1	-81.6	-1.5	0.00	0.00	0.00
2,100.0	14.77	196.76	2,065.5	-295.5	-89.0	-1.6	0.00	0.00	0.00
2,200.0	14.77	196.76	2,162.2	-319.9	-96.3	-1.8	0.00	0.00	0.00
2,300.0	14.77	196.76	2,258.9	-344.3	-103.7	-1.9	0.00	0.00	0.00
2,400.0	14.77	196.76	2,355.6	-368.7	-111.0	-2.1	0.00	0.00	0.00
2,500.0	14.77	196.76	2,452.3	-393.1	-118.4	-2.2	0.00	0.00	0.00
2,600.0	14.77	196.76	2,549.0	-417.6	-125.7	-2.3	0.00	0.00	0.00
2,700.0	14.77	196.76	2,645.7	-442.0	-133.1	-2.5	0.00	0.00	0.00
2,800.0	14.77	196.76	2,742.4	-466.4	-140.4	-2.6	0.00	0.00	0.00
2,900.0	14.77	196.76	2,839.1	-490.8	-147.8	-2.7	0.00	0.00	0.00
3,000.0	14.77	196.76	2,935.7	-515.2	-155.1	-2.9	0.00	0.00	0.00
3,100.0	14.77	196.76	3,032.4	-539.6	-162.5	-3.0	0.00	0.00	0.00
3,200.0	14.77	196.76	3,129.1	-564.0	-169.8	-3.1	0.00	0.00	0.00
3,300.0	14.77	196.76	3,225.8	-588.4	-177.2	-3.3	0.00	0.00	0.00
3,400.0	14.77	196.76	3,322.5	-612.9	-184.5	-3.4	0.00	0.00	0.00
3,500.0	14.77	196.76	3,419.2	-637.3	-191.9	-3.5	0.00	0.00	0.00
3,600.0	14.77	196.76	3,515.9	-661.7	-199.2	-3.7	0.00	0.00	0.00
3,609.4	14.77	196.76	3,525.0	-664.0	-199.9	-3.7	0.00	0.00	0.00
Parkman									
3,700.0	14.77	196.76	3,612.6	-686.1	-206.6	-3.8	0.00	0.00	0.00
3,800.0	14.77	196.76	3,709.3	-710.5	-213.9	-4.0	0.00	0.00	0.00
3,900.0	14.77	196.76	3,806.0	-734.9	-221.3	-4.1	0.00	0.00	0.00
4,000.0	14.77	196.76	3,902.7	-759.3	-228.6	-4.2	0.00	0.00	0.00
4,100.0	14.77	196.76	3,999.4	-783.7	-236.0	-4.4	0.00	0.00	0.00
4,200.0	14.77	196.76	4,096.1	-808.2	-243.3	-4.5	0.00	0.00	0.00
4,300.0	14.77	196.76	4,192.8	-832.6	-250.7	-4.6	0.00	0.00	0.00
4,323.0	14.77	196.76	4,215.0	-838.2	-252.3	-4.7	0.00	0.00	0.00
Sussex									

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Site:	High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W	**North Reference:**	True
Well:	High Pointe LLC 10G-312	**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	14.77	196.76	4,289.5	-857.0	-258.0	-4.8	0.00	0.00	0.00
4,500.0	14.77	196.76	4,386.2	-881.4	-265.4	-4.9	0.00	0.00	0.00
4,600.0	14.77	196.76	4,482.9	-905.8	-272.7	-5.0	0.00	0.00	0.00
4,700.0	14.77	196.76	4,579.6	-930.2	-280.1	-5.2	0.00	0.00	0.00
4,724.2	14.77	196.76	4,603.0	-936.1	-281.8	-5.2	0.00	0.00	0.00
Shannon									
4,800.0	14.77	196.76	4,676.3	-954.6	-287.4	-5.3	0.00	0.00	0.00
4,900.0	14.77	196.76	4,773.0	-979.0	-294.8	-5.5	0.00	0.00	0.00
5,000.0	14.77	196.76	4,869.7	-1,003.5	-302.1	-5.6	0.00	0.00	0.00
5,100.0	14.77	196.76	4,966.4	-1,027.9	-309.5	-5.7	0.00	0.00	0.00
5,200.0	14.77	196.76	5,063.0	-1,052.3	-316.8	-5.9	0.00	0.00	0.00
5,300.0	14.77	196.76	5,159.7	-1,076.7	-324.2	-6.0	0.00	0.00	0.00
5,400.0	14.77	196.76	5,256.4	-1,101.1	-331.5	-6.1	0.00	0.00	0.00
5,500.0	14.77	196.76	5,353.1	-1,125.5	-338.9	-6.3	0.00	0.00	0.00
5,600.0	14.77	196.76	5,449.8	-1,149.9	-346.2	-6.4	0.00	0.00	0.00
5,620.5	14.77	196.76	5,469.7	-1,154.9	-347.7	-6.4	0.00	0.00	0.00
Start Drop -2.00									
5,700.0	13.18	196.76	5,546.8	-1,173.3	-353.2	-6.5	2.00	-2.00	0.00
5,800.0	11.18	196.76	5,644.5	-1,193.5	-359.3	-6.6	2.00	-2.00	0.00
5,900.0	9.18	196.76	5,743.0	-1,210.5	-364.4	-6.7	2.00	-2.00	0.00
6,000.0	7.18	196.76	5,841.9	-1,224.1	-368.5	-6.8	2.00	-2.00	0.00
6,100.0	5.18	196.76	5,941.4	-1,234.4	-371.6	-6.9	2.00	-2.00	0.00
6,200.0	3.18	196.76	6,041.1	-1,241.4	-373.7	-6.9	2.00	-2.00	0.00
6,300.0	1.18	196.76	6,141.0	-1,245.0	-374.8	-6.9	2.00	-2.00	0.00
6,359.0	0.00	0.00	6,200.0	-1,245.6	-375.0	-6.9	2.00	-2.00	0.00
6,400.0	0.00	0.00	6,241.0	-1,245.6	-375.0	-6.9	0.00	0.00	0.00
6,489.1	0.00	0.00	6,330.1	-1,245.6	-375.0	-6.9	0.00	0.00	0.00
KOP #2 - Start Build 7.50									
6,500.0	0.82	90.00	6,341.0	-1,245.6	-374.9	-6.9	7.49	7.49	0.00
6,600.0	8.32	90.00	6,440.6	-1,245.6	-367.0	0.8	7.50	7.50	0.00
6,700.0	15.82	90.00	6,538.3	-1,245.6	-346.1	20.8	7.50	7.50	0.00
6,800.0	23.32	90.00	6,632.5	-1,245.6	-312.6	52.9	7.50	7.50	0.00
6,900.0	30.82	90.00	6,721.5	-1,245.6	-267.1	96.5	7.50	7.50	0.00
6,948.1	34.43	90.00	6,762.0	-1,245.6	-241.2	121.4	7.50	7.50	0.00
Sharon Springs									
7,000.0	38.32	90.00	6,803.8	-1,245.6	-210.4	150.9	7.50	7.50	0.00
7,100.0	45.82	90.00	6,877.9	-1,245.6	-143.5	215.1	7.50	7.50	0.00
7,117.5	47.13	90.00	6,890.0	-1,245.6	-130.8	227.3	7.50	7.50	0.00
Niobrara A									
7,200.0	53.32	90.00	6,942.8	-1,245.6	-67.4	288.0	7.50	7.50	0.00
7,300.0	60.82	90.00	6,997.1	-1,245.6	16.4	368.5	7.50	7.50	0.00
7,323.0	62.54	90.00	7,008.0	-1,245.6	36.7	387.9	7.50	7.50	0.00
Niobrara B									
7,400.0	68.32	90.00	7,040.0	-1,245.6	106.7	455.0	7.50	7.50	0.00
7,500.0	75.82	90.00	7,070.8	-1,245.6	201.7	546.2	7.50	7.50	0.00
7,553.2	79.80	90.00	7,082.0	-1,245.6	253.7	596.0	7.50	7.50	0.00
Niobrara C									
7,600.0	83.32	90.00	7,088.9	-1,245.6	300.0	640.5	7.50	7.50	0.00
7,697.5	90.63	90.00	7,094.0	-1,245.6	397.3	733.8	7.50	7.50	0.00
Start 3821.5 hold at 7697.5 MD - 7"									
7,700.0	90.63	90.00	7,094.0	-1,245.6	399.8	736.2	0.07	0.07	0.00

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Well:	High Pointe LLC 10G-312	**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)
7,800.0	90.63	90.00	7,092.9	-1,245.6	499.8	832.1	0.00	0.00	0.00
7,900.0	90.63	90.00	7,091.8	-1,245.6	599.8	928.0	0.00	0.00	0.00
8,000.0	90.63	90.00	7,090.7	-1,245.6	699.8	1,023.9	0.00	0.00	0.00
8,100.0	90.63	90.00	7,089.6	-1,245.6	799.8	1,119.8	0.00	0.00	0.00
8,200.0	90.63	90.00	7,088.5	-1,245.6	899.8	1,215.7	0.00	0.00	0.00
8,300.0	90.63	90.00	7,087.4	-1,245.6	999.8	1,311.6	0.00	0.00	0.00
8,400.0	90.63	90.00	7,086.3	-1,245.6	1,099.8	1,407.5	0.00	0.00	0.00
8,500.0	90.63	90.00	7,085.2	-1,245.6	1,199.8	1,503.4	0.00	0.00	0.00
8,600.0	90.63	90.00	7,084.1	-1,245.6	1,299.8	1,599.3	0.00	0.00	0.00
8,700.0	90.63	90.00	7,083.0	-1,245.6	1,399.8	1,695.2	0.00	0.00	0.00
8,800.0	90.63	90.00	7,081.9	-1,245.6	1,499.8	1,791.1	0.00	0.00	0.00
8,900.0	90.63	90.00	7,080.8	-1,245.6	1,599.7	1,887.0	0.00	0.00	0.00
9,000.0	90.63	90.00	7,079.7	-1,245.6	1,699.7	1,982.9	0.00	0.00	0.00
9,100.0	90.63	90.00	7,078.6	-1,245.6	1,799.7	2,078.8	0.00	0.00	0.00
9,200.0	90.63	90.00	7,077.5	-1,245.6	1,899.7	2,174.7	0.00	0.00	0.00
9,300.0	90.63	90.00	7,076.4	-1,245.6	1,999.7	2,270.6	0.00	0.00	0.00
9,400.0	90.63	90.00	7,075.3	-1,245.6	2,099.7	2,366.5	0.00	0.00	0.00
9,500.0	90.63	90.00	7,074.2	-1,245.6	2,199.7	2,462.4	0.00	0.00	0.00
9,600.0	90.63	90.00	7,073.1	-1,245.6	2,299.7	2,558.3	0.00	0.00	0.00
9,700.0	90.63	90.00	7,072.0	-1,245.6	2,399.7	2,654.2	0.00	0.00	0.00
9,800.0	90.63	90.00	7,070.9	-1,245.6	2,499.7	2,750.1	0.00	0.00	0.00
9,900.0	90.63	90.00	7,069.8	-1,245.6	2,599.7	2,846.0	0.00	0.00	0.00
10,000.0	90.63	90.00	7,068.7	-1,245.6	2,699.7	2,941.9	0.00	0.00	0.00
10,100.0	90.63	90.00	7,067.6	-1,245.6	2,799.7	3,037.8	0.00	0.00	0.00
10,200.0	90.63	90.00	7,066.5	-1,245.6	2,899.7	3,133.7	0.00	0.00	0.00
10,300.0	90.63	90.00	7,065.4	-1,245.6	2,999.7	3,229.6	0.00	0.00	0.00
10,400.0	90.63	90.00	7,064.3	-1,245.6	3,099.7	3,325.5	0.00	0.00	0.00
10,500.0	90.63	90.00	7,063.2	-1,245.6	3,199.7	3,421.4	0.00	0.00	0.00
10,600.0	90.63	90.00	7,062.1	-1,245.6	3,299.6	3,517.3	0.00	0.00	0.00
10,700.0	90.63	90.00	7,061.0	-1,245.6	3,399.6	3,613.2	0.00	0.00	0.00
10,800.0	90.63	90.00	7,059.9	-1,245.6	3,499.6	3,709.1	0.00	0.00	0.00
10,900.0	90.63	90.00	7,058.8	-1,245.6	3,599.6	3,805.0	0.00	0.00	0.00
11,000.0	90.63	90.00	7,057.7	-1,245.6	3,699.6	3,900.9	0.00	0.00	0.00
11,100.0	90.63	90.00	7,056.6	-1,245.6	3,799.6	3,996.8	0.00	0.00	0.00
11,200.0	90.63	90.00	7,055.5	-1,245.6	3,899.6	4,092.7	0.00	0.00	0.00
11,300.0	90.63	90.00	7,054.4	-1,245.6	3,999.6	4,188.6	0.00	0.00	0.00
11,400.0	90.63	90.00	7,053.3	-1,245.6	4,099.6	4,284.5	0.00	0.00	0.00
11,500.0	90.63	90.00	7,052.2	-1,245.6	4,199.6	4,380.4	0.00	0.00	0.00
11,519.0	90.63	90.00	7,052.0	-1,245.6	4,218.6	4,398.6	0.00	0.00	0.00
TD at 11519.0 - BHL 2110'FNL & 500'FEL									

Database:	US_EDM	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-16)		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 844'FNL & 425'FWl - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,396,050.52	3,170,733.48	40.418940	-104.886800
BHL 2110'FNL & 500'FE - plan hits target center - Point	0.00	0.00	7,052.0	-1,245.6	4,218.6	1,394,834.18	3,174,960.46	40.415520	-104.871650

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,697.5	7,094.0	7"	7	8-3/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,609.4	3,525.0	Parkman		0.00	
4,323.0	4,215.0	Sussex		0.00	
4,724.2	4,603.0	Shannon		0.00	
6,948.1	6,762.0	Sharon Springs		0.00	
7,117.5	6,890.0	Niobrara A		0.00	
7,323.0	7,008.0	Niobrara B		0.00	
7,553.2	7,082.0	Niobrara C		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP - Start Build 1.50
5,620.5	5,469.7	-1,154.9	-347.7	Start Drop -2.00
6,489.1	6,330.1	-1,245.6	-375.0	KOP #2 - Start Build 7.50
7,697.5	7,094.0	-1,245.6	397.3	Start 3821.5 hold at 7697.5 MD
11,519.0	7,052.0	-1,245.6	4,218.6	TD at 11519.0

ENSIGN Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W
High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W
High Pointe LLC 10G-312

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

Anticollision Report

01 February, 2016

PDC ENERGY
Growing E&P Value

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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** 1/29/2016

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,519.0	Plan #1 (1-18-16) (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Existing Wells Pad Sec.10-T5N-R67W						
B&B 10-12 (Exist.) - Wellbore #1 - Wellbore #1	7,656.6	7,096.4	95.1	-69.6	0.577	Level 1, CC, ES, SF
Stephens-Foe 10-2 (Exist.) - Wellbore #1 - Wellbore #1	8,673.0	7,082.3	276.5	88.9	1.473	Level 3, CC, ES, SF
Stephens-Foe 10-3 (Exist.) - Wellbore #1 - Wellbore #1	10,015.3	7,084.5	130.9	-92.8	0.585	Level 1, CC, ES, SF
Warren 10-1 (Exist.) - Wellbore #1 - Wellbore #1	11,390.9	7,061.4	153.0	-108.2	0.586	Level 1, CC, ES, SF
High Pointe LLC 5N67W10A Pad Sec.10-T5N-R67W						
High Pointe LLC 10F-202 - Wellbore #1 - Plan #1 (1-18-1	400.0	400.0	43.8	42.2	27.842	CC, ES
High Pointe LLC 10F-202 - Wellbore #1 - Plan #1 (1-18-1	11,519.0	11,337.9	868.3	622.2	3.528	SF
High Pointe LLC 10F-212 - Wellbore #1 - Plan #1 (1-18-1	400.0	399.0	76.6	75.0	48.727	CC, ES
High Pointe LLC 10F-212 - Wellbore #1 - Plan #1 (1-18-1	900.0	897.6	108.5	104.7	28.966	SF
High Pointe LLC 10F-232 - Wellbore #1 - Plan #1 (1-18-1	400.0	400.0	14.6	13.0	9.262	CC, ES
High Pointe LLC 10F-232 - Wellbore #1 - Plan #1 (1-18-1	11,519.0	11,416.3	274.6	32.6	1.135	Level 2, SF
High Pointe LLC 10F-302 - Wellbore #1 - Plan #1 (1-18-1	400.0	400.0	29.1	27.6	18.521	CC, ES
High Pointe LLC 10F-302 - Wellbore #1 - Plan #1 (1-18-1	11,519.0	11,422.4	590.2	343.2	2.389	SF
High Pointe LLC 10F-312 - Wellbore #1 - Plan #1 (1-18-1	400.0	400.0	58.4	56.8	37.090	CC, ES
High Pointe LLC 10F-312 - Wellbore #1 - Plan #1 (1-18-1	800.0	799.3	78.8	75.5	23.887	SF
High Pointe LLC 10G-202 - Wellbore #1 - Plan #1 (1-18-1	200.0	200.0	14.6	13.9	21.612	CC, ES
High Pointe LLC 10G-202 - Wellbore #1 - Plan #1 (1-18-1	11,519.0	11,540.6	335.6	90.3	1.368	Level 3, SF
Highpointe 10ND Pad Sec.10-T5N-R67W						
Highpointe 10SD - Wellbore #1 - Wellbore #1	10,713.4	7,250.6	401.0	282.9	3.397	CC, ES, SF

Offset Design Existing Wells Pad Sec.10-T5N-R67W - B&B 10-12 (Exist.) - Wellbore #1 - Wellbore #1

Survey Program: 7870-UNKNOWN

Offset Site Error: 0.0 ft
Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,900.0	2,839.1	2,842.0	2,842.0	11.6	56.8	-48.39	-1,340.7	356.4	988.2	922.3	65.90	14.995	
3,000.0	2,935.7	2,938.7	2,938.7	12.1	58.8	-49.49	-1,340.7	356.4	971.1	902.8	68.37	14.205	
3,100.0	3,032.4	3,035.4	3,035.4	12.7	60.7	-50.64	-1,340.7	356.4	954.4	883.6	70.85	13.472	
3,200.0	3,129.1	3,132.1	3,132.1	13.2	62.6	-51.81	-1,340.7	356.4	938.1	864.8	73.34	12.791	
3,300.0	3,225.8	3,228.8	3,228.8	13.7	64.6	-53.03	-1,340.7	356.4	922.3	846.4	75.85	12.159	
3,400.0	3,322.5	3,325.5	3,325.5	14.3	66.5	-54.29	-1,340.7	356.4	906.8	828.4	78.38	11.570	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 - B&B 10-12 (Exist.) - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 7870-UNKNOWN

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,500.0	3,419.2	3,422.2	3,422.2	14.8	68.4	-55.59	-1,340.7	356.4	891.8	810.9	80.91	11.022	
3,600.0	3,515.9	3,518.9	3,518.9	15.3	70.4	-56.94	-1,340.7	356.4	877.4	793.9	83.47	10.512	
3,700.0	3,612.6	3,615.6	3,615.6	15.9	72.3	-58.32	-1,340.7	356.4	863.4	777.4	86.03	10.036	
3,800.0	3,709.3	3,712.3	3,712.3	16.4	74.2	-59.75	-1,340.7	356.4	849.9	761.3	88.61	9.592	
3,900.0	3,806.0	3,809.0	3,809.0	16.9	76.2	-61.22	-1,340.7	356.4	837.1	745.9	91.20	9.179	
4,000.0	3,902.7	3,905.7	3,905.7	17.5	78.1	-62.73	-1,340.7	356.4	824.8	731.0	93.80	8.793	
4,100.0	3,999.4	4,002.4	4,002.4	18.0	80.0	-64.28	-1,340.7	356.4	813.1	716.7	96.40	8.434	
4,200.0	4,096.1	4,099.1	4,099.1	18.5	82.0	-65.88	-1,340.7	356.4	802.0	703.0	99.02	8.100	
4,300.0	4,192.8	4,195.8	4,195.8	19.1	83.9	-67.52	-1,340.7	356.4	791.7	690.0	101.64	7.789	
4,400.0	4,289.5	4,292.5	4,292.5	19.6	85.8	-69.19	-1,340.7	356.4	782.0	677.7	104.26	7.500	
4,500.0	4,386.2	4,389.2	4,389.2	20.1	87.8	-70.91	-1,340.7	356.4	773.0	666.1	106.89	7.232	
4,600.0	4,482.9	4,485.9	4,485.9	20.7	89.7	-72.66	-1,340.7	356.4	764.8	655.3	109.51	6.984	
4,700.0	4,579.6	4,582.6	4,582.6	21.2	91.7	-74.44	-1,340.7	356.4	757.4	645.2	112.13	6.754	
4,800.0	4,676.3	4,679.3	4,679.3	21.8	93.6	-76.26	-1,340.7	356.4	750.7	636.0	114.75	6.542	
4,900.0	4,773.0	4,776.0	4,776.0	22.3	95.5	-78.10	-1,340.7	356.4	744.9	627.5	117.35	6.347	
5,000.0	4,869.7	4,872.6	4,872.6	22.8	97.5	-79.97	-1,340.7	356.4	739.8	619.9	119.94	6.168	
5,100.0	4,966.4	4,969.3	4,969.3	23.4	99.4	-81.87	-1,340.7	356.4	735.7	613.2	122.52	6.005	
5,200.0	5,063.0	5,066.0	5,066.0	23.9	101.3	-83.78	-1,340.7	356.4	732.4	607.3	125.08	5.855	
5,300.0	5,159.7	5,162.7	5,162.7	24.4	103.3	-85.70	-1,340.7	356.4	730.0	602.4	127.62	5.720	
5,400.0	5,256.4	5,259.4	5,259.4	25.0	105.2	-87.64	-1,340.7	356.4	728.5	598.3	130.14	5.598	
5,500.0	5,353.1	5,356.1	5,356.1	25.5	107.1	-89.58	-1,340.7	356.4	727.8	595.2	132.63	5.488	
5,521.9	5,374.3	5,377.3	5,377.3	25.6	107.5	-90.00	-1,340.7	356.4	727.8	594.6	133.17	5.465	
5,600.0	5,449.8	5,452.8	5,452.8	26.0	109.1	-91.52	-1,340.7	356.4	728.1	593.0	135.09	5.389	
5,620.5	5,469.6	5,472.6	5,472.6	26.2	109.5	-91.91	-1,340.7	356.4	728.2	592.6	135.59	5.371	
5,700.0	5,546.8	5,549.8	5,549.8	26.5	111.0	-93.40	-1,340.7	356.4	729.1	591.7	137.46	5.304	
5,800.0	5,644.5	5,647.5	5,647.5	26.8	113.0	-95.04	-1,340.7	356.4	730.7	591.0	139.69	5.231	
5,900.0	5,743.0	5,746.0	5,746.0	27.1	114.9	-96.43	-1,340.7	356.4	732.5	590.6	141.90	5.162	
6,000.0	5,841.9	5,844.9	5,844.9	27.4	116.9	-97.56	-1,340.7	356.4	734.3	590.2	144.08	5.096	
6,100.0	5,941.4	5,944.3	5,944.3	27.6	118.9	-98.42	-1,340.7	356.4	735.8	589.5	146.25	5.031	
6,200.0	6,041.1	6,044.1	6,044.1	27.7	120.9	-99.00	-1,340.7	356.4	736.9	588.5	148.38	4.966	
6,300.0	6,141.0	6,144.0	6,144.0	27.9	122.9	-99.30	-1,340.7	356.4	737.5	587.0	150.50	4.900	
6,359.0	6,200.0	6,203.0	6,203.0	27.9	124.1	97.41	-1,340.7	356.4	737.6	597.1	140.50	5.250	
6,400.0	6,241.0	6,244.0	6,244.0	28.0	124.9	97.41	-1,340.7	356.4	737.6	596.2	141.39	5.217	
6,489.1	6,330.1	6,333.1	6,333.1	28.0	126.7	97.41	-1,340.7	356.4	737.6	594.3	143.30	5.147	
6,500.0	6,341.0	6,344.0	6,344.0	28.0	126.9	7.41	-1,340.7	356.4	737.5	582.8	154.66	4.769	
6,550.0	6,390.9	6,393.9	6,393.9	28.1	127.9	7.45	-1,340.7	356.4	735.2	580.0	155.21	4.737	
6,600.0	6,440.6	6,443.6	6,443.6	28.1	128.9	7.57	-1,340.7	356.4	729.6	574.5	155.10	4.704	
6,650.0	6,489.8	6,492.8	6,492.8	28.1	129.9	7.75	-1,340.7	356.4	720.8	566.5	154.31	4.671	
6,700.0	6,538.3	6,541.3	6,541.3	28.1	130.8	8.01	-1,340.7	356.4	708.9	556.1	152.85	4.638	
6,750.0	6,586.0	6,588.9	6,588.9	28.1	131.8	8.35	-1,340.7	356.4	693.9	543.2	150.71	4.604	
6,800.0	6,632.5	6,635.5	6,635.5	28.1	132.7	8.80	-1,340.7	356.4	675.8	527.9	147.90	4.569	
6,850.0	6,677.7	6,680.7	6,680.7	28.1	133.6	9.36	-1,340.7	356.4	654.7	510.2	144.46	4.532	
6,900.0	6,721.5	6,724.5	6,724.5	28.0	134.5	10.07	-1,340.7	356.4	630.8	490.4	140.40	4.493	
6,950.0	6,763.5	6,766.5	6,766.5	28.0	135.3	10.95	-1,340.7	356.4	604.1	468.3	135.79	4.449	
7,000.0	6,803.8	6,806.8	6,806.8	28.0	136.1	12.07	-1,340.7	356.4	574.8	444.1	130.72	4.397	
7,050.0	6,842.0	6,844.9	6,844.9	27.9	136.9	13.47	-1,340.7	356.4	543.0	417.7	125.32	4.333	
7,100.0	6,877.9	6,880.9	6,880.9	27.9	137.6	15.26	-1,340.7	356.4	508.9	389.1	119.82	4.247	
7,150.0	6,911.6	6,914.6	6,914.6	27.9	138.3	17.57	-1,340.7	356.4	472.6	358.0	114.60	4.124	
7,200.0	6,942.8	6,945.7	6,945.7	27.8	138.9	20.58	-1,340.7	356.4	434.4	324.1	110.28	3.939	
7,250.0	6,971.3	6,974.3	6,974.3	27.8	139.5	24.55	-1,340.7	356.4	394.5	286.6	107.85	3.657	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 - B&B 10-12 (Exist.) - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 7870-UNKNOWN

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,300.0	6,997.1	7,000.1	7,000.1	27.8	140.0	29.84	-1,340.7	356.4	353.0	244.3	108.73	3.247	
7,350.0	7,020.0	7,023.0	7,023.0	27.8	140.5	36.84	-1,340.7	356.4	310.5	196.1	114.42	2.714	
7,400.0	7,040.0	7,043.0	7,043.0	27.8	140.9	45.86	-1,340.7	356.4	267.2	141.8	125.42	2.131	
7,450.0	7,056.9	7,059.9	7,059.9	27.8	141.2	56.72	-1,340.7	356.4	223.9	84.3	139.64	1.604	
7,500.0	7,070.8	7,073.8	7,073.8	27.9	141.5	68.27	-1,340.7	356.4	181.6	29.1	152.51	1.191	Level 2
7,550.0	7,081.4	7,084.4	7,084.4	28.0	141.7	78.60	-1,340.7	356.4	142.3	-18.1	160.38	0.887	Level 1
7,600.0	7,088.9	7,091.9	7,091.9	28.1	141.8	86.05	-1,340.7	356.4	110.6	-53.0	163.52	0.676	Level 1
7,650.0	7,093.1	7,096.1	7,096.1	28.3	141.9	89.80	-1,340.7	356.4	95.3	-69.3	164.57	0.579	Level 1
7,656.6	7,093.4	7,096.4	7,096.4	28.4	141.9	90.00	-1,340.7	356.4	95.1	-69.6	164.68	0.577	Level 1, CC, ES, SF
7,697.5	7,094.0	7,097.0	7,097.0	28.6	141.9	89.73	-1,340.7	356.4	103.5	-61.9	165.42	0.626	Level 1
7,700.0	7,094.0	7,097.0	7,097.0	28.6	141.9	89.71	-1,340.7	356.4	104.5	-60.9	165.47	0.632	Level 1
7,800.0	7,092.9	7,095.9	7,095.9	29.4	141.9	89.05	-1,340.7	356.4	172.1	4.7	167.36	1.028	Level 2
7,900.0	7,091.8	7,094.8	7,094.8	30.7	141.9	88.39	-1,340.7	356.4	261.3	91.9	169.39	1.543	
8,000.0	7,090.7	7,093.7	7,093.7	32.3	141.9	87.73	-1,340.7	356.4	356.3	184.8	171.52	2.077	
8,100.0	7,089.6	7,092.6	7,092.6	34.3	141.9	87.07	-1,340.7	356.4	453.5	279.7	173.72	2.610	
8,200.0	7,088.5	7,091.5	7,091.5	36.4	141.8	86.40	-1,340.7	356.4	551.6	375.7	175.97	3.135	
8,300.0	7,087.4	7,090.4	7,090.4	38.6	141.8	85.75	-1,340.7	356.4	650.3	472.1	178.26	3.648	
8,400.0	7,086.3	7,089.3	7,089.3	40.9	141.8	85.09	-1,340.7	356.4	749.4	568.8	180.57	4.150	
8,500.0	7,085.2	7,088.2	7,088.2	43.3	141.8	84.43	-1,340.7	356.4	848.7	665.8	182.89	4.640	
8,600.0	7,084.1	7,087.1	7,087.1	45.7	141.7	83.77	-1,340.7	356.4	948.1	762.9	185.22	5.119	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 - Stephens-Foe 10-2 (Exist.) - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 7780-UNKNOWN

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.0	7,092.9	7,091.9	7,091.9	29.4	141.8	-91.99	-969.0	1,372.8	915.7	748.4	167.28	5.474	
7,900.0	7,091.8	7,090.8	7,090.8	30.7	141.8	-91.76	-969.0	1,372.8	821.0	651.6	169.31	4.849	
8,000.0	7,090.7	7,089.7	7,089.7	32.3	141.8	-91.53	-969.0	1,372.8	727.6	556.1	171.46	4.244	
8,100.0	7,089.6	7,088.6	7,088.6	34.3	141.8	-91.31	-969.0	1,372.8	636.2	462.5	173.70	3.663	
8,200.0	7,088.5	7,087.5	7,087.5	36.4	141.7	-91.08	-969.0	1,372.8	547.9	371.9	176.03	3.113	
8,300.0	7,087.4	7,086.4	7,086.4	38.6	141.7	-90.85	-969.0	1,372.8	464.3	285.9	178.41	2.603	
8,400.0	7,086.3	7,085.3	7,085.3	40.9	141.7	-90.62	-969.0	1,372.8	388.6	207.7	180.85	2.149	
8,500.0	7,085.2	7,084.2	7,084.2	43.3	141.7	-90.39	-969.0	1,372.8	326.2	142.9	183.33	1.779	
8,600.0	7,084.1	7,083.1	7,083.1	45.7	141.7	-90.17	-969.0	1,372.8	286.0	100.2	185.84	1.539	
8,673.0	7,083.3	7,082.3	7,082.3	47.5	141.6	-90.00	-969.0	1,372.8	276.5	88.9	187.69	1.473	Level 3, CC, ES, SF
8,700.0	7,083.0	7,082.0	7,082.0	48.2	141.6	-89.94	-969.0	1,372.8	277.9	89.5	188.38	1.475	Level 3
8,800.0	7,081.9	7,080.9	7,080.9	50.7	141.6	-89.71	-969.0	1,372.8	304.3	113.4	190.94	1.594	
8,900.0	7,080.8	7,079.8	7,079.8	53.3	141.6	-89.48	-969.0	1,372.8	357.8	164.2	193.52	1.849	
9,000.0	7,079.7	7,078.7	7,078.7	55.9	141.6	-89.26	-969.0	1,372.8	428.2	232.1	196.12	2.184	
9,100.0	7,078.6	7,077.6	7,077.6	58.5	141.6	-89.03	-969.0	1,372.8	508.7	310.0	198.72	2.560	
9,200.0	7,077.5	7,076.5	7,076.5	61.1	141.5	-88.80	-969.0	1,372.8	595.1	393.8	201.34	2.956	
9,300.0	7,076.4	7,075.4	7,075.4	63.7	141.5	-88.57	-969.0	1,372.8	685.2	481.3	203.97	3.359	
9,400.0	7,075.3	7,074.3	7,074.3	66.4	141.5	-88.34	-969.0	1,372.8	777.8	571.2	206.61	3.764	
9,500.0	7,074.2	7,073.2	7,073.2	69.0	141.5	-88.12	-969.0	1,372.8	871.9	662.7	209.25	4.167	
9,600.0	7,073.1	7,072.1	7,072.1	71.7	141.4	-87.89	-969.0	1,372.8	967.3	755.4	211.89	4.565	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 - Stephens-Foe 10-3 (Exist.) - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 7330-UNKNOWN

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,100.0	7,078.6	7,094.6	7,094.6	58.5	141.9	-94.40	-1,114.7	2,715.0	924.5	725.7	198.83	4.650	
9,200.0	7,077.5	7,093.5	7,093.5	61.1	141.9	-93.92	-1,114.7	2,715.0	825.7	624.1	201.56	4.096	
9,300.0	7,076.4	7,092.4	7,092.4	63.7	141.8	-93.44	-1,114.7	2,715.0	727.1	522.8	204.29	3.559	
9,400.0	7,075.3	7,091.3	7,091.3	66.4	141.8	-92.96	-1,114.7	2,715.0	629.0	422.0	207.02	3.038	
9,500.0	7,074.2	7,090.2	7,090.2	69.0	141.8	-92.48	-1,114.7	2,715.0	531.6	321.9	209.74	2.535	
9,600.0	7,073.1	7,089.1	7,089.1	71.7	141.8	-92.00	-1,114.7	2,715.0	435.4	222.9	212.47	2.049	
9,700.0	7,072.0	7,088.0	7,088.0	74.4	141.8	-91.52	-1,114.7	2,715.0	341.4	126.2	215.19	1.586	
9,800.0	7,070.9	7,086.9	7,086.9	77.1	141.7	-91.04	-1,114.7	2,715.0	251.9	34.0	217.90	1.156	Level 2
9,900.0	7,069.8	7,085.8	7,085.8	79.8	141.7	-90.55	-1,114.7	2,715.0	174.4	-46.2	220.60	0.791	Level 1
10,000.0	7,068.7	7,084.7	7,084.7	82.5	141.7	-90.07	-1,114.7	2,715.0	131.8	-91.5	223.30	0.590	Level 1
10,015.3	7,068.5	7,084.5	7,084.5	82.9	141.7	-90.00	-1,114.7	2,715.0	130.9	-92.8	223.71	0.585	Level 1, CC, ES, SF
10,100.0	7,067.6	7,083.6	7,083.6	85.2	141.7	-89.59	-1,114.7	2,715.0	156.0	-70.0	225.98	0.690	Level 1
10,200.0	7,066.5	7,082.5	7,082.5	87.9	141.6	-89.11	-1,114.7	2,715.0	226.4	-2.2	228.66	0.990	Level 1
10,300.0	7,065.4	7,081.4	7,081.4	90.6	141.6	-88.63	-1,114.7	2,715.0	313.4	82.1	231.32	1.355	Level 3
10,400.0	7,064.3	7,080.3	7,080.3	93.4	141.6	-88.15	-1,114.7	2,715.0	406.4	172.4	233.97	1.737	
10,500.0	7,063.2	7,079.2	7,079.2	96.1	141.6	-87.67	-1,114.7	2,715.0	502.1	265.5	236.60	2.122	
10,600.0	7,062.1	7,078.1	7,078.1	98.8	141.6	-87.19	-1,114.7	2,715.0	599.2	359.9	239.23	2.505	
10,700.0	7,061.0	7,077.0	7,077.0	101.6	141.5	-86.71	-1,114.7	2,715.0	697.1	455.3	241.83	2.883	
10,800.0	7,059.9	7,075.9	7,075.9	104.3	141.5	-86.23	-1,114.7	2,715.0	795.5	551.1	244.42	3.255	
10,900.0	7,058.8	7,074.8	7,074.8	107.0	141.5	-85.75	-1,114.7	2,715.0	894.3	647.3	247.00	3.621	
11,000.0	7,057.7	7,073.7	7,073.7	109.8	141.5	-85.27	-1,114.7	2,715.0	993.3	743.8	249.55	3.980	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 - Warren 10-1 (Exist.) - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 7322-UNKNOWN

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,500.0	7,063.2	7,071.2	7,071.2	96.1	141.4	-93.66	-1,092.6	4,090.5	903.9	667.4	236.47	3.823	
10,600.0	7,062.1	7,070.1	7,070.1	98.8	141.4	-93.25	-1,092.6	4,090.5	805.5	566.3	239.27	3.367	
10,700.0	7,061.0	7,069.0	7,069.0	101.6	141.4	-92.84	-1,092.6	4,090.5	707.6	465.5	242.07	2.923	
10,800.0	7,059.9	7,067.9	7,067.9	104.3	141.4	-92.43	-1,092.6	4,090.5	610.4	365.5	244.86	2.493	
10,900.0	7,058.8	7,066.8	7,066.8	107.0	141.3	-92.02	-1,092.6	4,090.5	514.2	266.5	247.65	2.076	
11,000.0	7,057.7	7,065.7	7,065.7	109.8	141.3	-91.61	-1,092.6	4,090.5	419.8	169.3	250.42	1.676	
11,100.0	7,056.6	7,064.6	7,064.6	112.5	141.3	-91.20	-1,092.6	4,090.5	328.7	75.5	253.19	1.298	Level 3
11,200.0	7,055.5	7,063.5	7,063.5	115.3	141.3	-90.79	-1,092.6	4,090.5	244.6	-11.3	255.95	0.956	Level 1
11,300.0	7,054.4	7,062.4	7,062.4	118.1	141.2	-90.37	-1,092.6	4,090.5	178.0	-80.7	258.70	0.688	Level 1
11,390.9	7,053.4	7,061.4	7,061.4	120.6	141.2	-90.00	-1,092.6	4,090.5	153.0	-108.2	261.18	0.586	Level 1, CC, ES, SF
11,400.0	7,053.3	7,061.3	7,061.3	120.8	141.2	-89.96	-1,092.6	4,090.5	153.2	-108.2	261.43	0.586	Level 1
11,500.0	7,052.2	7,060.2	7,060.2	123.6	141.2	-89.55	-1,092.6	4,090.5	187.9	-76.3	264.16	0.711	Level 1
11,519.0	7,052.0	7,060.0	7,060.0	124.1	141.2	-89.47	-1,092.6	4,090.5	199.5	-65.1	264.67	0.754	Level 1

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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-202 - Wellbore #1 - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	3.64	43.7	2.8	43.8				
100.0	100.0	100.0	100.0	0.1	0.1	3.64	43.7	2.8	43.8	43.6	0.22	194.916	
200.0	200.0	200.0	200.0	0.3	0.3	3.64	43.7	2.8	43.8	43.1	0.67	64.968	
300.0	300.0	300.0	300.0	0.6	0.6	3.64	43.7	2.8	43.8	42.7	1.12	38.980	
400.0	400.0	400.0	400.0	0.8	0.8	3.64	43.7	2.8	43.8	42.2	1.57	27.842	CC, ES
500.0	500.0	500.0	500.0	1.0	1.0	167.26	43.7	2.8	45.1	43.1	2.00	22.520	
600.0	599.9	599.9	599.9	1.2	1.2	168.26	43.7	2.8	48.9	46.5	2.42	20.190	
700.0	699.7	699.7	699.7	1.4	1.5	169.62	43.7	2.8	55.3	52.5	2.86	19.367	
800.0	799.3	799.3	799.3	1.6	1.7	171.07	43.7	2.8	64.4	61.1	3.30	19.506	
900.0	898.6	898.6	898.6	1.9	1.9	172.42	43.7	2.8	76.0	72.2	3.75	20.284	
1,000.0	997.5	997.5	997.5	2.2	2.1	173.60	43.7	2.8	90.2	86.0	4.20	21.503	
1,100.0	1,096.1	1,096.1	1,096.1	2.5	2.4	174.59	43.7	2.8	107.1	102.4	4.65	23.036	
1,200.0	1,194.2	1,194.2	1,194.2	2.9	2.6	175.40	43.7	2.8	126.5	121.4	5.10	24.797	
1,300.0	1,291.7	1,294.9	1,294.9	3.3	2.8	175.85	42.8	2.0	147.5	142.0	5.54	26.638	
1,384.7	1,373.9	1,380.8	1,380.7	3.7	2.9	175.84	40.5	-0.1	165.6	159.7	5.89	28.094	
1,400.0	1,388.6	1,396.3	1,396.2	3.8	3.0	175.81	39.9	-0.6	168.8	162.9	5.96	28.334	
1,500.0	1,485.3	1,498.5	1,498.2	4.3	3.2	175.41	35.0	-5.0	188.7	182.3	6.40	29.503	
1,600.0	1,582.0	1,601.5	1,600.8	4.8	3.4	174.70	28.0	-11.2	206.4	199.5	6.86	30.100	
1,700.0	1,678.7	1,705.3	1,703.8	5.3	3.6	173.73	18.8	-19.4	221.7	214.4	7.34	30.222	
1,800.0	1,775.4	1,805.5	1,803.1	5.8	3.9	172.67	8.4	-28.5	235.5	227.7	7.83	30.067	
1,900.0	1,872.1	1,904.5	1,901.1	6.3	4.1	171.72	-1.8	-37.7	249.3	240.9	8.34	29.878	
2,000.0	1,968.8	2,003.5	1,999.1	6.8	4.4	170.88	-12.1	-46.8	263.1	254.2	8.87	29.677	
2,100.0	2,065.5	2,102.4	2,097.2	7.4	4.7	170.12	-22.3	-55.9	277.0	267.6	9.40	29.469	
2,200.0	2,162.2	2,201.4	2,195.2	7.9	5.0	169.43	-32.6	-65.0	290.9	281.0	9.94	29.258	
2,300.0	2,258.9	2,300.4	2,293.2	8.4	5.3	168.81	-42.8	-74.1	304.9	294.4	10.49	29.049	
2,400.0	2,355.6	2,399.4	2,391.2	8.9	5.6	168.24	-53.1	-83.2	318.8	307.8	11.05	28.844	
2,500.0	2,452.3	2,498.3	2,489.2	9.5	5.9	167.71	-63.4	-92.3	332.9	321.2	11.62	28.644	
2,600.0	2,549.0	2,597.3	2,587.2	10.0	6.2	167.23	-73.6	-101.4	346.9	334.7	12.19	28.450	
2,700.0	2,645.7	2,696.3	2,685.2	10.5	6.5	166.79	-83.9	-110.5	361.0	348.2	12.77	28.263	
2,800.0	2,742.4	2,795.2	2,783.2	11.1	6.8	166.38	-94.1	-119.6	375.1	361.7	13.36	28.084	
2,900.0	2,839.1	2,894.2	2,881.3	11.6	7.1	166.00	-104.4	-128.8	389.2	375.2	13.94	27.912	
3,000.0	2,935.7	2,993.2	2,979.3	12.1	7.5	165.65	-114.6	-137.9	403.3	388.8	14.53	27.748	
3,100.0	3,032.4	3,092.1	3,077.3	12.7	7.8	165.32	-124.9	-147.0	417.4	402.3	15.13	27.591	
3,200.0	3,129.1	3,191.1	3,175.3	13.2	8.1	165.01	-135.2	-156.1	431.6	415.8	15.73	27.441	
3,300.0	3,225.8	3,290.1	3,273.3	13.7	8.5	164.72	-145.4	-165.2	445.7	429.4	16.33	27.298	
3,400.0	3,322.5	3,389.0	3,371.3	14.3	8.8	164.45	-155.7	-174.3	459.9	443.0	16.93	27.161	
3,500.0	3,419.2	3,488.0	3,469.3	14.8	9.1	164.20	-165.9	-183.4	474.1	456.5	17.54	27.031	
3,600.0	3,515.9	3,587.0	3,567.3	15.3	9.4	163.96	-176.2	-192.5	488.3	470.1	18.15	26.906	
3,700.0	3,612.6	3,685.9	3,665.4	15.9	9.8	163.73	-186.4	-201.6	502.5	483.7	18.76	26.787	
3,800.0	3,709.3	3,784.9	3,763.4	16.4	10.1	163.52	-196.7	-210.8	516.7	497.3	19.37	26.674	
3,900.0	3,806.0	3,883.9	3,861.4	16.9	10.5	163.32	-207.0	-219.9	530.9	510.9	19.98	26.565	
4,000.0	3,902.7	3,982.8	3,959.4	17.5	10.8	163.12	-217.2	-229.0	545.1	524.5	20.60	26.461	
4,100.0	3,999.4	4,081.8	4,057.4	18.0	11.1	162.94	-227.5	-238.1	559.3	538.1	21.22	26.362	
4,200.0	4,096.1	4,180.8	4,155.4	18.5	11.5	162.77	-237.7	-247.2	573.5	551.7	21.83	26.267	
4,300.0	4,192.8	4,279.8	4,253.4	19.1	11.8	162.60	-248.0	-256.3	587.8	565.3	22.45	26.176	
4,400.0	4,289.5	4,378.7	4,351.5	19.6	12.1	162.45	-258.2	-265.4	602.0	578.9	23.08	26.088	
4,500.0	4,386.2	4,477.7	4,449.5	20.1	12.5	162.30	-268.5	-274.5	616.2	592.5	23.70	26.004	
4,600.0	4,482.9	4,576.7	4,547.5	20.7	12.8	162.15	-278.8	-283.6	630.5	606.2	24.32	25.924	
4,700.0	4,579.6	4,675.6	4,645.5	21.2	13.2	162.02	-289.0	-292.7	644.7	619.8	24.94	25.847	
4,800.0	4,676.3	4,774.6	4,743.5	21.8	13.5	161.89	-299.3	-301.9	659.0	633.4	25.57	25.773	
4,900.0	4,773.0	4,873.6	4,841.5	22.3	13.9	161.76	-309.5	-311.0	673.2	647.0	26.19	25.701	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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-202 - Wellbore #1 - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,869.7	4,972.5	4,939.5	22.8	14.2	161.64	-319.8	-320.1	687.5	660.7	26.82	25.633	
5,100.0	4,966.4	5,071.5	5,037.5	23.4	14.5	161.53	-330.0	-329.2	701.7	674.3	27.45	25.567	
5,200.0	5,063.0	5,170.5	5,135.6	23.9	14.9	161.42	-340.3	-338.3	716.0	687.9	28.07	25.503	
5,300.0	5,159.7	5,269.4	5,233.6	24.4	15.2	161.31	-350.6	-347.4	730.3	701.6	28.70	25.442	
5,400.0	5,256.4	5,363.8	5,327.0	25.0	15.5	161.22	-360.3	-356.0	744.6	715.3	29.31	25.407	
5,500.0	5,353.1	5,446.7	5,409.3	25.5	15.7	161.24	-367.4	-362.4	760.5	730.7	29.82	25.507	
5,600.0	5,449.8	5,528.9	5,491.3	26.0	15.9	161.37	-372.8	-367.2	778.5	748.3	30.28	25.713	
5,620.5	5,469.6	5,545.6	5,508.0	26.2	16.0	161.42	-373.7	-367.9	782.5	752.1	30.37	25.768	
5,700.0	5,546.8	5,610.6	5,572.8	26.5	16.1	161.70	-376.4	-370.3	797.6	766.8	30.72	25.965	
5,800.0	5,644.5	5,700.0	5,662.2	26.8	16.2	162.11	-378.3	-372.0	815.5	784.4	31.08	26.241	
5,900.0	5,743.0	5,780.8	5,743.0	27.1	16.3	162.50	-378.5	-372.2	832.0	800.6	31.38	26.513	
6,000.0	5,841.9	5,879.8	5,841.9	27.4	16.5	162.87	-378.5	-372.2	845.6	813.9	31.67	26.701	
6,100.0	5,941.4	5,979.2	5,941.4	27.6	16.6	163.14	-378.5	-372.2	855.9	824.0	31.93	26.803	
6,200.0	6,041.1	6,078.9	6,041.1	27.7	16.8	163.32	-378.5	-372.2	862.9	830.7	32.17	26.823	
6,300.0	6,141.0	6,178.8	6,141.0	27.9	16.9	163.41	-378.5	-372.2	866.5	834.1	32.38	26.763	
6,359.0	6,200.0	6,237.8	6,200.0	27.9	17.0	0.18	-378.5	-372.2	867.1	824.3	42.81	20.255	
6,400.0	6,241.0	6,278.8	6,241.0	28.0	17.1	0.18	-378.5	-372.2	867.1	824.2	42.92	20.204	
6,424.7	6,265.7	6,303.5	6,265.7	28.0	17.1	0.18	-378.5	-372.2	867.1	824.1	42.98	20.175	
6,489.1	6,330.1	6,367.6	6,329.8	28.0	17.2	0.32	-378.5	-370.1	867.1	824.0	43.16	20.093	
6,500.0	6,341.0	6,378.4	6,340.5	28.0	17.2	-89.63	-378.5	-369.3	867.1	834.2	32.88	26.374	
6,550.0	6,390.9	6,427.8	6,389.5	28.1	17.3	-89.38	-378.5	-363.3	867.2	834.2	32.93	26.335	
6,600.0	6,440.6	6,476.9	6,437.8	28.1	17.3	-89.15	-378.5	-354.3	867.2	834.3	32.94	26.326	
6,650.0	6,489.8	6,525.9	6,485.2	28.1	17.3	-88.91	-378.5	-342.3	867.3	834.3	32.92	26.344	
6,700.0	6,538.3	6,574.6	6,531.6	28.1	17.3	-88.68	-378.5	-327.3	867.3	834.5	32.87	26.383	
6,750.0	6,586.0	6,623.1	6,576.7	28.1	17.3	-88.46	-378.5	-309.4	867.4	834.6	32.81	26.438	
6,800.0	6,632.5	6,671.4	6,620.4	28.1	17.2	-88.24	-378.5	-288.9	867.5	834.8	32.74	26.499	
6,850.0	6,677.7	6,719.5	6,662.5	28.1	17.2	-88.04	-378.5	-265.7	867.6	834.9	32.67	26.559	
6,900.0	6,721.5	6,767.5	6,703.0	28.0	17.2	-87.83	-378.5	-240.0	867.7	835.1	32.61	26.605	
6,950.0	6,763.5	6,815.2	6,741.6	28.0	17.1	-87.64	-378.5	-211.9	867.8	835.2	32.59	26.626	
7,000.0	6,803.8	6,862.9	6,778.3	28.0	17.1	-87.46	-378.5	-181.6	868.0	835.3	32.62	26.606	
7,050.0	6,842.0	6,910.3	6,813.0	27.9	17.1	-87.29	-378.5	-149.1	868.1	835.4	32.72	26.531	
7,100.0	6,877.9	6,957.6	6,845.4	27.9	17.1	-87.13	-378.5	-114.7	868.2	835.3	32.90	26.388	
7,150.0	6,911.6	7,004.8	6,875.6	27.9	17.0	-86.99	-378.5	-78.4	868.3	835.1	33.19	26.164	
7,200.0	6,942.8	7,051.9	6,903.4	27.8	17.0	-86.85	-378.5	-40.4	868.4	834.8	33.59	25.850	
7,250.0	6,971.3	7,100.0	6,929.3	27.8	17.1	-86.73	-378.5	0.1	868.5	834.4	34.14	25.437	
7,300.0	6,997.1	7,145.8	6,951.6	27.8	17.2	-86.62	-378.5	40.0	868.6	833.8	34.83	24.939	
7,350.0	7,020.0	7,192.6	6,971.9	27.8	17.4	-86.52	-378.5	82.2	868.7	833.0	35.67	24.351	
7,400.0	7,040.0	7,239.3	6,989.5	27.8	17.9	-86.44	-378.5	125.5	868.8	832.1	36.67	23.690	
7,450.0	7,056.9	7,286.0	7,004.4	27.8	18.5	-86.38	-378.5	169.7	868.8	831.0	37.82	22.972	
7,500.0	7,070.8	7,332.6	7,016.6	27.9	19.2	-86.32	-378.5	214.7	868.9	829.8	39.11	22.215	
7,550.0	7,081.4	7,379.1	7,026.0	28.0	19.9	-86.29	-378.5	260.3	868.9	828.4	40.54	21.436	
7,600.0	7,088.9	7,425.7	7,032.6	28.1	20.7	-86.26	-378.5	306.4	868.9	826.9	42.08	20.651	
7,650.0	7,093.1	7,472.2	7,036.4	28.3	21.5	-86.25	-378.5	352.7	869.0	825.2	43.72	19.875	
7,697.5	7,094.0	7,516.5	7,037.3	28.6	22.4	-86.26	-378.5	397.0	868.9	823.6	45.36	19.159	
7,700.0	7,094.0	7,518.9	7,037.3	28.6	22.4	-86.26	-378.5	399.4	868.9	823.5	45.45	19.120	
7,800.0	7,092.9	7,618.9	7,036.5	29.4	24.5	-86.28	-378.5	499.4	868.9	819.6	49.35	17.609	
7,900.0	7,091.8	7,718.9	7,035.7	30.7	26.6	-86.30	-378.5	599.4	868.9	815.4	53.54	16.230	
8,000.0	7,090.7	7,818.9	7,034.9	32.3	28.9	-86.32	-378.5	699.4	868.9	810.9	57.97	14.989	
8,100.0	7,089.6	7,918.9	7,034.0	34.3	31.2	-86.33	-378.5	799.3	868.9	806.3	62.59	13.883	
8,200.0	7,088.5	8,018.9	7,033.2	36.4	33.7	-86.35	-378.5	899.3	868.9	801.5	67.35	12.900	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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-202 - Wellbore #1 - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,300.0	7,087.4	8,118.9	7,032.4	38.6	36.1	-86.37	-378.5	999.3	868.8	796.6	72.24	12.027	
8,400.0	7,086.3	8,218.9	7,031.6	40.9	38.7	-86.39	-378.5	1,099.3	868.8	791.6	77.23	11.250	
8,500.0	7,085.2	8,318.9	7,030.8	43.3	41.2	-86.41	-378.5	1,199.3	868.8	786.5	82.29	10.558	
8,600.0	7,084.1	8,418.9	7,029.9	45.7	43.8	-86.43	-378.5	1,299.3	868.8	781.4	87.42	9.938	
8,700.0	7,083.0	8,518.9	7,029.1	48.2	46.4	-86.44	-378.5	1,399.3	868.8	776.2	92.61	9.381	
8,800.0	7,081.9	8,618.9	7,028.3	50.7	49.0	-86.46	-378.5	1,499.3	868.7	770.9	97.84	8.879	
8,900.0	7,080.8	8,718.9	7,027.5	53.3	51.7	-86.48	-378.5	1,599.3	868.7	765.6	103.11	8.425	
9,000.0	7,079.7	8,818.9	7,026.7	55.9	54.4	-86.50	-378.5	1,699.3	868.7	760.3	108.41	8.013	
9,100.0	7,078.6	8,918.9	7,025.8	58.5	57.0	-86.52	-378.5	1,799.3	868.7	754.9	113.75	7.637	
9,200.0	7,077.5	9,018.9	7,025.0	61.1	59.7	-86.54	-378.5	1,899.3	868.7	749.6	119.10	7.293	
9,300.0	7,076.4	9,118.9	7,024.2	63.7	62.4	-86.56	-378.5	1,999.3	868.7	744.2	124.48	6.978	
9,400.0	7,075.3	9,218.9	7,023.4	66.4	65.1	-86.57	-378.5	2,099.3	868.6	738.8	129.88	6.688	
9,500.0	7,074.2	9,318.9	7,022.6	69.0	67.9	-86.59	-378.5	2,199.3	868.6	733.3	135.30	6.420	
9,600.0	7,073.1	9,418.9	7,021.7	71.7	70.6	-86.61	-378.5	2,299.3	868.6	727.9	140.73	6.172	
9,700.0	7,072.0	9,518.9	7,020.9	74.4	73.3	-86.63	-378.5	2,399.3	868.6	722.4	146.17	5.942	
9,800.0	7,070.9	9,618.9	7,020.1	77.1	76.0	-86.65	-378.5	2,499.3	868.6	716.9	151.63	5.728	
9,900.0	7,069.8	9,718.9	7,019.3	79.8	78.8	-86.67	-378.5	2,599.3	868.5	711.5	157.10	5.529	
10,000.0	7,068.7	9,818.9	7,018.5	82.5	81.5	-86.68	-378.5	2,699.3	868.5	706.0	162.57	5.342	
10,100.0	7,067.6	9,918.9	7,017.6	85.2	84.3	-86.70	-378.5	2,799.3	868.5	700.5	168.06	5.168	
10,200.0	7,066.5	10,018.9	7,016.8	87.9	87.0	-86.72	-378.5	2,899.3	868.5	695.0	173.55	5.004	
10,300.0	7,065.4	10,118.9	7,016.0	90.6	89.8	-86.74	-378.5	2,999.3	868.5	689.4	179.05	4.851	
10,400.0	7,064.3	10,218.9	7,015.2	93.4	92.5	-86.76	-378.5	3,099.3	868.5	683.9	184.55	4.706	
10,500.0	7,063.2	10,318.9	7,014.4	96.1	95.3	-86.78	-378.5	3,199.3	868.4	678.4	190.07	4.569	
10,600.0	7,062.1	10,418.9	7,013.5	98.8	98.1	-86.79	-378.5	3,299.3	868.4	672.8	195.58	4.440	
10,700.0	7,061.0	10,518.9	7,012.7	101.6	100.8	-86.81	-378.5	3,399.3	868.4	667.3	201.11	4.318	
10,800.0	7,059.9	10,618.9	7,011.9	104.3	103.6	-86.83	-378.5	3,499.2	868.4	661.8	206.63	4.203	
10,900.0	7,058.8	10,718.9	7,011.1	107.0	106.4	-86.85	-378.5	3,599.2	868.4	656.2	212.17	4.093	
11,000.0	7,057.7	10,818.9	7,010.3	109.8	109.1	-86.87	-378.5	3,699.2	868.4	650.7	217.70	3.989	
11,100.0	7,056.6	10,918.9	7,009.4	112.5	111.9	-86.89	-378.5	3,799.2	868.4	645.1	223.24	3.890	
11,200.0	7,055.5	11,018.9	7,008.6	115.3	114.7	-86.90	-378.5	3,899.2	868.3	639.6	228.78	3.795	
11,300.0	7,054.4	11,118.9	7,007.8	118.1	117.5	-86.92	-378.5	3,999.2	868.3	634.0	234.33	3.706	
11,400.0	7,053.3	11,218.9	7,007.0	120.8	120.2	-86.94	-378.5	4,099.2	868.3	628.4	239.88	3.620	
11,500.0	7,052.2	11,318.9	7,006.2	123.6	122.8	-86.96	-378.5	4,199.2	868.3	623.0	245.24	3.541	
11,519.0	7,052.0	11,337.9	7,006.0	124.1	123.2	-86.96	-378.5	4,218.3	868.3	622.2	246.11	3.528	SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	2.08	76.5	2.8	76.6				
100.0	100.0	99.0	99.0	0.1	0.1	2.08	76.5	2.8	76.6	76.3	0.22	342.348	
200.0	200.0	199.0	199.0	0.3	0.3	2.08	76.5	2.8	76.6	75.9	0.67	113.920	
300.0	300.0	299.0	299.0	0.6	0.6	2.08	76.5	2.8	76.6	75.4	1.12	68.260	
400.0	400.0	399.0	399.0	0.8	0.8	2.08	76.5	2.8	76.6	75.0	1.57	48.727	CC, ES
500.0	500.0	499.0	499.0	1.0	1.0	165.57	76.5	2.8	77.8	75.8	2.00	38.921	
600.0	599.9	598.9	598.9	1.2	1.2	166.24	76.5	2.8	81.6	79.2	2.42	33.726	
700.0	699.7	698.7	698.7	1.4	1.5	167.23	76.5	2.8	88.0	85.1	2.85	30.823	
800.0	799.3	798.3	798.3	1.6	1.7	168.40	76.5	2.8	96.9	93.6	3.30	29.398	
900.0	898.6	897.6	897.6	1.9	1.9	169.62	76.5	2.8	108.5	104.7	3.75	28.966	SF
1,000.0	997.5	996.5	996.5	2.2	2.1	170.79	76.5	2.8	122.6	118.4	4.20	29.223	
1,100.0	1,096.1	1,095.1	1,095.1	2.5	2.3	171.87	76.5	2.8	139.4	134.7	4.65	29.977	
1,200.0	1,194.2	1,193.2	1,193.2	2.9	2.6	172.83	76.5	2.8	158.7	153.6	5.10	31.097	
1,300.0	1,291.7	1,290.7	1,290.7	3.3	2.8	173.66	76.5	2.8	180.6	175.1	5.56	32.491	
1,384.7	1,373.9	1,372.9	1,372.9	3.7	3.0	174.28	76.5	2.8	201.2	195.3	5.95	33.838	
1,400.0	1,388.6	1,387.6	1,387.6	3.8	3.0	174.39	76.5	2.8	205.1	199.1	6.02	34.086	
1,500.0	1,485.3	1,484.3	1,484.3	4.3	3.2	175.01	76.5	2.8	230.5	224.0	6.48	35.562	
1,600.0	1,582.0	1,581.0	1,581.0	4.8	3.4	175.51	76.5	2.8	255.9	249.0	6.95	36.817	
1,700.0	1,678.7	1,677.7	1,677.7	5.3	3.7	175.91	76.5	2.8	281.3	273.9	7.42	37.895	
1,800.0	1,775.4	1,774.4	1,774.4	5.8	3.9	176.25	76.5	2.8	306.8	298.9	7.90	38.829	
1,900.0	1,872.1	1,871.1	1,871.1	6.3	4.1	176.54	76.5	2.8	332.2	323.8	8.38	39.645	
2,000.0	1,968.8	1,967.8	1,967.8	6.8	4.3	176.79	76.5	2.8	357.7	348.8	8.86	40.363	
2,100.0	2,065.5	2,065.4	2,065.4	7.4	4.5	176.95	76.5	2.4	383.1	373.7	9.34	41.019	
2,200.0	2,162.2	2,163.7	2,163.7	7.9	4.7	176.86	76.6	0.4	408.1	398.3	9.81	41.607	
2,300.0	2,258.9	2,262.2	2,262.1	8.4	4.9	176.56	76.6	-3.2	432.8	422.5	10.28	42.096	
2,400.0	2,355.6	2,360.7	2,360.4	8.9	5.1	176.08	76.7	-8.6	457.1	446.4	10.76	42.479	
2,500.0	2,452.3	2,459.2	2,458.7	9.5	5.3	175.44	76.9	-15.6	481.2	469.9	11.25	42.762	
2,600.0	2,549.0	2,557.7	2,556.9	10.0	5.6	174.68	77.1	-24.3	505.0	493.2	11.76	42.955	
2,700.0	2,645.7	2,656.2	2,654.7	10.5	5.8	173.79	77.3	-34.7	528.6	516.3	12.27	43.060	
2,800.0	2,742.4	2,754.0	2,751.8	11.1	6.0	172.82	77.5	-46.7	552.0	539.2	12.81	43.094	
2,900.0	2,839.1	2,850.8	2,847.8	11.6	6.3	171.90	77.8	-58.8	575.6	562.2	13.36	43.091	
3,000.0	2,935.7	2,947.6	2,943.9	12.1	6.5	171.06	78.0	-71.0	599.2	585.3	13.91	43.066	
3,100.0	3,032.4	3,044.3	3,039.9	12.7	6.8	170.27	78.3	-83.2	623.0	608.5	14.48	43.024	
3,200.0	3,129.1	3,141.1	3,135.9	13.2	7.0	169.55	78.5	-95.4	646.9	631.8	15.06	42.967	
3,300.0	3,225.8	3,237.9	3,231.9	13.7	7.3	168.87	78.8	-107.5	670.9	655.2	15.64	42.901	
3,400.0	3,322.5	3,334.7	3,327.9	14.3	7.6	168.24	79.0	-119.7	694.9	678.7	16.23	42.826	
3,500.0	3,419.2	3,431.5	3,424.0	14.8	7.8	167.66	79.3	-131.9	719.1	702.2	16.82	42.745	
3,600.0	3,515.9	3,528.3	3,520.0	15.3	8.1	167.11	79.5	-144.1	743.3	725.8	17.42	42.661	
3,700.0	3,612.6	3,625.1	3,616.0	15.9	8.4	166.59	79.8	-156.2	767.5	749.5	18.03	42.574	
3,800.0	3,709.3	3,721.9	3,712.0	16.4	8.7	166.11	80.0	-168.4	791.8	773.2	18.64	42.485	
3,900.0	3,806.0	3,818.7	3,808.0	16.9	9.0	165.66	80.3	-180.6	816.2	797.0	19.25	42.396	
4,000.0	3,902.7	3,915.4	3,904.1	17.5	9.3	165.23	80.5	-192.8	840.6	820.8	19.87	42.306	
4,100.0	3,999.4	4,012.2	4,000.1	18.0	9.5	164.83	80.8	-205.0	865.1	844.6	20.49	42.217	
4,200.0	4,096.1	4,109.0	4,096.1	18.5	9.8	164.45	81.0	-217.1	889.6	868.5	21.12	42.130	
4,300.0	4,192.8	4,205.8	4,192.1	19.1	10.1	164.08	81.3	-229.3	914.1	892.4	21.74	42.043	
4,400.0	4,289.5	4,302.6	4,288.1	19.6	10.4	163.74	81.5	-241.5	938.7	916.3	22.37	41.958	
4,500.0	4,386.2	4,399.4	4,384.1	20.1	10.7	163.42	81.8	-253.7	963.2	940.2	23.00	41.875	
4,600.0	4,482.9	4,496.2	4,480.2	20.7	11.0	163.11	82.0	-265.8	987.9	964.2	23.64	41.793	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
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	CC, ES
500.0	500.0	500.0	500.0	1.0	1.0	164.61	14.6	0.0	15.8	13.8	2.00	7.908	
600.0	599.9	599.9	599.9	1.2	1.2	167.63	14.6	0.0	19.6	17.2	2.42	8.107	
700.0	699.7	699.7	699.7	1.4	1.5	170.70	14.6	0.0	26.1	23.2	2.86	9.123	
800.0	799.3	799.3	799.3	1.6	1.7	173.09	14.6	0.0	35.1	31.8	3.30	10.647	
900.0	898.6	899.8	899.7	1.9	1.9	174.56	13.4	-0.5	45.5	41.8	3.72	12.249	
1,000.0	997.5	1,000.5	1,000.4	2.2	2.1	175.30	9.7	-1.9	56.0	51.9	4.12	13.588	
1,100.0	1,096.1	1,101.6	1,101.3	2.5	2.3	175.64	3.4	-4.2	66.4	61.9	4.54	14.642	
1,200.0	1,194.2	1,202.9	1,202.2	2.9	2.5	175.74	-5.3	-7.5	76.9	71.9	4.97	15.475	
1,300.0	1,291.7	1,304.5	1,303.1	3.3	2.7	175.70	-16.5	-11.8	87.3	81.9	5.41	16.132	
1,384.7	1,373.9	1,390.9	1,388.5	3.7	2.9	175.58	-28.1	-16.1	96.1	90.3	5.80	16.575	
1,400.0	1,388.6	1,406.4	1,403.9	3.8	3.0	175.55	-30.4	-17.0	97.6	91.8	5.87	16.637	
1,500.0	1,485.3	1,508.8	1,504.7	4.3	3.3	175.27	-46.7	-23.2	106.3	100.0	6.35	16.741	
1,600.0	1,582.0	1,611.5	1,605.4	4.8	3.7	174.80	-65.7	-30.4	112.3	105.5	6.85	16.397	
1,700.0	1,678.7	1,713.4	1,704.7	5.3	4.0	174.19	-86.9	-38.4	115.9	108.5	7.37	15.722	
1,800.0	1,775.4	1,813.3	1,802.0	5.8	4.5	173.57	-108.2	-46.5	118.9	111.0	7.89	15.062	
1,900.0	1,872.1	1,913.3	1,899.4	6.3	4.9	172.98	-129.5	-54.5	121.9	113.5	8.43	14.458	
2,000.0	1,968.8	2,013.2	1,996.7	6.8	5.3	172.42	-150.8	-62.6	124.9	116.0	8.98	13.915	
2,100.0	2,065.5	2,113.2	2,094.0	7.4	5.8	171.89	-172.1	-70.7	128.0	118.5	9.53	13.423	
2,200.0	2,162.2	2,213.1	2,191.3	7.9	6.2	171.38	-193.4	-78.7	131.0	120.9	10.10	12.976	
2,300.0	2,258.9	2,313.0	2,288.6	8.4	6.7	170.90	-214.6	-86.8	134.1	123.4	10.67	12.569	
2,400.0	2,355.6	2,413.0	2,386.0	8.9	7.1	170.43	-235.9	-94.8	137.2	125.9	11.25	12.197	
2,500.0	2,452.3	2,512.9	2,483.3	9.5	7.6	169.99	-257.2	-102.9	140.3	128.4	11.83	11.856	
2,600.0	2,549.0	2,612.9	2,580.6	10.0	8.1	169.57	-278.5	-110.9	143.4	130.9	12.42	11.543	
2,700.0	2,645.7	2,712.8	2,677.9	10.5	8.5	169.16	-299.8	-119.0	146.5	133.4	13.02	11.253	
2,800.0	2,742.4	2,812.8	2,775.2	11.1	9.0	168.77	-321.1	-127.1	149.6	136.0	13.62	10.986	
2,900.0	2,839.1	2,912.7	2,872.6	11.6	9.5	168.40	-342.4	-135.1	152.7	138.5	14.22	10.738	
3,000.0	2,935.7	3,012.7	2,969.9	12.1	10.0	168.04	-363.7	-143.2	155.8	141.0	14.83	10.507	
3,100.0	3,032.4	3,112.6	3,067.2	12.7	10.5	167.70	-384.9	-151.2	158.9	143.5	15.44	10.292	
3,200.0	3,129.1	3,212.6	3,164.5	13.2	10.9	167.37	-406.2	-159.3	162.1	146.0	16.06	10.092	
3,300.0	3,225.8	3,312.5	3,261.8	13.7	11.4	167.05	-427.5	-167.4	165.2	148.5	16.68	9.904	
3,400.0	3,322.5	3,412.5	3,359.2	14.3	11.9	166.74	-448.8	-175.4	168.3	151.0	17.30	9.729	
3,500.0	3,419.2	3,512.4	3,456.5	14.8	12.4	166.45	-470.1	-183.5	171.5	153.6	17.93	9.564	
3,600.0	3,515.9	3,612.4	3,553.8	15.3	12.9	166.16	-491.4	-191.5	174.6	156.1	18.56	9.409	
3,700.0	3,612.6	3,712.3	3,651.1	15.9	13.3	165.89	-512.7	-199.6	177.8	158.6	19.19	9.262	
3,800.0	3,709.3	3,812.2	3,748.4	16.4	13.8	165.62	-534.0	-207.7	180.9	161.1	19.83	9.124	
3,900.0	3,806.0	3,912.2	3,845.8	16.9	14.3	165.37	-555.2	-215.7	184.1	163.6	20.47	8.994	
4,000.0	3,902.7	4,012.1	3,943.1	17.5	14.8	165.12	-576.5	-223.8	187.3	166.2	21.11	8.871	
4,100.0	3,999.4	4,112.1	4,040.4	18.0	15.3	164.88	-597.8	-231.8	190.4	168.7	21.76	8.754	
4,200.0	4,096.1	4,212.0	4,137.7	18.5	15.8	164.65	-619.1	-239.9	193.6	171.2	22.40	8.643	
4,300.0	4,192.8	4,312.0	4,235.0	19.1	16.3	164.43	-640.4	-247.9	196.8	173.7	23.05	8.537	
4,400.0	4,289.5	4,411.9	4,332.4	19.6	16.7	164.21	-661.7	-256.0	200.0	176.3	23.70	8.437	
4,500.0	4,386.2	4,511.9	4,429.7	20.1	17.2	164.00	-683.0	-264.1	203.1	178.8	24.35	8.342	
4,600.0	4,482.9	4,611.8	4,527.0	20.7	17.7	163.80	-704.3	-272.1	206.3	181.3	25.01	8.251	
4,700.0	4,579.6	4,711.8	4,624.3	21.2	18.2	163.60	-725.5	-280.2	209.5	183.8	25.66	8.164	
4,800.0	4,676.3	4,811.7	4,721.7	21.8	18.7	163.41	-746.8	-288.2	212.7	186.4	26.32	8.081	
4,900.0	4,773.0	4,911.7	4,819.0	22.3	19.2	163.22	-768.1	-296.3	215.9	188.9	26.98	8.001	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,869.7	5,011.6	4,916.3	22.8	19.7	163.04	-789.4	-304.4	219.1	191.4	27.64	7.925	
5,100.0	4,966.4	5,111.6	5,013.6	23.4	20.2	162.87	-810.7	-312.4	222.3	194.0	28.31	7.853	
5,200.0	5,063.0	5,211.5	5,110.9	23.9	20.6	162.70	-832.0	-320.5	225.5	196.5	28.97	7.783	
5,300.0	5,159.7	5,311.4	5,208.3	24.4	21.1	162.53	-853.3	-328.5	228.7	199.0	29.64	7.716	
5,400.0	5,256.4	5,411.4	5,305.6	25.0	21.6	162.37	-874.6	-336.6	231.9	201.6	30.30	7.652	
5,500.0	5,353.1	5,511.3	5,402.9	25.5	22.1	162.22	-895.8	-344.6	235.1	204.1	30.97	7.590	
5,600.0	5,449.8	5,607.4	5,496.5	26.0	22.5	162.11	-915.9	-352.2	238.7	207.1	31.60	7.555	
5,620.5	5,469.6	5,626.4	5,515.1	26.2	22.6	162.12	-919.6	-353.6	239.8	208.1	31.71	7.562	
5,700.0	5,546.8	5,700.0	5,587.3	26.5	22.8	162.20	-932.8	-358.6	244.0	211.9	32.12	7.598	
5,800.0	5,644.5	5,792.5	5,678.6	26.8	23.1	162.32	-946.9	-364.0	249.0	216.5	32.54	7.654	
5,900.0	5,743.0	5,884.8	5,770.1	27.1	23.3	162.46	-958.2	-368.3	253.7	220.8	32.89	7.714	
6,000.0	5,841.9	5,977.1	5,861.9	27.4	23.5	162.62	-966.8	-371.5	258.1	224.9	33.18	7.779	
6,100.0	5,941.4	6,069.2	5,953.8	27.6	23.6	162.80	-972.5	-373.7	262.2	228.7	33.40	7.849	
6,200.0	6,041.1	6,161.2	6,045.8	27.7	23.8	163.00	-975.5	-374.8	265.9	232.3	33.55	7.923	
6,300.0	6,141.0	6,256.4	6,141.0	27.9	23.9	163.20	-976.0	-375.0	269.0	235.3	33.66	7.992	
6,359.0	6,200.0	6,315.4	6,200.0	27.9	23.9	0.00	-976.0	-375.0	269.6	219.4	50.17	5.373	
6,400.0	6,241.0	6,356.4	6,241.0	28.0	24.0	0.00	-976.0	-375.0	269.6	219.3	50.25	5.364	
6,439.2	6,280.2	6,395.7	6,280.2	28.0	24.0	0.01	-976.0	-374.9	269.6	219.2	50.33	5.356	
6,489.1	6,330.1	6,445.4	6,329.9	28.0	24.1	0.48	-976.0	-372.8	269.6	219.1	50.51	5.337	
6,500.0	6,341.0	6,456.2	6,340.7	28.0	24.1	-89.35	-976.0	-371.9	269.6	235.6	33.95	7.940	
6,550.0	6,390.9	6,505.8	6,389.9	28.1	24.1	-88.54	-976.0	-365.8	269.6	235.8	33.84	7.968	
6,600.0	6,440.6	6,555.1	6,438.3	28.1	24.1	-87.74	-976.0	-356.6	269.8	236.1	33.69	8.006	
6,650.0	6,489.8	6,604.1	6,485.8	28.1	24.1	-86.95	-976.0	-344.3	269.9	236.4	33.53	8.051	
6,700.0	6,538.3	6,652.9	6,532.2	28.1	24.1	-86.18	-976.0	-329.1	270.2	236.8	33.35	8.101	
6,750.0	6,586.0	6,701.6	6,577.3	28.1	24.1	-85.43	-976.0	-311.1	270.4	237.3	33.16	8.154	
6,800.0	6,632.5	6,750.0	6,621.1	28.1	24.1	-84.70	-976.0	-290.3	270.7	237.7	32.99	8.207	
6,850.0	6,677.7	6,798.2	6,663.2	28.1	24.0	-83.99	-976.0	-266.9	271.1	238.2	32.83	8.257	
6,900.0	6,721.5	6,846.2	6,703.6	28.0	24.0	-83.32	-976.0	-241.0	271.4	238.7	32.70	8.301	
6,950.0	6,763.5	6,894.0	6,742.1	28.0	24.0	-82.67	-976.0	-212.8	271.8	239.2	32.61	8.335	
7,000.0	6,803.8	6,941.6	6,778.7	28.0	23.9	-82.05	-976.0	-182.3	272.2	239.6	32.57	8.356	
7,050.0	6,842.0	6,989.1	6,813.2	27.9	23.9	-81.47	-976.0	-149.6	272.6	240.0	32.61	8.359	
7,100.0	6,877.9	7,036.5	6,845.5	27.9	23.8	-80.93	-976.0	-115.1	273.0	240.3	32.73	8.340	
7,150.0	6,911.6	7,083.7	6,875.6	27.9	23.8	-80.42	-976.0	-78.6	273.4	240.4	32.96	8.295	
7,200.0	6,942.8	7,130.7	6,903.2	27.8	23.8	-79.95	-976.0	-40.6	273.8	240.5	33.29	8.223	
7,250.0	6,971.3	7,177.7	6,928.4	27.8	23.7	-79.53	-976.0	-0.9	274.1	240.4	33.75	8.122	
7,300.0	6,997.1	7,224.6	6,951.1	27.8	23.7	-79.14	-976.0	40.1	274.5	240.1	34.34	7.992	
7,350.0	7,020.0	7,271.3	6,971.1	27.8	23.7	-78.81	-976.0	82.3	274.8	239.7	35.09	7.831	
7,400.0	7,040.0	7,318.0	6,988.6	27.8	23.7	-78.51	-976.0	125.6	275.1	239.1	35.94	7.653	
7,450.0	7,056.9	7,364.6	7,003.3	27.8	23.8	-78.26	-976.0	169.8	275.3	238.4	36.96	7.450	
7,500.0	7,070.8	7,411.1	7,015.3	27.9	23.9	-78.06	-976.0	214.7	275.5	237.4	38.11	7.230	
7,550.0	7,081.4	7,457.6	7,024.5	28.0	24.0	-77.90	-976.0	260.3	275.7	236.3	39.38	7.000	
7,600.0	7,088.9	7,504.1	7,030.9	28.1	24.2	-77.80	-976.0	306.3	275.8	235.0	40.77	6.764	
7,650.0	7,093.1	7,550.0	7,034.5	28.3	24.5	-77.74	-976.0	352.1	275.9	233.6	42.25	6.529	
7,697.5	7,094.0	7,594.7	7,035.4	28.6	25.0	-77.72	-976.0	396.8	275.9	232.1	43.77	6.303	
7,700.0	7,094.0	7,597.2	7,035.3	28.6	25.0	-77.72	-976.0	399.3	275.9	232.0	43.86	6.290	
7,800.0	7,092.9	7,697.2	7,034.4	29.4	26.5	-77.76	-976.0	499.3	275.8	228.2	47.65	5.789	
7,900.0	7,091.8	7,797.2	7,033.5	30.7	28.3	-77.79	-976.0	599.3	275.8	224.1	51.74	5.330	
8,000.0	7,090.7	7,897.2	7,032.6	32.3	30.4	-77.83	-976.0	699.3	275.8	219.7	56.08	4.917	
8,100.0	7,089.6	7,997.2	7,031.6	34.3	32.6	-77.86	-976.0	799.3	275.7	215.1	60.61	4.549	
8,200.0	7,088.5	8,097.2	7,030.7	36.4	34.9	-77.90	-976.0	899.3	275.7	210.4	65.29	4.222	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,300.0	7,087.4	8,197.2	7,029.8	38.6	37.3	-77.94	-976.0	999.3	275.7	205.6	70.09	3.933	
8,400.0	7,086.3	8,297.2	7,028.9	40.9	39.7	-77.97	-976.0	1,099.2	275.6	200.6	74.99	3.675	
8,500.0	7,085.2	8,397.2	7,027.9	43.3	42.2	-78.01	-976.0	1,199.2	275.6	195.6	79.97	3.446	
8,600.0	7,084.1	8,497.2	7,027.0	45.7	44.7	-78.04	-976.0	1,299.2	275.6	190.5	85.02	3.241	
8,700.0	7,083.0	8,597.2	7,026.1	48.2	47.3	-78.08	-976.0	1,399.2	275.5	185.4	90.12	3.057	
8,800.0	7,081.9	8,697.2	7,025.2	50.7	49.9	-78.11	-976.0	1,499.2	275.5	180.2	95.27	2.892	
8,900.0	7,080.8	8,797.2	7,024.2	53.3	52.5	-78.15	-976.0	1,599.2	275.4	175.0	100.45	2.742	
9,000.0	7,079.7	8,897.2	7,023.3	55.9	55.1	-78.18	-976.0	1,699.2	275.4	169.7	105.68	2.606	
9,100.0	7,078.6	8,997.2	7,022.4	58.5	57.8	-78.22	-976.0	1,799.2	275.4	164.4	110.93	2.482	
9,200.0	7,077.5	9,097.2	7,021.5	61.1	60.4	-78.26	-976.0	1,899.2	275.3	159.1	116.21	2.369	
9,300.0	7,076.4	9,197.2	7,020.5	63.7	63.1	-78.29	-976.0	1,999.2	275.3	153.8	121.51	2.266	
9,400.0	7,075.3	9,297.2	7,019.6	66.4	65.8	-78.33	-976.0	2,099.2	275.3	148.4	126.83	2.170	
9,500.0	7,074.2	9,397.2	7,018.7	69.0	68.4	-78.36	-976.0	2,199.2	275.2	143.1	132.16	2.083	
9,600.0	7,073.1	9,497.2	7,017.8	71.7	71.1	-78.40	-976.0	2,299.2	275.2	137.7	137.52	2.001	
9,700.0	7,072.0	9,597.2	7,016.8	74.4	73.8	-78.43	-976.0	2,399.2	275.2	132.3	142.88	1.926	
9,800.0	7,070.9	9,697.2	7,015.9	77.1	76.6	-78.47	-976.0	2,499.2	275.1	126.9	148.26	1.856	
9,900.0	7,069.8	9,797.2	7,015.0	79.8	79.3	-78.50	-976.0	2,599.2	275.1	121.4	153.66	1.790	
10,000.0	7,068.7	9,897.2	7,014.1	82.5	82.0	-78.54	-976.0	2,699.2	275.1	116.0	159.06	1.729	
10,100.0	7,067.6	9,997.2	7,013.1	85.2	84.7	-78.58	-976.0	2,799.2	275.0	110.6	164.47	1.672	
10,200.0	7,066.5	10,097.2	7,012.2	87.9	87.5	-78.61	-976.0	2,899.2	275.0	105.1	169.89	1.619	
10,300.0	7,065.4	10,197.2	7,011.3	90.6	90.2	-78.65	-976.0	2,999.2	275.0	99.6	175.32	1.568	
10,400.0	7,064.3	10,297.2	7,010.4	93.4	92.9	-78.68	-976.0	3,099.2	274.9	94.2	180.75	1.521	
10,500.0	7,063.2	10,397.2	7,009.4	96.1	95.7	-78.72	-976.0	3,199.2	274.9	88.7	186.19	1.476	Level 3
10,600.0	7,062.1	10,497.2	7,008.5	98.8	98.4	-78.75	-976.0	3,299.1	274.9	83.2	191.64	1.434	Level 3
10,700.0	7,061.0	10,597.2	7,007.6	101.6	101.2	-78.79	-976.0	3,399.1	274.8	77.7	197.10	1.394	Level 3
10,800.0	7,059.9	10,697.2	7,006.7	104.3	103.9	-78.83	-976.0	3,499.1	274.8	72.2	202.56	1.357	Level 3
10,900.0	7,058.8	10,797.2	7,005.7	107.0	106.7	-78.86	-976.0	3,599.1	274.8	66.7	208.02	1.321	Level 3
11,000.0	7,057.7	10,897.2	7,004.8	109.8	109.5	-78.90	-976.0	3,699.1	274.7	61.2	213.49	1.287	Level 3
11,100.0	7,056.6	10,997.2	7,003.9	112.5	112.2	-78.93	-976.0	3,799.1	274.7	55.7	218.97	1.254	Level 3
11,200.0	7,055.5	11,097.2	7,003.0	115.3	115.0	-78.97	-976.0	3,899.1	274.7	50.2	224.45	1.224	Level 2
11,300.0	7,054.4	11,197.2	7,002.0	118.1	117.8	-79.00	-976.0	3,999.1	274.6	44.7	229.93	1.194	Level 2
11,400.0	7,053.3	11,297.2	7,001.1	120.8	120.5	-79.04	-976.0	4,099.1	274.6	39.2	235.42	1.166	Level 2
11,500.0	7,052.2	11,397.2	7,000.2	123.6	123.3	-79.08	-976.0	4,199.1	274.6	33.7	240.91	1.140	Level 2
11,519.0	7,052.0	11,416.3	7,000.0	124.1	123.8	-79.08	-976.0	4,218.2	274.6	32.6	241.96	1.135	Level 2, SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	29.1	0.0	29.1	29.1	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.22	129.663	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.67	43.218	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	29.1	0.0	29.1	28.0	1.12	25.931	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	29.1	0.0	29.1	27.6	1.57	18.521	CC, ES
500.0	500.0	500.0	500.0	1.0	1.0	163.95	29.1	0.0	30.4	28.4	2.00	15.186	
600.0	599.9	599.9	599.9	1.2	1.2	165.76	29.1	0.0	34.2	31.8	2.42	14.111	
700.0	699.7	699.7	699.7	1.4	1.5	168.01	29.1	0.0	40.6	37.7	2.86	14.195	
800.0	799.3	799.3	799.3	1.6	1.7	170.19	29.1	0.0	49.5	46.2	3.30	15.015	
900.0	898.6	898.6	898.6	1.9	1.9	172.04	29.1	0.0	61.2	57.4	3.75	16.324	
1,000.0	997.5	997.5	997.5	2.2	2.1	173.52	29.1	0.0	75.4	71.2	4.20	17.966	
1,100.0	1,096.1	1,098.3	1,098.3	2.5	2.3	174.47	28.0	-0.6	91.1	86.4	4.62	19.692	
1,200.0	1,194.2	1,199.6	1,199.5	2.9	2.5	174.84	24.6	-2.5	106.8	101.8	5.03	21.222	
1,300.0	1,291.7	1,301.2	1,300.9	3.3	2.7	174.85	18.7	-5.7	122.7	117.2	5.46	22.479	
1,384.7	1,373.9	1,387.7	1,387.0	3.7	2.9	174.67	11.9	-9.4	136.1	130.3	5.83	23.362	
1,400.0	1,388.6	1,403.3	1,402.6	3.8	2.9	174.63	10.5	-10.2	138.5	132.6	5.89	23.499	
1,500.0	1,485.3	1,506.0	1,504.6	4.3	3.2	174.19	-0.2	-16.1	152.8	146.4	6.36	24.038	
1,600.0	1,582.0	1,609.4	1,606.8	4.8	3.4	173.52	-13.4	-23.3	164.5	157.7	6.84	24.059	
1,700.0	1,678.7	1,710.0	1,706.0	5.3	3.7	172.75	-27.9	-31.3	174.4	167.0	7.33	23.779	
1,800.0	1,775.4	1,809.5	1,804.2	5.8	4.0	172.06	-42.4	-39.2	184.2	176.4	7.84	23.485	
1,900.0	1,872.1	1,909.0	1,902.3	6.3	4.3	171.44	-56.9	-47.1	194.1	185.7	8.36	23.209	
2,000.0	1,968.8	2,008.5	2,000.4	6.8	4.7	170.89	-71.4	-55.1	203.9	195.1	8.89	22.936	
2,100.0	2,065.5	2,108.0	2,098.5	7.4	5.0	170.38	-85.8	-63.0	213.8	204.4	9.43	22.677	
2,200.0	2,162.2	2,207.5	2,196.6	7.9	5.3	169.92	-100.3	-70.9	223.7	213.8	9.97	22.431	
2,300.0	2,258.9	2,307.0	2,294.7	8.4	5.7	169.49	-114.8	-78.8	233.7	223.1	10.53	22.199	
2,400.0	2,355.6	2,406.5	2,392.9	8.9	6.0	169.10	-129.2	-86.8	243.6	232.5	11.08	21.979	
2,500.0	2,452.3	2,505.9	2,491.0	9.5	6.4	168.74	-143.7	-94.7	253.5	241.9	11.65	21.772	
2,600.0	2,549.0	2,605.4	2,589.1	10.0	6.8	168.41	-158.2	-102.6	263.5	251.3	12.21	21.576	
2,700.0	2,645.7	2,704.9	2,687.2	10.5	7.1	168.11	-172.6	-110.5	273.4	260.7	12.78	21.392	
2,800.0	2,742.4	2,804.4	2,785.3	11.1	7.5	167.82	-187.1	-118.5	283.4	270.1	13.36	21.219	
2,900.0	2,839.1	2,903.9	2,883.4	11.6	7.9	167.55	-201.6	-126.4	293.4	279.5	13.93	21.055	
3,000.0	2,935.7	3,003.4	2,981.5	12.1	8.2	167.30	-216.0	-134.3	303.4	288.9	14.51	20.901	
3,100.0	3,032.4	3,102.9	3,079.7	12.7	8.6	167.07	-230.5	-142.2	313.4	298.3	15.10	20.755	
3,200.0	3,129.1	3,202.4	3,177.8	13.2	9.0	166.85	-245.0	-150.2	323.3	307.7	15.68	20.617	
3,300.0	3,225.8	3,301.9	3,275.9	13.7	9.4	166.65	-259.4	-158.1	333.3	317.1	16.27	20.487	
3,400.0	3,322.5	3,401.4	3,374.0	14.3	9.7	166.45	-273.9	-166.0	343.3	326.5	16.86	20.363	
3,500.0	3,419.2	3,500.9	3,472.1	14.8	10.1	166.27	-288.4	-173.9	353.3	335.9	17.45	20.246	
3,600.0	3,515.9	3,600.4	3,570.2	15.3	10.5	166.10	-302.8	-181.9	363.3	345.3	18.05	20.135	
3,700.0	3,612.6	3,699.9	3,668.4	15.9	10.9	165.94	-317.3	-189.8	373.3	354.7	18.64	20.030	
3,800.0	3,709.3	3,799.3	3,766.5	16.4	11.3	165.78	-331.8	-197.7	383.4	364.1	19.24	19.929	
3,900.0	3,806.0	3,898.8	3,864.6	16.9	11.6	165.63	-346.2	-205.7	393.4	373.5	19.83	19.834	
4,000.0	3,902.7	3,998.3	3,962.7	17.5	12.0	165.50	-360.7	-213.6	403.4	383.0	20.43	19.743	
4,100.0	3,999.4	4,097.8	4,060.8	18.0	12.4	165.36	-375.2	-221.5	413.4	392.4	21.03	19.656	
4,200.0	4,096.1	4,197.3	4,158.9	18.5	12.8	165.24	-389.6	-229.4	423.4	401.8	21.63	19.574	
4,300.0	4,192.8	4,296.8	4,257.0	19.1	13.2	165.12	-404.1	-237.4	433.4	411.2	22.23	19.495	
4,400.0	4,289.5	4,396.3	4,355.2	19.6	13.6	165.00	-418.6	-245.3	443.5	420.6	22.84	19.419	
4,500.0	4,386.2	4,495.8	4,453.3	20.1	13.9	164.89	-433.1	-253.2	453.5	430.1	23.44	19.347	
4,600.0	4,482.9	4,595.3	4,551.4	20.7	14.3	164.78	-447.5	-261.1	463.5	439.5	24.04	19.278	
4,700.0	4,579.6	4,694.8	4,649.5	21.2	14.7	164.68	-462.0	-269.1	473.6	448.9	24.65	19.211	
4,800.0	4,676.3	4,794.3	4,747.6	21.8	15.1	164.59	-476.5	-277.0	483.6	458.3	25.26	19.148	
4,900.0	4,773.0	4,893.8	4,845.7	22.3	15.5	164.49	-490.9	-284.9	493.6	467.8	25.86	19.087	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,869.7	4,993.3	4,943.8	22.8	15.9	164.41	-505.4	-292.8	503.6	477.2	26.47	19.028	
5,100.0	4,966.4	5,092.7	5,042.0	23.4	16.3	164.32	-519.9	-300.8	513.7	486.6	27.08	18.972	
5,200.0	5,063.0	5,192.2	5,140.1	23.9	16.6	164.24	-534.3	-308.7	523.7	496.0	27.68	18.918	
5,300.0	5,159.7	5,291.7	5,238.2	24.4	17.0	164.16	-548.8	-316.6	533.8	505.5	28.29	18.865	
5,400.0	5,256.4	5,391.2	5,336.3	25.0	17.4	164.08	-563.3	-324.5	543.8	514.9	28.90	18.815	
5,500.0	5,353.1	5,490.7	5,434.4	25.5	17.8	164.01	-577.7	-332.5	553.8	524.3	29.51	18.767	
5,600.0	5,449.8	5,590.2	5,532.5	26.0	18.2	163.94	-592.2	-340.4	563.9	533.7	30.12	18.720	
5,620.5	5,469.6	5,610.6	5,552.6	26.2	18.3	163.92	-595.2	-342.0	565.9	535.7	30.25	18.711	
5,700.0	5,546.8	5,689.8	5,630.7	26.5	18.6	163.88	-606.7	-348.3	572.8	542.1	30.75	18.629	
5,800.0	5,644.5	5,789.0	5,728.5	26.8	19.0	163.72	-621.1	-356.2	578.6	547.2	31.34	18.461	
5,900.0	5,743.0	5,873.7	5,812.4	27.1	19.2	163.56	-632.3	-362.3	582.4	550.6	31.79	18.317	
6,000.0	5,841.9	5,958.5	5,896.5	27.4	19.4	163.44	-641.2	-367.3	585.4	553.2	32.18	18.191	
6,100.0	5,941.4	6,043.2	5,980.8	27.6	19.6	163.35	-648.0	-371.0	587.7	555.2	32.50	18.082	
6,200.0	6,041.1	6,127.9	6,065.4	27.7	19.7	163.28	-652.6	-373.5	589.3	556.5	32.76	17.989	
6,300.0	6,141.0	6,212.6	6,150.0	27.9	19.8	163.25	-655.0	-374.8	590.1	557.1	32.95	17.910	
6,359.0	6,200.0	6,262.6	6,200.0	27.9	19.9	0.00	-655.4	-375.0	590.2	544.3	45.92	12.852	
6,400.0	6,241.0	6,303.6	6,241.0	28.0	20.0	0.00	-655.4	-375.0	590.2	544.2	46.02	12.825	
6,489.1	6,330.1	6,392.7	6,330.1	28.0	20.1	0.00	-655.4	-375.0	590.2	544.0	46.21	12.771	
6,500.0	6,341.0	6,403.6	6,341.0	28.0	20.1	-90.00	-655.4	-374.9	590.2	556.8	33.47	17.633	
6,550.0	6,390.9	6,453.6	6,390.9	28.1	20.1	-90.00	-655.4	-372.6	590.2	556.6	33.59	17.569	
6,600.0	6,440.6	6,503.6	6,440.6	28.1	20.2	-90.00	-655.4	-367.0	590.2	556.6	33.67	17.528	
6,650.0	6,489.8	6,553.6	6,489.8	28.1	20.2	-90.00	-655.4	-358.1	590.2	556.5	33.71	17.508	
6,700.0	6,538.3	6,603.6	6,538.3	28.1	20.2	-90.00	-655.4	-346.1	590.2	556.5	33.72	17.506	
6,750.0	6,586.0	6,653.6	6,586.0	28.1	20.2	-90.00	-655.4	-330.9	590.2	556.5	33.69	17.520	
6,800.0	6,632.5	6,703.6	6,632.5	28.1	20.2	-90.00	-655.4	-312.6	590.2	556.6	33.64	17.544	
6,850.0	6,677.7	6,753.6	6,677.7	28.1	20.2	-90.00	-655.4	-291.3	590.2	556.6	33.58	17.575	
6,900.0	6,721.5	6,803.6	6,721.5	28.0	20.1	-90.00	-655.4	-267.1	590.2	556.7	33.53	17.604	
6,950.0	6,763.5	6,853.6	6,763.5	28.0	20.1	-90.00	-655.4	-240.1	590.2	556.7	33.49	17.625	
7,000.0	6,803.8	6,903.6	6,803.8	28.0	20.0	-90.00	-655.4	-210.4	590.2	556.7	33.49	17.627	
7,050.0	6,842.0	6,953.6	6,842.0	27.9	20.0	-90.00	-655.4	-178.2	590.2	556.7	33.54	17.599	
7,100.0	6,877.9	7,003.6	6,877.9	27.9	19.9	-90.00	-655.4	-143.5	590.2	556.6	33.67	17.531	
7,150.0	6,911.6	7,053.6	6,911.6	27.9	19.9	-90.00	-655.4	-106.5	590.2	556.3	33.90	17.413	
7,200.0	6,942.8	7,103.6	6,942.8	27.8	19.9	-90.00	-655.4	-67.4	590.2	556.0	34.24	17.236	
7,250.0	6,971.3	7,153.6	6,971.3	27.8	19.8	-90.00	-655.4	-26.4	590.2	555.5	34.73	16.994	
7,300.0	6,997.1	7,203.6	6,997.1	27.8	19.8	-90.00	-655.4	16.4	590.2	554.9	35.37	16.686	
7,350.0	7,020.0	7,253.6	7,020.0	27.8	19.7	-90.00	-655.4	60.9	590.2	554.0	36.18	16.315	
7,400.0	7,040.0	7,303.6	7,040.0	27.8	19.7	-90.00	-655.4	106.7	590.2	553.1	37.15	15.886	
7,450.0	7,056.9	7,353.6	7,056.9	27.8	19.7	-90.00	-655.4	153.7	590.2	551.9	38.30	15.412	
7,500.0	7,070.8	7,403.6	7,070.8	27.9	19.9	-90.00	-655.4	201.8	590.2	550.6	39.60	14.905	
7,550.0	7,081.4	7,453.6	7,081.4	28.0	20.4	-90.00	-655.4	250.6	590.2	549.2	41.05	14.376	
7,600.0	7,088.9	7,503.6	7,088.9	28.1	21.2	-90.00	-655.4	300.0	590.2	547.6	42.64	13.841	
7,650.0	7,093.1	7,553.6	7,093.1	28.3	22.1	-90.00	-655.4	349.8	590.2	545.9	44.35	13.309	
7,697.5	7,094.0	7,601.1	7,094.0	28.6	23.0	-90.00	-655.4	397.4	590.2	544.2	46.06	12.815	
7,700.0	7,094.0	7,603.6	7,094.0	28.6	23.0	-90.00	-655.4	399.8	590.2	544.1	46.15	12.789	
7,800.0	7,092.9	7,703.6	7,093.1	29.4	25.0	-90.02	-655.4	499.8	590.2	540.2	50.02	11.800	
7,900.0	7,091.8	7,803.6	7,092.2	30.7	27.1	-90.04	-655.4	599.8	590.2	536.0	54.19	10.892	
8,000.0	7,090.7	7,903.6	7,091.3	32.3	29.4	-90.06	-655.4	699.8	590.2	531.6	58.60	10.072	
8,100.0	7,089.6	8,003.6	7,090.4	34.3	31.7	-90.08	-655.4	799.8	590.2	527.0	63.21	9.338	
8,200.0	7,088.5	8,103.6	7,089.5	36.4	34.1	-90.10	-655.4	899.8	590.2	522.3	67.96	8.685	
8,300.0	7,087.4	8,203.6	7,088.7	38.6	36.6	-90.12	-655.4	999.8	590.2	517.4	72.84	8.103	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,400.0	7,086.3	8,303.6	7,087.8	40.9	39.1	-90.14	-655.4	1,099.8	590.2	512.4	77.81	7.585	
8,500.0	7,085.2	8,403.6	7,086.9	43.3	41.6	-90.16	-655.4	1,199.8	590.2	507.3	82.87	7.122	
8,600.0	7,084.1	8,503.6	7,086.0	45.7	44.2	-90.18	-655.4	1,299.8	590.2	502.2	87.99	6.707	
8,700.0	7,083.0	8,603.6	7,085.1	48.2	46.7	-90.20	-655.4	1,399.8	590.2	497.0	93.17	6.335	
8,800.0	7,081.9	8,703.6	7,084.2	50.7	49.4	-90.22	-655.4	1,499.8	590.2	491.8	98.40	5.998	
8,881.7	7,081.0	8,785.2	7,083.5	52.8	51.5	-90.24	-655.4	1,581.4	590.2	487.5	102.70	5.747	
8,900.0	7,080.8	8,803.6	7,083.3	53.3	52.0	-90.24	-655.4	1,599.8	590.2	486.5	103.67	5.693	
9,000.0	7,079.7	8,903.6	7,082.4	55.9	54.7	-90.26	-655.4	1,699.8	590.2	481.2	108.97	5.416	
9,100.0	7,078.6	9,003.6	7,081.5	58.5	57.3	-90.28	-655.4	1,799.8	590.2	475.9	114.30	5.164	
9,200.0	7,077.5	9,103.6	7,080.6	61.1	60.0	-90.30	-655.4	1,899.8	590.2	470.6	119.66	4.933	
9,300.0	7,076.4	9,203.6	7,079.8	63.7	62.7	-90.33	-655.4	1,999.8	590.2	465.2	125.03	4.720	
9,400.0	7,075.3	9,303.6	7,078.9	66.4	65.4	-90.35	-655.4	2,099.8	590.2	459.8	130.43	4.525	
9,500.0	7,074.2	9,403.6	7,078.0	69.0	68.1	-90.37	-655.4	2,199.8	590.2	454.4	135.85	4.345	
9,600.0	7,073.1	9,503.6	7,077.1	71.7	70.8	-90.39	-655.4	2,299.7	590.2	448.9	141.28	4.178	
9,700.0	7,072.0	9,603.6	7,076.2	74.4	73.5	-90.41	-655.4	2,399.7	590.2	443.5	146.72	4.023	
9,800.0	7,070.9	9,703.6	7,075.3	77.1	76.2	-90.43	-655.4	2,499.7	590.2	438.0	152.18	3.878	
9,900.0	7,069.8	9,803.6	7,074.4	79.8	79.0	-90.45	-655.4	2,599.7	590.2	432.6	157.64	3.744	
10,000.0	7,068.7	9,903.6	7,073.5	82.5	81.7	-90.47	-655.4	2,699.7	590.2	427.1	163.12	3.618	
10,100.0	7,067.6	10,003.6	7,072.6	85.2	84.5	-90.49	-655.4	2,799.7	590.2	421.6	168.61	3.501	
10,200.0	7,066.5	10,103.6	7,071.7	87.9	87.2	-90.51	-655.4	2,899.7	590.2	416.1	174.10	3.390	
10,300.0	7,065.4	10,203.6	7,070.8	90.6	90.0	-90.53	-655.4	2,999.7	590.2	410.6	179.60	3.286	
10,400.0	7,064.3	10,303.6	7,070.0	93.4	92.7	-90.55	-655.4	3,099.7	590.2	405.1	185.10	3.189	
10,500.0	7,063.2	10,403.6	7,069.1	96.1	95.5	-90.57	-655.4	3,199.7	590.2	399.6	190.62	3.096	
10,600.0	7,062.1	10,503.6	7,068.2	98.8	98.2	-90.59	-655.4	3,299.7	590.2	394.1	196.14	3.009	
10,700.0	7,061.0	10,603.6	7,067.3	101.6	101.0	-90.61	-655.4	3,399.7	590.2	388.6	201.66	2.927	
10,800.0	7,059.9	10,703.6	7,066.4	104.3	103.7	-90.63	-655.4	3,499.7	590.2	383.0	207.19	2.849	
10,900.0	7,058.8	10,803.6	7,065.5	107.0	106.5	-90.65	-655.4	3,599.7	590.2	377.5	212.72	2.775	
11,000.0	7,057.7	10,903.6	7,064.6	109.8	109.3	-90.67	-655.4	3,699.7	590.2	372.0	218.25	2.704	
11,100.0	7,056.6	11,003.6	7,063.7	112.5	112.0	-90.69	-655.4	3,799.7	590.2	366.4	223.79	2.637	
11,200.0	7,055.5	11,103.6	7,062.8	115.3	114.8	-90.71	-655.4	3,899.7	590.2	360.9	229.33	2.574	
11,300.0	7,054.4	11,203.6	7,061.9	118.1	117.6	-90.73	-655.4	3,999.7	590.2	355.4	234.88	2.513	
11,400.0	7,053.3	11,303.6	7,061.1	120.8	120.4	-90.75	-655.4	4,099.7	590.2	349.8	240.43	2.455	
11,500.0	7,052.2	11,403.6	7,060.2	123.6	123.1	-90.77	-655.4	4,199.7	590.2	344.3	245.98	2.400	
11,506.4	7,052.1	11,410.0	7,060.1	123.8	123.3	-90.77	-655.4	4,206.1	590.2	343.9	246.34	2.396	
11,519.0	7,052.0	11,422.4	7,060.0	124.1	123.7	-90.78	-655.4	4,218.5	590.2	343.2	247.03	2.389	SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	2.73	58.3	2.8	58.4				
100.0	100.0	100.0	100.0	0.1	0.1	2.73	58.3	2.8	58.4	58.1	0.22	259.658	
200.0	200.0	200.0	200.0	0.3	0.3	2.73	58.3	2.8	58.4	57.7	0.67	86.547	
300.0	300.0	300.0	300.0	0.6	0.6	2.73	58.3	2.8	58.4	57.2	1.12	51.928	
400.0	400.0	400.0	400.0	0.8	0.8	2.73	58.3	2.8	58.4	56.8	1.57	37.090	CC, ES
500.0	500.0	500.0	500.0	1.0	1.0	166.28	58.3	2.8	59.6	57.6	2.00	29.787	
600.0	599.9	599.9	599.9	1.2	1.2	167.11	58.3	2.8	63.4	61.0	2.42	26.188	
700.0	699.7	699.7	699.7	1.4	1.5	168.29	58.3	2.8	69.8	67.0	2.86	24.443	
800.0	799.3	799.3	799.3	1.6	1.7	169.61	58.3	2.8	78.8	75.5	3.30	23.887	SF
900.0	898.6	898.6	898.6	1.9	1.9	170.93	58.3	2.8	90.4	86.7	3.75	24.128	
1,000.0	997.5	997.5	997.5	2.2	2.1	172.14	58.3	2.8	104.6	100.4	4.20	24.921	
1,100.0	1,096.1	1,096.1	1,096.1	2.5	2.4	173.20	58.3	2.8	121.4	116.8	4.65	26.108	
1,200.0	1,194.2	1,194.2	1,194.2	2.9	2.6	174.11	58.3	2.8	140.8	135.7	5.10	27.586	
1,300.0	1,291.7	1,291.7	1,291.7	3.3	2.8	174.88	58.3	2.8	162.8	157.2	5.56	29.279	
1,384.7	1,373.9	1,373.9	1,373.9	3.7	3.0	175.43	58.3	2.8	183.4	177.4	5.95	30.844	
1,400.0	1,388.6	1,388.6	1,388.6	3.8	3.0	175.52	58.3	2.8	187.3	181.3	6.02	31.129	
1,500.0	1,485.3	1,488.6	1,488.6	4.3	3.2	175.86	57.8	1.9	212.1	205.6	6.47	32.784	
1,600.0	1,582.0	1,589.8	1,589.7	4.8	3.4	175.63	56.0	-1.4	235.2	228.2	6.91	34.023	
1,700.0	1,678.7	1,691.7	1,691.4	5.3	3.6	174.98	53.0	-7.0	256.6	249.2	7.37	34.814	
1,800.0	1,775.4	1,794.2	1,793.5	5.8	3.8	173.98	48.6	-15.1	276.3	268.5	7.85	35.212	
1,900.0	1,872.1	1,897.2	1,895.8	6.3	4.1	172.69	42.9	-25.6	294.5	286.2	8.35	35.269	
2,000.0	1,968.8	1,996.3	1,994.0	6.8	4.3	171.34	36.5	-37.3	311.8	302.9	8.87	35.144	
2,100.0	2,065.5	2,094.5	2,091.3	7.4	4.6	170.14	30.2	-48.9	329.2	319.8	9.41	34.981	
2,200.0	2,162.2	2,192.8	2,188.7	7.9	4.8	169.06	23.9	-60.5	346.7	336.8	9.96	34.796	
2,300.0	2,258.9	2,291.0	2,286.1	8.4	5.1	168.08	17.6	-72.0	364.3	353.8	10.53	34.598	
2,400.0	2,355.6	2,389.3	2,383.4	8.9	5.4	167.19	11.3	-83.6	382.1	371.0	11.11	34.389	
2,500.0	2,452.3	2,487.5	2,480.8	9.5	5.7	166.38	5.0	-95.2	399.9	388.2	11.70	34.178	
2,600.0	2,549.0	2,585.8	2,578.1	10.0	6.0	165.64	-1.3	-106.8	417.7	405.4	12.30	33.967	
2,700.0	2,645.7	2,684.0	2,675.5	10.5	6.3	164.96	-7.5	-118.4	435.7	422.8	12.91	33.759	
2,800.0	2,742.4	2,782.3	2,772.9	11.1	6.6	164.33	-13.8	-130.0	453.7	440.2	13.52	33.556	
2,900.0	2,839.1	2,880.5	2,870.2	11.6	6.9	163.75	-20.1	-141.6	471.7	457.6	14.14	33.358	
3,000.0	2,935.7	2,978.8	2,967.6	12.1	7.2	163.22	-26.4	-153.2	489.8	475.0	14.77	33.166	
3,100.0	3,032.4	3,077.0	3,065.0	12.7	7.5	162.72	-32.7	-164.8	507.9	492.5	15.40	32.982	
3,200.0	3,129.1	3,175.3	3,162.3	13.2	7.8	162.26	-39.0	-176.4	526.1	510.0	16.04	32.804	
3,300.0	3,225.8	3,273.5	3,259.7	13.7	8.1	161.82	-45.3	-188.0	544.3	527.6	16.68	32.634	
3,400.0	3,322.5	3,371.8	3,357.0	14.3	8.4	161.42	-51.6	-199.6	562.5	545.2	17.32	32.470	
3,500.0	3,419.2	3,470.0	3,454.4	14.8	8.7	161.04	-57.9	-211.2	580.7	562.8	17.97	32.314	
3,600.0	3,515.9	3,568.3	3,551.8	15.3	9.1	160.68	-64.2	-222.8	599.0	580.4	18.62	32.165	
3,700.0	3,612.6	3,666.5	3,649.1	15.9	9.4	160.35	-70.5	-234.4	617.3	598.0	19.28	32.022	
3,800.0	3,709.3	3,764.8	3,746.5	16.4	9.7	160.03	-76.8	-246.0	635.6	615.6	19.93	31.885	
3,900.0	3,806.0	3,863.1	3,843.8	16.9	10.0	159.73	-83.1	-257.5	653.9	633.3	20.59	31.754	
4,000.0	3,902.7	3,961.3	3,941.2	17.5	10.4	159.45	-89.4	-269.1	672.2	651.0	21.25	31.629	
4,100.0	3,999.4	4,059.6	4,038.6	18.0	10.7	159.19	-95.7	-280.7	690.6	668.7	21.92	31.509	
4,200.0	4,096.1	4,157.8	4,135.9	18.5	11.0	158.93	-102.0	-292.3	709.0	686.4	22.58	31.395	
4,300.0	4,192.8	4,256.1	4,233.3	19.1	11.3	158.69	-108.3	-303.9	727.3	704.1	23.25	31.285	
4,400.0	4,289.5	4,354.3	4,330.7	19.6	11.7	158.46	-114.6	-315.5	745.7	721.8	23.92	31.180	
4,500.0	4,386.2	4,452.6	4,428.0	20.1	12.0	158.25	-120.9	-327.1	764.1	739.6	24.59	31.080	
4,600.0	4,482.9	4,550.8	4,525.4	20.7	12.3	158.04	-127.2	-338.7	782.5	757.3	25.26	30.983	
4,700.0	4,579.6	4,648.3	4,622.0	21.2	12.6	157.84	-133.5	-350.2	801.0	775.1	25.92	30.897	
4,800.0	4,676.3	4,736.5	4,709.5	21.8	12.9	157.77	-138.4	-359.2	820.1	793.6	26.49	30.960	
4,900.0	4,773.0	4,824.2	4,796.9	22.3	13.1	157.88	-142.0	-365.9	840.4	813.4	26.99	31.138	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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

Survey Program: 0-MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,869.7	4,911.3	4,883.9	22.8	13.2	158.15	-144.3	-370.1	862.0	834.5	27.44	31.408	
5,100.0	4,966.4	5,000.0	4,972.6	23.4	13.4	158.58	-145.3	-372.1	884.8	856.9	27.85	31.764	
5,200.0	5,063.0	5,090.5	5,063.0	23.9	13.5	159.12	-145.4	-372.2	908.6	880.3	28.24	32.177	
5,300.0	5,159.7	5,187.2	5,159.7	24.4	13.7	159.67	-145.4	-372.2	932.5	903.9	28.63	32.575	
5,400.0	5,256.4	5,283.9	5,256.4	25.0	13.9	160.20	-145.4	-372.2	956.6	927.5	29.02	32.960	
5,500.0	5,353.1	5,380.6	5,353.1	25.5	14.0	160.70	-145.4	-372.2	980.7	951.3	29.42	33.332	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-14.6	0.0	14.6	14.6	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-14.6	0.0	14.6	14.3	0.22	64.841	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-14.6	0.0	14.6	13.9	0.67	21.612	CC, ES
300.0	300.0	299.6	299.6	0.6	0.5	-178.90	-15.8	-0.3	15.8	14.7	1.10	14.396	
400.0	400.0	399.1	399.0	0.8	0.7	-176.47	-19.6	-1.2	19.7	18.2	1.53	12.875	
500.0	500.0	498.4	498.1	1.0	1.0	-11.31	-25.9	-2.7	24.8	22.9	1.94	12.784	
600.0	599.9	597.5	596.8	1.2	1.2	-10.34	-34.7	-4.8	30.0	27.6	2.36	12.737	
700.0	699.7	696.6	695.2	1.4	1.5	-9.89	-45.9	-7.5	35.2	32.4	2.79	12.612	
800.0	799.3	795.5	793.0	1.6	1.8	-9.77	-59.6	-10.8	40.3	37.1	3.24	12.458	
900.0	898.6	894.2	890.4	1.9	2.2	-9.85	-75.7	-14.7	45.5	41.8	3.70	12.291	
1,000.0	997.5	992.9	987.2	2.2	2.6	-10.09	-94.3	-19.1	50.7	46.5	4.18	12.116	
1,100.0	1,096.1	1,091.4	1,083.3	2.5	3.0	-10.43	-115.2	-24.2	55.8	51.1	4.67	11.934	
1,200.0	1,194.2	1,189.7	1,178.7	2.9	3.5	-10.85	-138.6	-29.8	60.9	55.7	5.19	11.744	
1,300.0	1,291.7	1,288.0	1,273.3	3.3	4.0	-11.33	-164.2	-35.9	66.0	60.3	5.72	11.546	
1,384.7	1,373.9	1,371.1	1,352.9	3.7	4.5	-11.77	-187.8	-41.6	70.3	64.1	6.18	11.378	
1,400.0	1,388.6	1,386.1	1,367.1	3.8	4.6	-11.85	-192.2	-42.6	71.1	64.9	6.27	11.348	
1,500.0	1,485.3	1,485.4	1,461.5	4.3	5.1	-12.24	-222.3	-49.9	77.2	70.4	6.85	11.280	
1,600.0	1,582.0	1,585.2	1,556.2	4.8	5.8	-12.56	-252.7	-57.1	83.5	76.0	7.44	11.222	
1,700.0	1,678.7	1,685.0	1,651.0	5.3	6.4	-12.84	-283.0	-64.4	89.7	81.7	8.04	11.161	
1,800.0	1,775.4	1,784.8	1,745.8	5.8	7.0	-13.08	-313.4	-71.7	96.0	87.3	8.65	11.100	
1,900.0	1,872.1	1,884.6	1,840.6	6.3	7.6	-13.29	-343.8	-79.0	102.2	92.9	9.26	11.039	
2,000.0	1,968.8	1,984.4	1,935.4	6.8	8.2	-13.48	-374.1	-86.3	108.4	98.6	9.88	10.980	
2,100.0	2,065.5	2,084.2	2,030.2	7.4	8.9	-13.64	-404.5	-93.6	114.7	104.2	10.50	10.925	
2,200.0	2,162.2	2,184.0	2,125.0	7.9	9.5	-13.79	-434.9	-100.9	120.9	109.8	11.12	10.872	
2,300.0	2,258.9	2,283.8	2,219.8	8.4	10.1	-13.93	-465.3	-108.2	127.2	115.4	11.75	10.821	
2,400.0	2,355.6	2,383.6	2,314.6	8.9	10.8	-14.05	-495.6	-115.5	133.4	121.0	12.38	10.774	
2,500.0	2,452.3	2,483.4	2,409.4	9.5	11.4	-14.16	-526.0	-122.7	139.7	126.7	13.02	10.730	
2,600.0	2,549.0	2,583.2	2,504.2	10.0	12.0	-14.26	-556.4	-130.0	145.9	132.3	13.65	10.688	
2,700.0	2,645.7	2,683.0	2,599.0	10.5	12.6	-14.36	-586.7	-137.3	152.2	137.9	14.29	10.649	
2,800.0	2,742.4	2,782.8	2,693.8	11.1	13.3	-14.44	-617.1	-144.6	158.4	143.5	14.93	10.612	
2,900.0	2,839.1	2,882.6	2,788.5	11.6	13.9	-14.52	-647.5	-151.9	164.7	149.1	15.57	10.577	
3,000.0	2,935.7	2,982.4	2,883.3	12.1	14.5	-14.59	-677.8	-159.2	170.9	154.7	16.21	10.544	
3,100.0	3,032.4	3,082.2	2,978.1	12.7	15.2	-14.66	-708.2	-166.5	177.2	160.3	16.85	10.513	
3,200.0	3,129.1	3,182.0	3,072.9	13.2	15.8	-14.73	-738.6	-173.8	183.4	165.9	17.49	10.484	
3,300.0	3,225.8	3,281.9	3,167.7	13.7	16.4	-14.79	-768.9	-181.0	189.7	171.5	18.14	10.456	
3,400.0	3,322.5	3,381.7	3,262.5	14.3	17.1	-14.84	-799.3	-188.3	195.9	177.1	18.78	10.430	
3,500.0	3,419.2	3,481.5	3,357.3	14.8	17.7	-14.89	-829.7	-195.6	202.2	182.7	19.43	10.405	
3,600.0	3,515.9	3,581.3	3,452.1	15.3	18.3	-14.94	-860.0	-202.9	208.4	188.3	20.07	10.382	
3,700.0	3,612.6	3,681.1	3,546.9	15.9	19.0	-14.99	-890.4	-210.2	214.7	193.9	20.72	10.360	
3,800.0	3,709.3	3,780.9	3,641.7	16.4	19.6	-15.03	-920.8	-217.5	220.9	199.5	21.37	10.338	
3,900.0	3,806.0	3,880.7	3,736.5	16.9	20.2	-15.07	-951.1	-224.8	227.2	205.1	22.02	10.318	
4,000.0	3,902.7	3,980.5	3,831.3	17.5	20.9	-15.11	-981.5	-232.1	233.4	210.7	22.66	10.299	
4,100.0	3,999.4	4,080.3	3,926.0	18.0	21.5	-15.15	-1,011.9	-239.4	239.7	216.4	23.31	10.281	
4,200.0	4,096.1	4,180.1	4,020.8	18.5	22.1	-15.19	-1,042.3	-246.6	245.9	222.0	23.96	10.263	
4,300.0	4,192.8	4,279.9	4,115.6	19.1	22.8	-15.22	-1,072.6	-253.9	252.2	227.6	24.61	10.247	
4,400.0	4,289.5	4,379.7	4,210.4	19.6	23.4	-15.25	-1,103.0	-261.2	258.4	233.2	25.26	10.231	
4,500.0	4,386.2	4,479.5	4,305.2	20.1	24.1	-15.28	-1,133.4	-268.5	264.7	238.8	25.91	10.215	
4,600.0	4,482.9	4,579.3	4,400.0	20.7	24.7	-15.31	-1,163.7	-275.8	270.9	244.4	26.56	10.201	
4,700.0	4,579.6	4,679.1	4,494.8	21.2	25.3	-15.34	-1,194.1	-283.1	277.2	250.0	27.21	10.187	
4,800.0	4,676.3	4,778.9	4,589.6	21.8	26.0	-15.36	-1,224.5	-290.4	283.4	255.6	27.86	10.173	
4,900.0	4,773.0	4,878.7	4,684.4	22.3	26.6	-15.39	-1,254.8	-297.7	289.7	261.2	28.51	10.160	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,869.7	4,978.5	4,779.2	22.8	27.2	-15.41	-1,285.2	-305.0	295.9	266.8	29.16	10.148	
5,100.0	4,966.4	5,078.3	4,874.0	23.4	27.9	-15.44	-1,315.6	-312.2	302.2	272.4	29.81	10.136	
5,200.0	5,063.0	5,178.1	4,968.8	23.9	28.5	-15.46	-1,345.9	-319.5	308.4	278.0	30.46	10.124	
5,300.0	5,159.7	5,277.9	5,063.6	24.4	29.1	-15.48	-1,376.3	-326.8	314.7	283.6	31.11	10.113	
5,400.0	5,256.4	5,377.7	5,158.3	25.0	29.8	-15.50	-1,406.7	-334.1	320.9	289.2	31.77	10.103	
5,500.0	5,353.1	5,477.5	5,253.1	25.5	30.4	-15.52	-1,437.0	-341.4	327.2	294.8	32.42	10.092	
5,600.0	5,449.8	5,590.0	5,360.6	26.0	30.9	-15.62	-1,469.2	-349.1	331.5	298.5	33.07	10.024	
5,620.5	5,469.6	5,613.1	5,382.8	26.2	31.0	-15.66	-1,475.3	-350.6	332.0	298.7	33.21	9.995	
5,700.0	5,546.8	5,702.8	5,469.6	26.5	31.3	-15.84	-1,497.4	-355.9	333.1	299.4	33.70	9.886	
5,800.0	5,644.5	5,815.6	5,579.7	26.8	31.7	-16.04	-1,521.3	-361.6	334.1	299.9	34.21	9.767	
5,900.0	5,743.0	5,928.4	5,690.7	27.1	32.0	-16.21	-1,541.0	-366.4	334.7	300.0	34.65	9.659	
6,000.0	5,841.9	6,041.3	5,802.4	27.4	32.3	-16.37	-1,556.5	-370.1	334.8	299.7	35.01	9.561	
6,100.0	5,941.4	6,154.1	5,914.6	27.6	32.5	-16.51	-1,567.7	-372.7	334.3	299.0	35.30	9.472	
6,200.0	6,041.1	6,266.9	6,027.2	27.7	32.7	-16.63	-1,574.5	-374.4	333.4	297.9	35.51	9.391	
6,300.0	6,141.0	6,379.6	6,139.9	27.9	32.8	-16.73	-1,577.1	-375.0	332.1	296.4	35.65	9.315	
6,359.0	6,200.0	6,439.7	6,200.0	27.9	32.9	-180.00	-1,577.1	-375.0	331.5	272.1	59.35	5.586	
6,400.0	6,241.0	6,480.7	6,241.0	28.0	32.9	-180.00	-1,577.1	-375.0	331.5	272.1	59.41	5.579	
6,439.2	6,280.2	6,520.0	6,280.2	28.0	32.9	179.99	-1,577.1	-374.9	331.5	272.0	59.47	5.574	
6,489.1	6,330.1	6,569.7	6,329.9	28.0	32.9	179.61	-1,577.1	-372.8	331.5	272.0	59.48	5.573	
6,500.0	6,341.0	6,580.6	6,340.7	28.0	32.9	89.47	-1,577.1	-371.9	331.5	295.3	36.22	9.153	
6,550.0	6,390.9	6,630.1	6,389.9	28.1	33.0	88.81	-1,577.1	-365.8	331.6	295.0	36.52	9.078	
6,600.0	6,440.6	6,679.4	6,438.3	28.1	33.0	88.16	-1,577.1	-356.6	331.7	294.9	36.79	9.014	
6,650.0	6,489.8	6,728.4	6,485.8	28.1	33.0	87.52	-1,577.1	-344.3	331.8	294.8	37.02	8.963	
6,700.0	6,538.3	6,777.3	6,532.2	28.1	33.0	86.89	-1,577.1	-329.1	332.0	294.8	37.20	8.923	
6,750.0	6,586.0	6,825.9	6,577.3	28.1	33.0	86.28	-1,577.1	-311.1	332.2	294.8	37.34	8.895	
6,800.0	6,632.5	6,874.3	6,621.0	28.1	32.9	85.69	-1,577.1	-290.3	332.4	295.0	37.44	8.878	
6,850.0	6,677.7	6,922.5	6,663.2	28.1	32.9	85.11	-1,577.1	-266.9	332.7	295.2	37.50	8.871	
6,900.0	6,721.5	6,970.5	6,703.6	28.0	32.9	84.56	-1,577.1	-241.0	333.0	295.5	37.54	8.871	
6,950.0	6,763.5	7,018.3	6,742.1	28.0	32.9	84.03	-1,577.1	-212.8	333.3	295.7	37.56	8.874	
7,000.0	6,803.8	7,066.0	6,778.7	28.0	32.8	83.52	-1,577.1	-182.3	333.6	296.0	37.58	8.878	
7,050.0	6,842.0	7,113.5	6,813.2	27.9	32.8	83.05	-1,577.1	-149.6	334.0	296.3	37.62	8.878	
7,100.0	6,877.9	7,160.8	6,845.5	27.9	32.8	82.60	-1,577.1	-115.1	334.3	296.6	37.70	8.867	
7,150.0	6,911.6	7,208.0	6,875.6	27.9	32.7	82.18	-1,577.1	-78.6	334.6	296.8	37.84	8.842	
7,200.0	6,942.8	7,255.1	6,903.2	27.8	32.7	81.80	-1,577.1	-40.6	334.9	296.8	38.08	8.795	
7,250.0	6,971.3	7,302.0	6,928.4	27.8	32.7	81.45	-1,577.1	-0.9	335.2	296.8	38.43	8.723	
7,300.0	6,997.1	7,350.0	6,951.6	27.8	32.7	81.13	-1,577.1	41.1	335.5	296.6	38.92	8.620	
7,350.0	7,020.0	7,395.6	6,971.1	27.8	32.7	80.86	-1,577.1	82.3	335.8	296.2	39.56	8.487	
7,400.0	7,040.0	7,442.3	6,988.6	27.8	32.7	80.62	-1,577.1	125.6	336.0	295.6	40.37	8.323	
7,450.0	7,056.9	7,488.9	7,003.3	27.8	32.8	80.41	-1,577.1	169.8	336.2	294.8	41.35	8.131	
7,500.0	7,070.8	7,535.4	7,015.3	27.9	32.8	80.24	-1,577.1	214.7	336.4	293.9	42.50	7.914	
7,550.0	7,081.4	7,581.9	7,024.5	28.0	32.9	80.12	-1,577.1	260.3	336.5	292.7	43.83	7.678	
7,600.0	7,088.9	7,628.4	7,030.9	28.1	33.0	80.03	-1,577.1	306.3	336.6	291.3	45.30	7.429	
7,650.0	7,093.1	7,674.9	7,034.5	28.3	33.2	79.98	-1,577.1	352.6	336.6	289.7	46.92	7.174	
7,697.5	7,094.0	7,719.1	7,035.4	28.6	33.3	79.96	-1,577.1	396.8	336.6	288.1	48.57	6.931	
7,700.0	7,094.0	7,721.5	7,035.3	28.6	33.3	79.96	-1,577.1	399.3	336.6	288.0	48.66	6.919	
7,800.0	7,092.9	7,821.5	7,034.4	29.4	33.9	79.99	-1,577.1	499.3	336.6	284.3	52.32	6.434	
7,900.0	7,091.8	7,921.5	7,033.5	30.7	34.7	80.02	-1,577.1	599.3	336.6	280.3	56.28	5.980	
8,000.0	7,090.7	8,021.5	7,032.6	32.3	35.8	80.05	-1,577.1	699.3	336.6	276.1	60.49	5.564	
8,100.0	7,089.6	8,121.5	7,031.6	34.3	37.2	80.08	-1,577.1	799.3	336.5	271.6	64.89	5.186	
8,200.0	7,088.5	8,221.5	7,030.7	36.4	38.9	80.11	-1,577.1	899.3	336.5	267.0	69.46	4.844	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,300.0	7,087.4	8,321.5	7,029.8	38.6	40.8	80.14	-1,577.1	999.2	336.5	262.3	74.16	4.537	
8,400.0	7,086.3	8,421.5	7,028.9	40.9	42.9	80.17	-1,577.1	1,099.2	336.4	257.5	78.97	4.260	
8,500.0	7,085.2	8,521.5	7,027.9	43.3	45.0	80.20	-1,577.1	1,199.2	336.4	252.5	83.87	4.011	
8,600.0	7,084.1	8,621.5	7,027.0	45.7	47.3	80.23	-1,577.1	1,299.2	336.4	247.5	88.85	3.786	
8,700.0	7,083.0	8,721.5	7,026.1	48.2	49.7	80.26	-1,577.1	1,399.2	336.4	242.5	93.88	3.583	
8,800.0	7,081.9	8,821.5	7,025.2	50.7	52.1	80.29	-1,577.1	1,499.2	336.3	237.3	98.98	3.398	
8,900.0	7,080.8	8,921.5	7,024.2	53.3	54.5	80.32	-1,577.1	1,599.2	336.3	232.2	104.11	3.230	
9,000.0	7,079.7	9,021.5	7,023.3	55.9	57.0	80.35	-1,577.1	1,699.2	336.3	227.0	109.29	3.077	
9,100.0	7,078.6	9,121.5	7,022.4	58.5	59.6	80.37	-1,577.1	1,799.2	336.2	221.7	114.51	2.936	
9,200.0	7,077.5	9,221.5	7,021.5	61.1	62.1	80.40	-1,577.1	1,899.2	336.2	216.5	119.75	2.808	
9,300.0	7,076.4	9,321.5	7,020.5	63.7	64.7	80.43	-1,577.1	1,999.2	336.2	211.2	125.02	2.689	
9,400.0	7,075.3	9,421.5	7,019.6	66.4	67.3	80.46	-1,577.1	2,099.2	336.2	205.8	130.31	2.580	
9,500.0	7,074.2	9,521.5	7,018.7	69.0	69.9	80.49	-1,577.1	2,199.2	336.1	200.5	135.62	2.478	
9,600.0	7,073.1	9,621.5	7,017.8	71.7	72.5	80.52	-1,577.1	2,299.2	336.1	195.1	140.96	2.384	
9,700.0	7,072.0	9,721.5	7,016.8	74.4	75.2	80.55	-1,577.1	2,399.2	336.1	189.8	146.30	2.297	
9,800.0	7,070.9	9,821.5	7,015.9	77.1	77.8	80.58	-1,577.1	2,499.2	336.0	184.4	151.67	2.216	
9,900.0	7,069.8	9,921.5	7,015.0	79.8	80.5	80.61	-1,577.1	2,599.2	336.0	179.0	157.04	2.140	
10,000.0	7,068.7	10,021.5	7,014.1	82.5	83.2	80.64	-1,577.1	2,699.2	336.0	173.6	162.43	2.068	
10,100.0	7,067.6	10,121.5	7,013.1	85.2	85.9	80.67	-1,577.1	2,799.2	336.0	168.1	167.83	2.002	
10,200.0	7,066.5	10,221.5	7,012.2	87.9	88.6	80.70	-1,577.1	2,899.2	335.9	162.7	173.24	1.939	
10,300.0	7,065.4	10,321.5	7,011.3	90.6	91.3	80.73	-1,577.1	2,999.2	335.9	157.2	178.66	1.880	
10,400.0	7,064.3	10,421.5	7,010.4	93.4	94.0	80.76	-1,577.1	3,099.2	335.9	151.8	184.09	1.824	
10,500.0	7,063.2	10,521.5	7,009.4	96.1	96.7	80.79	-1,577.1	3,199.2	335.8	146.3	189.53	1.772	
10,600.0	7,062.1	10,621.5	7,008.5	98.8	99.4	80.82	-1,577.1	3,299.1	335.8	140.9	194.97	1.722	
10,700.0	7,061.0	10,721.5	7,007.6	101.6	102.1	80.85	-1,577.1	3,399.1	335.8	135.4	200.42	1.675	
10,800.0	7,059.9	10,821.5	7,006.7	104.3	104.8	80.87	-1,577.1	3,499.1	335.8	129.9	205.88	1.631	
10,900.0	7,058.8	10,921.5	7,005.7	107.0	107.6	80.90	-1,577.1	3,599.1	335.7	124.4	211.34	1.589	
11,000.0	7,057.7	11,021.5	7,004.8	109.8	110.3	80.93	-1,577.1	3,699.1	335.7	118.9	216.81	1.548	
11,100.0	7,056.6	11,121.5	7,003.9	112.5	113.0	80.96	-1,577.1	3,799.1	335.7	113.4	222.28	1.510	
11,200.0	7,055.5	11,221.5	7,003.0	115.3	115.8	80.99	-1,577.1	3,899.1	335.7	107.9	227.76	1.474	Level 3
11,300.0	7,054.4	11,321.5	7,002.0	118.1	118.5	81.02	-1,577.1	3,999.1	335.6	102.4	233.24	1.439	Level 3
11,400.0	7,053.3	11,421.5	7,001.1	120.8	121.3	81.05	-1,577.1	4,099.1	335.6	96.9	238.73	1.406	Level 3
11,500.0	7,052.2	11,521.5	7,000.2	123.6	124.0	81.08	-1,577.1	4,199.1	335.6	91.4	244.22	1.374	Level 3
11,519.0	7,052.0	11,540.6	7,000.0	124.1	124.5	81.09	-1,577.1	4,218.2	335.6	90.3	245.27	1.368	Level 3, SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 10SD - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 120-MWD

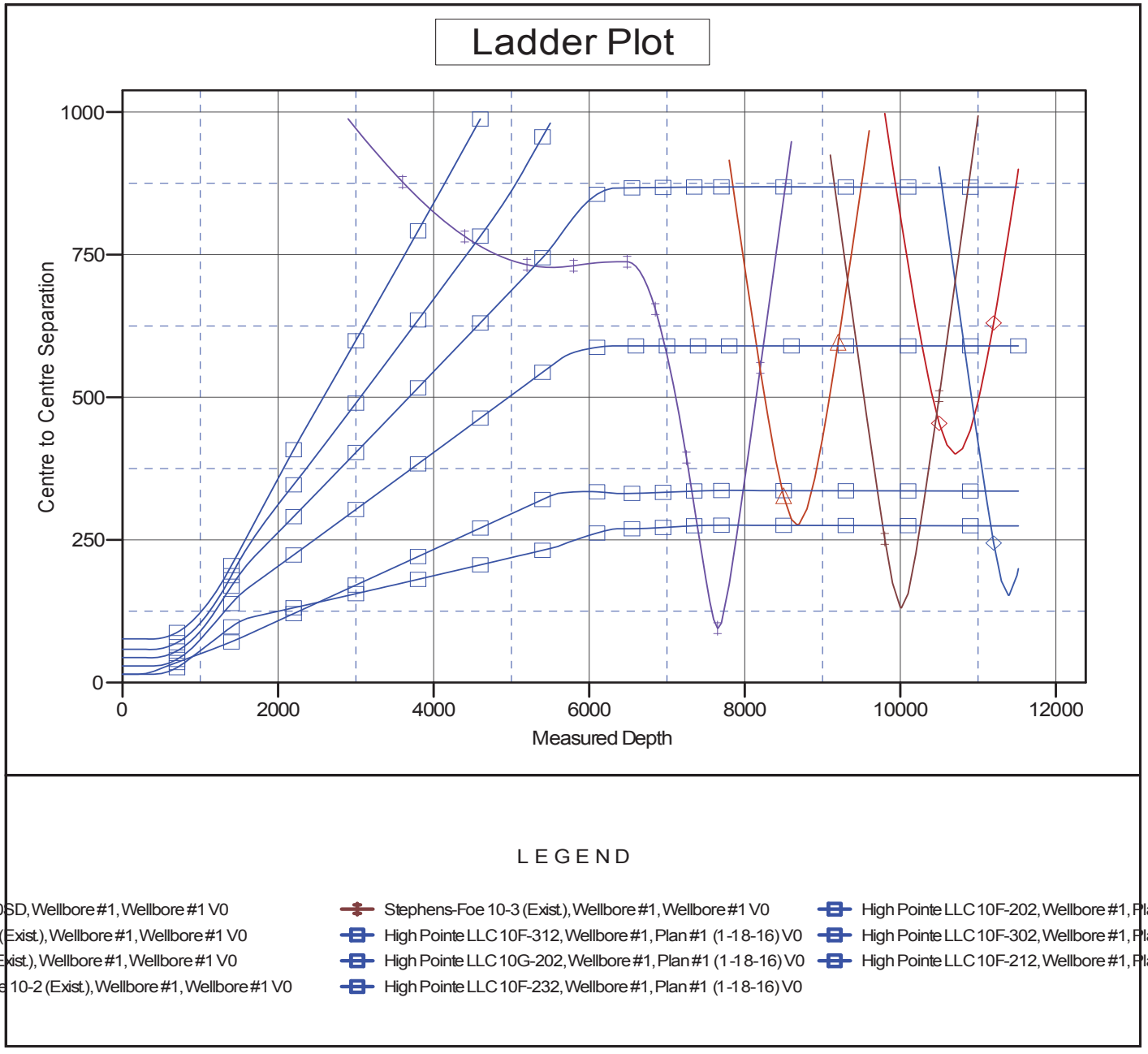
Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,800.0	7,070.9	7,263.4	7,095.3	77.1	25.5	91.93	-1,646.6	3,413.0	997.5	904.7	92.78	10.751	
9,900.0	7,069.8	7,262.0	7,093.9	79.8	25.5	91.73	-1,646.6	3,413.1	906.8	811.3	95.54	9.492	
10,000.0	7,068.7	7,260.6	7,092.5	82.5	25.5	91.53	-1,646.6	3,413.1	818.3	720.1	98.30	8.325	
10,100.0	7,067.6	7,259.2	7,091.1	85.2	25.5	91.32	-1,646.6	3,413.1	732.8	631.8	101.06	7.252	
10,200.0	7,066.5	7,257.8	7,089.7	87.9	25.5	91.12	-1,646.6	3,413.1	651.4	547.6	103.82	6.274	
10,300.0	7,065.4	7,256.4	7,088.3	90.6	25.5	90.92	-1,646.6	3,413.1	575.9	469.3	106.59	5.403	
10,400.0	7,064.3	7,255.0	7,086.9	93.4	25.5	90.72	-1,646.6	3,413.1	508.9	399.6	109.36	4.654	
10,500.0	7,063.2	7,253.6	7,085.5	96.1	25.5	90.52	-1,646.6	3,413.1	454.3	342.1	112.14	4.051	
10,600.0	7,062.1	7,252.2	7,084.1	98.8	25.5	90.32	-1,646.6	3,413.1	416.7	301.8	114.91	3.627	
10,700.0	7,061.0	7,250.8	7,082.7	101.6	25.5	90.12	-1,646.6	3,413.1	401.2	283.5	117.69	3.409	
10,713.4	7,060.9	7,250.6	7,082.5	101.9	25.5	90.10	-1,646.6	3,413.1	401.0	282.9	118.06	3.397	CC, ES, SF
10,800.0	7,059.9	7,249.4	7,081.3	104.3	25.5	89.92	-1,646.6	3,413.1	410.2	289.8	120.47	3.405	
10,900.0	7,058.8	7,248.0	7,079.9	107.0	25.5	89.72	-1,646.6	3,413.1	442.3	319.0	123.24	3.589	
11,000.0	7,057.7	7,246.6	7,078.5	109.8	25.5	89.52	-1,646.6	3,413.1	492.8	366.8	126.02	3.911	
11,100.0	7,056.6	7,245.2	7,077.1	112.5	25.5	89.33	-1,646.6	3,413.1	557.0	428.2	128.80	4.324	
11,200.0	7,055.5	7,243.8	7,075.7	115.3	25.5	89.13	-1,646.6	3,413.1	630.5	498.9	131.58	4.792	
11,300.0	7,054.4	7,242.4	7,074.3	118.1	25.5	88.93	-1,646.6	3,413.1	710.5	576.1	134.36	5.288	
11,400.0	7,053.3	7,241.0	7,073.0	120.8	25.5	88.73	-1,646.6	3,413.1	795.0	657.9	137.14	5.797	
11,500.0	7,052.2	7,239.7	7,071.6	123.6	25.5	88.53	-1,646.6	3,413.1	882.8	742.9	139.92	6.310	
11,519.0	7,052.0	7,239.4	7,071.3	124.1	25.5	88.49	-1,646.6	3,413.1	899.8	759.4	140.45	6.407	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	**Local Co-ordinate Reference:**	Well High Pointe LLC 10G-312
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 10G-312	**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 10G-312
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 10G-312
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 10G-312	**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)
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