

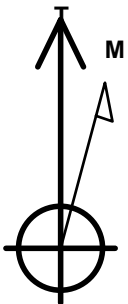
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **High Pointe LLC 10H-302**

Surface Location: High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4977.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1391985.523170831.21 40.407780 -104.886550
 Original Well Elev WELL @ 4990.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 325'FSL & 613'FWL, Sec.10	1.0	0.0	0.0	Point
BHL 1188'FSL & 500'FEL, Sec.11	7090.0	781.4	9409.9	Point



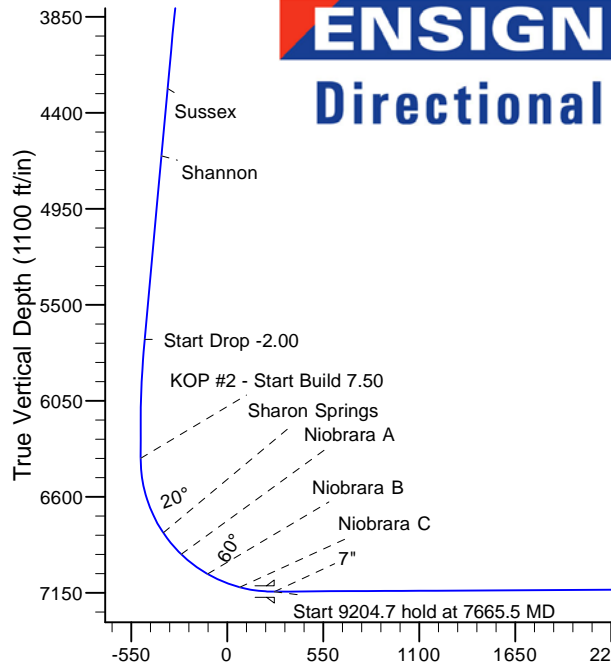
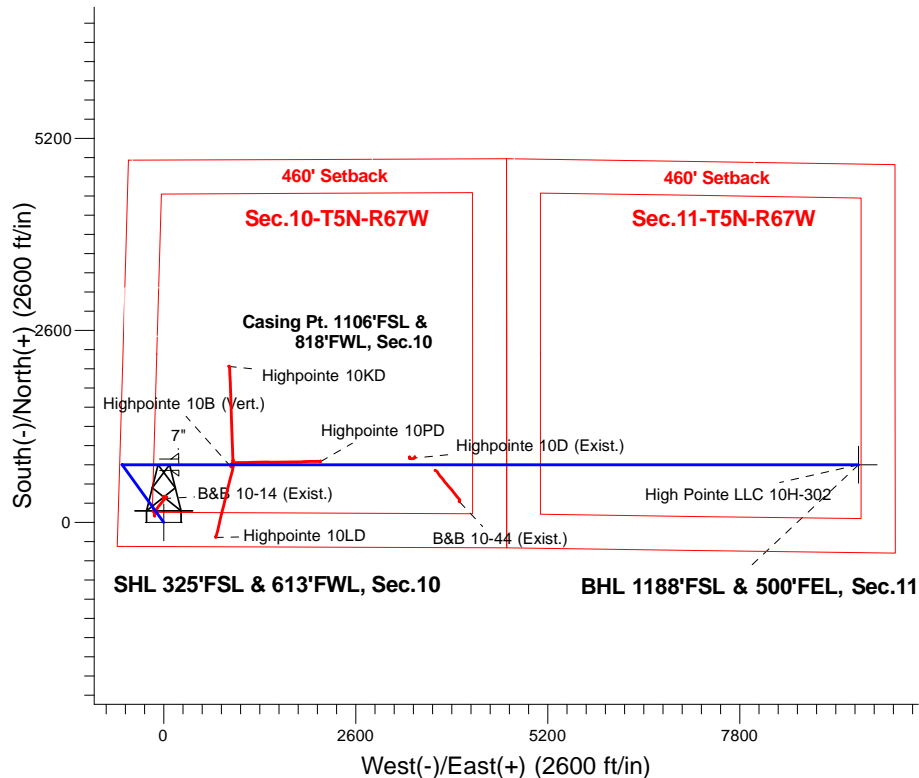
Azimuths to True North
 Magnetic North: 8.30°

Magnetic Field
 Strength: 52633.3snT
 Dip Angle: 66.88°
 Date: 2/2/2016
 Model: IGRF2010

High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W
 High Pointe LLC 10H-302
 Plan #1 (1-20-16)
 18:55, February 02 2016

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.50
5697.9	5777.3	Start Drop -2.00
6379.1	6461.1	KOP #2 - Start Build 7.50
7143.0	7665.5	Start 9204.7 hold at 7665.5 MD
7090.0	16870.2	TD at 16870.2



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	873.0	10.09	324.23	869.5	48.0	-34.6	1.50	324.23	-30.5	
4	5777.3	10.09	324.23	5697.9	745.4	-537.1	0.00	0.00	-473.5	
5	6282.0	0.00	0.00	6200.0	781.4	-563.0	2.00	180.00	-496.4	
6	6461.1	0.00	0.00	6379.1	781.4	-563.0	0.00	0.00	-496.4	
7	7665.5	90.33	90.00	7143.0	781.4	205.3	7.50	90.00	269.3	
8	16870.2	90.33	90.00	7090.0	781.4	9409.9	0.00	0.00	9442.3	BHL 1188'FSL & 500'FEL, Sec.11

BHL 1188'FSL & 500'FEL, Sec.11

Vertical Section at 85.25° (1100 ft/in)



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W

High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W

High Pointe LLC 10H-302

Wellbore #1

Plan: Plan #1 (1-20-16)

Standard Planning Report

02 February, 2016

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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 5N67W10L Pad Sec.10-T5N-RR67W				
Site Position:		Northing:	1,391,985.84 usft	Latitude:	40.407780
From:	Lat/Long	Easting:	3,170,875.77 usft	Longitude:	-104.886390
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40

Well	High Pointe LLC 10H-302					
Well Position	+N/-S	0.0 ft	Northing:	1,391,985.52 usft	Latitude:	40.407780
	+E/-W	-44.6 ft	Easting:	3,170,831.21 usft	Longitude:	-104.886550
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,977.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/2/2016	8.31	66.88	52,633

Design	Plan #1 (1-20-16)			
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	85.25

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
873.0	10.09	324.23	869.5	48.0	-34.6	1.50	1.50	0.00	324.23	
5,777.3	10.09	324.23	5,697.9	745.4	-537.1	0.00	0.00	0.00	0.00	
6,282.0	0.00	0.00	6,200.0	781.4	-563.0	2.00	-2.00	0.00	180.00	
6,461.1	0.00	0.00	6,379.1	781.4	-563.0	0.00	0.00	0.00	0.00	
7,665.5	90.33	90.00	7,143.0	781.4	205.3	7.50	7.50	0.00	90.00	
16,870.2	90.33	90.00	7,090.0	781.4	9,409.9	0.00	0.00	0.00	0.00	BHL 1188'FSL & 500'I

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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 325'FSL & 613'FWL, Sec.10									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
300.0	1.50	324.23	300.0	1.1	-0.8	-0.7	1.50	1.50	0.00
400.0	3.00	324.23	399.9	4.2	-3.1	-2.7	1.50	1.50	0.00
500.0	4.50	324.23	499.7	9.6	-6.9	-6.1	1.50	1.50	0.00
600.0	6.00	324.23	599.3	17.0	-12.2	-10.8	1.50	1.50	0.00
700.0	7.50	324.23	698.6	26.5	-19.1	-16.8	1.50	1.50	0.00
800.0	9.00	324.23	797.5	38.2	-27.5	-24.2	1.50	1.50	0.00
873.0	10.09	324.23	869.5	48.0	-34.6	-30.5	1.50	1.50	0.00
900.0	10.09	324.23	896.1	51.8	-37.3	-32.9	0.00	0.00	0.00
1,000.0	10.09	324.23	994.6	66.0	-47.6	-42.0	0.00	0.00	0.00
1,100.0	10.09	324.23	1,093.0	80.3	-57.8	-51.0	0.00	0.00	0.00
1,200.0	10.09	324.23	1,191.5	94.5	-68.1	-60.0	0.00	0.00	0.00
1,300.0	10.09	324.23	1,289.9	108.7	-78.3	-69.1	0.00	0.00	0.00
1,400.0	10.09	324.23	1,388.4	122.9	-88.6	-78.1	0.00	0.00	0.00
1,500.0	10.09	324.23	1,486.8	137.1	-98.8	-87.1	0.00	0.00	0.00
1,600.0	10.09	324.23	1,585.3	151.4	-109.1	-96.2	0.00	0.00	0.00
1,700.0	10.09	324.23	1,683.7	165.6	-119.3	-105.2	0.00	0.00	0.00
1,800.0	10.09	324.23	1,782.2	179.8	-129.6	-114.2	0.00	0.00	0.00
1,900.0	10.09	324.23	1,880.6	194.0	-139.8	-123.3	0.00	0.00	0.00
2,000.0	10.09	324.23	1,979.1	208.2	-150.0	-132.3	0.00	0.00	0.00
2,100.0	10.09	324.23	2,077.5	222.5	-160.3	-141.3	0.00	0.00	0.00
2,200.0	10.09	324.23	2,176.0	236.7	-170.5	-150.4	0.00	0.00	0.00
2,300.0	10.09	324.23	2,274.4	250.9	-180.8	-159.4	0.00	0.00	0.00
2,400.0	10.09	324.23	2,372.9	265.1	-191.0	-168.4	0.00	0.00	0.00
2,500.0	10.09	324.23	2,471.3	279.4	-201.3	-177.5	0.00	0.00	0.00
2,600.0	10.09	324.23	2,569.8	293.6	-211.5	-186.5	0.00	0.00	0.00
2,700.0	10.09	324.23	2,668.2	307.8	-221.8	-195.5	0.00	0.00	0.00
2,800.0	10.09	324.23	2,766.7	322.0	-232.0	-204.6	0.00	0.00	0.00
2,900.0	10.09	324.23	2,865.1	336.2	-242.3	-213.6	0.00	0.00	0.00
3,000.0	10.09	324.23	2,963.6	350.5	-252.5	-222.6	0.00	0.00	0.00
3,100.0	10.09	324.23	3,062.0	364.7	-262.8	-231.7	0.00	0.00	0.00
3,200.0	10.09	324.23	3,160.5	378.9	-273.0	-240.7	0.00	0.00	0.00
3,300.0	10.09	324.23	3,259.0	393.1	-283.2	-249.7	0.00	0.00	0.00
3,400.0	10.09	324.23	3,357.4	407.3	-293.5	-258.8	0.00	0.00	0.00
3,500.0	10.09	324.23	3,455.9	421.6	-303.7	-267.8	0.00	0.00	0.00
3,600.0	10.09	324.23	3,554.3	435.8	-314.0	-276.8	0.00	0.00	0.00
3,610.9	10.09	324.23	3,565.0	437.3	-315.1	-277.8	0.00	0.00	0.00
Parkman									
3,700.0	10.09	324.23	3,652.8	450.0	-324.2	-285.9	0.00	0.00	0.00
3,800.0	10.09	324.23	3,751.2	464.2	-334.5	-294.9	0.00	0.00	0.00
3,900.0	10.09	324.23	3,849.7	478.5	-344.7	-303.9	0.00	0.00	0.00
4,000.0	10.09	324.23	3,948.1	492.7	-355.0	-313.0	0.00	0.00	0.00
4,100.0	10.09	324.23	4,046.6	506.9	-365.2	-322.0	0.00	0.00	0.00
4,200.0	10.09	324.23	4,145.0	521.1	-375.5	-331.0	0.00	0.00	0.00
4,300.0	10.09	324.23	4,243.5	535.3	-385.7	-340.1	0.00	0.00	0.00
4,316.8	10.09	324.23	4,260.0	537.7	-387.4	-341.6	0.00	0.00	0.00
Sussex									

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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	10.09	324.23	4,341.9	549.6	-396.0	-349.1	0.00	0.00	0.00
4,500.0	10.09	324.23	4,440.4	563.8	-406.2	-358.2	0.00	0.00	0.00
4,600.0	10.09	324.23	4,538.8	578.0	-416.4	-367.2	0.00	0.00	0.00
4,700.0	10.09	324.23	4,637.3	592.2	-426.7	-376.2	0.00	0.00	0.00
4,709.9	10.09	324.23	4,647.0	593.6	-427.7	-377.1	0.00	0.00	0.00
Shannon									
4,800.0	10.09	324.23	4,735.7	606.4	-436.9	-385.3	0.00	0.00	0.00
4,900.0	10.09	324.23	4,834.2	620.7	-447.2	-394.3	0.00	0.00	0.00
5,000.0	10.09	324.23	4,932.6	634.9	-457.4	-403.3	0.00	0.00	0.00
5,100.0	10.09	324.23	5,031.1	649.1	-467.7	-412.4	0.00	0.00	0.00
5,200.0	10.09	324.23	5,129.5	663.3	-477.9	-421.4	0.00	0.00	0.00
5,300.0	10.09	324.23	5,228.0	677.5	-488.2	-430.4	0.00	0.00	0.00
5,400.0	10.09	324.23	5,326.4	691.8	-498.4	-439.5	0.00	0.00	0.00
5,500.0	10.09	324.23	5,424.9	706.0	-508.7	-448.5	0.00	0.00	0.00
5,600.0	10.09	324.23	5,523.3	720.2	-518.9	-457.5	0.00	0.00	0.00
5,700.0	10.09	324.23	5,621.8	734.4	-529.2	-466.6	0.00	0.00	0.00
5,777.3	10.09	324.23	5,697.9	745.4	-537.1	-473.5	0.00	0.00	0.00
Start Drop -2.00									
5,800.0	9.64	324.23	5,720.3	748.6	-539.4	-475.6	2.00	-2.00	0.00
5,900.0	7.64	324.23	5,819.1	760.8	-548.1	-483.3	2.00	-2.00	0.00
6,000.0	5.64	324.23	5,918.4	770.1	-554.9	-489.3	2.00	-2.00	0.00
6,100.0	3.64	324.23	6,018.1	776.7	-559.6	-493.4	2.00	-2.00	0.00
6,200.0	1.64	324.23	6,118.0	780.4	-562.3	-495.8	2.00	-2.00	0.00
6,282.0	0.00	0.00	6,200.0	781.4	-563.0	-496.4	2.00	-2.00	0.00
6,300.0	0.00	0.00	6,218.0	781.4	-563.0	-496.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,318.0	781.4	-563.0	-496.4	0.00	0.00	0.00
6,461.1	0.00	0.00	6,379.1	781.4	-563.0	-496.4	0.00	0.00	0.00
KOP #2 - Start Build 7.50									
6,500.0	2.92	90.00	6,418.0	781.4	-562.0	-495.4	7.50	7.50	0.00
6,600.0	10.42	90.00	6,517.2	781.4	-550.4	-483.8	7.50	7.50	0.00
6,700.0	17.92	90.00	6,614.1	781.4	-525.9	-459.5	7.50	7.50	0.00
6,800.0	25.42	90.00	6,707.0	781.4	-489.0	-422.7	7.50	7.50	0.00
6,900.0	32.92	90.00	6,794.2	781.4	-440.3	-374.2	7.50	7.50	0.00
6,914.1	33.98	90.00	6,806.0	781.4	-432.6	-366.4	7.50	7.50	0.00
Sharon Springs									
7,000.0	40.42	90.00	6,874.4	781.4	-380.7	-314.7	7.50	7.50	0.00
7,075.0	46.04	90.00	6,929.0	781.4	-329.3	-263.5	7.50	7.50	0.00
Niobrara A									
7,100.0	47.92	90.00	6,946.1	781.4	-311.0	-245.3	7.50	7.50	0.00
7,200.0	55.42	90.00	7,008.1	781.4	-232.7	-167.2	7.50	7.50	0.00
7,263.7	60.20	90.00	7,042.0	781.4	-178.7	-113.4	7.50	7.50	0.00
Niobrara B									
7,300.0	62.92	90.00	7,059.3	781.4	-146.9	-81.7	7.50	7.50	0.00
7,400.0	70.42	90.00	7,098.8	781.4	-55.1	9.8	7.50	7.50	0.00
7,465.0	75.29	90.00	7,118.0	781.4	7.0	71.6	7.50	7.50	0.00
Niobrara C									
7,500.0	77.92	90.00	7,126.1	781.4	41.0	105.6	7.50	7.50	0.00
7,600.0	85.42	90.00	7,140.6	781.4	139.9	204.1	7.50	7.50	0.00
7,665.5	90.33	90.00	7,143.0	781.4	205.4	269.3	7.50	7.50	0.00
Start 9204.7 hold at 7665.5 MD - 7"									
7,700.0	90.33	90.00	7,142.8	781.4	239.9	303.7	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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	90.33	90.00	7,142.2	781.4	339.9	403.4	0.00	0.00	0.00
7,900.0	90.33	90.00	7,141.7	781.4	439.8	503.0	0.00	0.00	0.00
8,000.0	90.33	90.00	7,141.1	781.4	539.8	602.7	0.00	0.00	0.00
8,100.0	90.33	90.00	7,140.5	781.4	639.8	702.3	0.00	0.00	0.00
8,200.0	90.33	90.00	7,139.9	781.4	739.8	802.0	0.00	0.00	0.00
8,300.0	90.33	90.00	7,139.4	781.4	839.8	901.6	0.00	0.00	0.00
8,400.0	90.33	90.00	7,138.8	781.4	939.8	1,001.3	0.00	0.00	0.00
8,500.0	90.33	90.00	7,138.2	781.4	1,039.8	1,100.9	0.00	0.00	0.00
8,600.0	90.33	90.00	7,137.6	781.4	1,139.8	1,200.6	0.00	0.00	0.00
8,700.0	90.33	90.00	7,137.1	781.4	1,239.8	1,300.3	0.00	0.00	0.00
8,800.0	90.33	90.00	7,136.5	781.4	1,339.8	1,399.9	0.00	0.00	0.00
8,900.0	90.33	90.00	7,135.9	781.4	1,439.8	1,499.6	0.00	0.00	0.00
9,000.0	90.33	90.00	7,135.3	781.4	1,539.8	1,599.2	0.00	0.00	0.00
9,100.0	90.33	90.00	7,134.8	781.4	1,639.8	1,698.9	0.00	0.00	0.00
9,200.0	90.33	90.00	7,134.2	781.4	1,739.8	1,798.5	0.00	0.00	0.00
9,300.0	90.33	90.00	7,133.6	781.4	1,839.8	1,898.2	0.00	0.00	0.00
9,400.0	90.33	90.00	7,133.0	781.4	1,939.8	1,997.8	0.00	0.00	0.00
9,500.0	90.33	90.00	7,132.4	781.4	2,039.8	2,097.5	0.00	0.00	0.00
9,600.0	90.33	90.00	7,131.9	781.4	2,139.8	2,197.1	0.00	0.00	0.00
9,700.0	90.33	90.00	7,131.3	781.4	2,239.8	2,296.8	0.00	0.00	0.00
9,800.0	90.33	90.00	7,130.7	781.4	2,339.8	2,396.5	0.00	0.00	0.00
9,900.0	90.33	90.00	7,130.1	781.4	2,439.8	2,496.1	0.00	0.00	0.00
10,000.0	90.33	90.00	7,129.6	781.4	2,539.8	2,595.8	0.00	0.00	0.00
10,100.0	90.33	90.00	7,129.0	781.4	2,639.8	2,695.4	0.00	0.00	0.00
10,200.0	90.33	90.00	7,128.4	781.4	2,739.8	2,795.1	0.00	0.00	0.00
10,300.0	90.33	90.00	7,127.8	781.4	2,839.8	2,894.7	0.00	0.00	0.00
10,400.0	90.33	90.00	7,127.3	781.4	2,939.8	2,994.4	0.00	0.00	0.00
10,500.0	90.33	90.00	7,126.7	781.4	3,039.8	3,094.0	0.00	0.00	0.00
10,600.0	90.33	90.00	7,126.1	781.4	3,139.8	3,193.7	0.00	0.00	0.00
10,700.0	90.33	90.00	7,125.5	781.4	3,239.8	3,293.4	0.00	0.00	0.00
10,800.0	90.33	90.00	7,125.0	781.4	3,339.8	3,393.0	0.00	0.00	0.00
10,900.0	90.33	90.00	7,124.4	781.4	3,439.8	3,492.7	0.00	0.00	0.00
11,000.0	90.33	90.00	7,123.8	781.4	3,539.8	3,592.3	0.00	0.00	0.00
11,100.0	90.33	90.00	7,123.2	781.4	3,639.8	3,692.0	0.00	0.00	0.00
11,200.0	90.33	90.00	7,122.7	781.4	3,739.8	3,791.6	0.00	0.00	0.00
11,300.0	90.33	90.00	7,122.1	781.4	3,839.8	3,891.3	0.00	0.00	0.00
11,400.0	90.33	90.00	7,121.5	781.4	3,939.8	3,990.9	0.00	0.00	0.00
11,500.0	90.33	90.00	7,120.9	781.4	4,039.8	4,090.6	0.00	0.00	0.00
11,600.0	90.33	90.00	7,120.4	781.4	4,139.8	4,190.3	0.00	0.00	0.00
11,700.0	90.33	90.00	7,119.8	781.4	4,239.8	4,289.9	0.00	0.00	0.00
11,800.0	90.33	90.00	7,119.2	781.4	4,339.8	4,389.6	0.00	0.00	0.00
11,900.0	90.33	90.00	7,118.6	781.4	4,439.8	4,489.2	0.00	0.00	0.00
12,000.0	90.33	90.00	7,118.0	781.4	4,539.8	4,588.9	0.00	0.00	0.00
12,100.0	90.33	90.00	7,117.5	781.4	4,639.8	4,688.5	0.00	0.00	0.00
12,200.0	90.33	90.00	7,116.9	781.4	4,739.8	4,788.2	0.00	0.00	0.00
12,300.0	90.33	90.00	7,116.3	781.4	4,839.8	4,887.8	0.00	0.00	0.00
12,400.0	90.33	90.00	7,115.7	781.4	4,939.8	4,987.5	0.00	0.00	0.00
12,500.0	90.33	90.00	7,115.2	781.4	5,039.8	5,087.2	0.00	0.00	0.00
12,600.0	90.33	90.00	7,114.6	781.4	5,139.8	5,186.8	0.00	0.00	0.00
12,700.0	90.33	90.00	7,114.0	781.4	5,239.8	5,286.5	0.00	0.00	0.00
12,800.0	90.33	90.00	7,113.4	781.4	5,339.8	5,386.1	0.00	0.00	0.00
12,900.0	90.33	90.00	7,112.9	781.4	5,439.8	5,485.8	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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)
13,000.0	90.33	90.00	7,112.3	781.4	5,539.8	5,585.4	0.00	0.00	0.00
13,100.0	90.33	90.00	7,111.7	781.4	5,639.8	5,685.1	0.00	0.00	0.00
13,200.0	90.33	90.00	7,111.1	781.4	5,739.8	5,784.7	0.00	0.00	0.00
13,300.0	90.33	90.00	7,110.6	781.4	5,839.8	5,884.4	0.00	0.00	0.00
13,400.0	90.33	90.00	7,110.0	781.4	5,939.8	5,984.1	0.00	0.00	0.00
13,500.0	90.33	90.00	7,109.4	781.4	6,039.8	6,083.7	0.00	0.00	0.00
13,600.0	90.33	90.00	7,108.8	781.4	6,139.8	6,183.4	0.00	0.00	0.00
13,700.0	90.33	90.00	7,108.3	781.4	6,239.8	6,283.0	0.00	0.00	0.00
13,800.0	90.33	90.00	7,107.7	781.4	6,339.8	6,382.7	0.00	0.00	0.00
13,900.0	90.33	90.00	7,107.1	781.4	6,439.7	6,482.3	0.00	0.00	0.00
14,000.0	90.33	90.00	7,106.5	781.4	6,539.7	6,582.0	0.00	0.00	0.00
14,100.0	90.33	90.00	7,106.0	781.4	6,639.7	6,681.6	0.00	0.00	0.00
14,200.0	90.33	90.00	7,105.4	781.4	6,739.7	6,781.3	0.00	0.00	0.00
14,300.0	90.33	90.00	7,104.8	781.4	6,839.7	6,880.9	0.00	0.00	0.00
14,400.0	90.33	90.00	7,104.2	781.4	6,939.7	6,980.6	0.00	0.00	0.00
14,500.0	90.33	90.00	7,103.7	781.4	7,039.7	7,080.3	0.00	0.00	0.00
14,600.0	90.33	90.00	7,103.1	781.4	7,139.7	7,179.9	0.00	0.00	0.00
14,700.0	90.33	90.00	7,102.5	781.4	7,239.7	7,279.6	0.00	0.00	0.00
14,800.0	90.33	90.00	7,101.9	781.4	7,339.7	7,379.2	0.00	0.00	0.00
14,900.0	90.33	90.00	7,101.3	781.4	7,439.7	7,478.9	0.00	0.00	0.00
15,000.0	90.33	90.00	7,100.8	781.4	7,539.7	7,578.5	0.00	0.00	0.00
15,100.0	90.33	90.00	7,100.2	781.4	7,639.7	7,678.2	0.00	0.00	0.00
15,200.0	90.33	90.00	7,099.6	781.4	7,739.7	7,777.8	0.00	0.00	0.00
15,300.0	90.33	90.00	7,099.0	781.4	7,839.7	7,877.5	0.00	0.00	0.00
15,400.0	90.33	90.00	7,098.5	781.4	7,939.7	7,977.2	0.00	0.00	0.00
15,500.0	90.33	90.00	7,097.9	781.4	8,039.7	8,076.8	0.00	0.00	0.00
15,600.0	90.33	90.00	7,097.3	781.4	8,139.7	8,176.5	0.00	0.00	0.00
15,700.0	90.33	90.00	7,096.7	781.4	8,239.7	8,276.1	0.00	0.00	0.00
15,800.0	90.33	90.00	7,096.2	781.4	8,339.7	8,375.8	0.00	0.00	0.00
15,900.0	90.33	90.00	7,095.6	781.4	8,439.7	8,475.4	0.00	0.00	0.00
16,000.0	90.33	90.00	7,095.0	781.4	8,539.7	8,575.1	0.00	0.00	0.00
16,100.0	90.33	90.00	7,094.4	781.4	8,639.7	8,674.7	0.00	0.00	0.00
16,200.0	90.33	90.00	7,093.9	781.4	8,739.7	8,774.4	0.00	0.00	0.00
16,300.0	90.33	90.00	7,093.3	781.4	8,839.7	8,874.1	0.00	0.00	0.00
16,400.0	90.33	90.00	7,092.7	781.4	8,939.7	8,973.7	0.00	0.00	0.00
16,500.0	90.33	90.00	7,092.1	781.4	9,039.7	9,073.4	0.00	0.00	0.00
16,600.0	90.33	90.00	7,091.6	781.4	9,139.7	9,173.0	0.00	0.00	0.00
16,700.0	90.33	90.00	7,091.0	781.4	9,239.7	9,272.7	0.00	0.00	0.00
16,800.0	90.33	90.00	7,090.4	781.4	9,339.7	9,372.3	0.00	0.00	0.00
16,870.2	90.33	90.00	7,090.0	781.4	9,409.9	9,442.3	0.00	0.00	0.00
TD at 16870.2 - BHL 1188'FSL & 500'FEL, Sec.11									

Database:	US_EDM	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Project:	SEC.10-T5N-R67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	North Reference:	True
Well:	High Pointe LLC 10H-302	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-20-16)		

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 325'FSL & 613'FWL - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,391,985.53	3,170,831.21	40.407780	-104.886550
BHL 1188'FSL & 500'FEI - plan hits target center - Point	0.00	0.00	7,090.0	781.4	9,409.9	1,392,831.99	3,180,235.07	40.409920	-104.852760

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,665.5	7,143.0	7"	7	8-3/4

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,610.9	3,565.0	Parkman		0.00	
4,316.8	4,260.0	Sussex		0.00	
4,709.9	4,647.0	Shannon		0.00	
6,914.1	6,806.0	Sharon Springs		0.00	
7,075.0	6,929.0	Niobrara A		0.00	
7,263.7	7,042.0	Niobrara B		0.00	
7,465.0	7,118.0	Niobrara C		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP - Start Build 1.50
5,777.3	5,697.9	745.4	-537.1	Start Drop -2.00
6,461.1	6,379.1	781.4	-563.0	KOP #2 - Start Build 7.50
7,665.5	7,143.0	781.4	205.4	Start 9204.7 hold at 7665.5 MD
16,870.2	7,090.0	781.4	9,409.9	TD at 16870.2



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.10-T5N-R67W

High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W

High Pointe LLC 10H-302

Wellbore #1

Plan #1 (1-20-16)

Anticollision Report

02 February, 2016



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (1-20-16)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 2/2/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,870.2	Plan #1 (1-20-16) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Pad Sec.10-T5N-R67W						
B&B 10-14 (Exist.) - Wellbore #1 - Wellbore #1	1,228.0	1,200.4	81.1	75.6	14.623	CC, ES
B&B 10-14 (Exist.) - Wellbore #1 - Wellbore #1	7,550.0	7,139.8	457.1	422.4	13.170	SF
B&B 10-44 (Exist.) - Wellbore #1 - Wellbore #1	11,461.5	7,179.4	498.8	362.1	3.649	CC, ES
B&B 10-44 (Exist.) - Wellbore #1 - Wellbore #1	11,500.0	7,179.3	500.3	362.5	3.631	SF
Highpointe 10D (Exist.) - Wellbore #1 - Wellbore #1	10,787.2	7,135.0	88.2	-27.7	0.761	Level 1, CC, ES, SF
High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W						
High Pointe LLC 10H-232 - Wellbore #1 - Plan #1 (1-20-1	200.0	200.0	13.9	13.3	20.650	CC
High Pointe LLC 10H-232 - Wellbore #1 - Plan #1 (1-20-1	16,870.2	16,761.0	466.6	-74.4	0.862	Level 1, ES, SF
High Pointe LLC 10I-202 - Wellbore #1 - Plan #1 (1-19-1	200.0	200.0	30.6	30.0	45.431	CC, ES
High Pointe LLC 10I-202 - Wellbore #1 - Plan #1 (1-19-1	600.0	599.3	46.1	43.6	18.280	SF
High Pointe LLC 10I-312 - Wellbore #1 - Plan #1 (1-19-1	200.0	200.0	44.6	43.9	66.081	CC, ES
High Pointe LLC 10I-312 - Wellbore #1 - Plan #1 (1-19-1	16,870.2	16,825.6	728.6	183.6	1.337	Level 3, SF
Highpointe 10LD Pad Sec.10-T5N-R67W						
Highpointe 10B (Vert.) - Wellbore #1 - Wellbore #1	8,369.5	7,125.0	23.1	-27.4	0.457	Level 1, CC, ES, SF
Highpointe 10KD - Wellbore #1 - Wellbore #1						Out of range
Highpointe 10LD - Wellbore #1 - Wellbore #1	8,162.4	7,232.4	981.7	931.4	19.542	CC
Highpointe 10LD - Wellbore #1 - Wellbore #1	8,200.0	7,232.0	982.4	931.3	19.225	ES
Highpointe 10LD - Wellbore #1 - Wellbore #1	8,300.0	7,231.0	991.3	937.8	18.537	SF
Highpointe 10PD - Wellbore #1 - Wellbore #1	9,584.6	7,292.9	43.3	-53.8	0.446	Level 1, CC, ES, SF

Offset Design	Existing Wells Pad Sec.10-T5N-R67W - B&B 10-14 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program:	100-NS-GYRO-MS											Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-55.02	83.8	-119.8	146.7				
100.0	100.0	84.9	84.9	0.1	0.1	-54.94	84.3	-120.1	146.8	146.5	0.23	649.923	
200.0	200.0	185.0	185.0	0.3	0.4	-54.64	85.8	-120.9	148.3	147.6	0.69	213.941	
300.0	300.0	285.1	285.1	0.6	0.6	-18.80	87.0	-121.6	148.3	147.2	1.17	127.134	
400.0	399.9	386.2	386.1	0.8	0.8	-19.52	87.2	-122.7	145.6	144.0	1.61	90.501	
500.0	499.7	484.6	484.5	1.0	1.0	-20.60	87.3	-123.7	140.3	138.3	2.06	68.119	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.10-T5N-R67W - B&B 10-14 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
600.0	599.3	582.8	582.8	1.3	1.3	-21.77	88.9	-125.1	133.9	131.3	2.54	52.614		
700.0	698.6	680.3	680.1	1.6	1.5	-22.74	92.6	-126.7	126.4	123.4	3.03	41.743		
800.0	797.5	778.6	778.1	1.9	1.8	-22.66	100.0	-127.9	118.1	114.6	3.51	33.649		
873.0	869.5	851.0	850.1	2.1	1.9	-21.54	107.9	-127.7	110.9	107.1	3.86	28.744		
900.0	896.1	877.8	876.6	2.2	2.0	-20.80	111.4	-127.3	108.1	104.1	3.99	27.107		
1,000.0	994.6	977.4	975.0	2.6	2.2	-15.88	126.6	-124.0	97.7	93.2	4.46	21.927		
1,100.0	1,093.0	1,076.7	1,072.4	3.0	2.5	-6.67	145.0	-117.0	88.0	83.1	4.91	17.935		
1,200.0	1,191.5	1,173.8	1,166.7	3.4	2.7	7.50	165.6	-106.2	81.5	76.2	5.39	15.128		
1,228.0	1,219.0	1,200.4	1,192.1	3.5	2.8	12.51	172.0	-102.3	81.1	75.6	5.55	14.623 CC, ES		
1,300.0	1,289.9	1,270.0	1,258.6	3.7	3.0	26.39	189.1	-90.7	83.4	77.3	6.02	13.845		
1,400.0	1,388.4	1,367.8	1,352.0	4.1	3.2	44.27	212.1	-73.0	93.5	86.7	6.79	13.771		
1,500.0	1,486.8	1,466.5	1,447.1	4.5	3.5	57.83	232.7	-56.6	107.9	100.3	7.56	14.273		
1,600.0	1,585.3	1,567.0	1,544.6	4.9	3.8	67.68	251.9	-41.9	124.0	115.7	8.29	14.954		
1,700.0	1,683.7	1,667.3	1,642.7	5.3	4.1	75.35	268.4	-28.8	139.8	130.8	9.00	15.534		
1,800.0	1,782.2	1,767.7	1,741.3	5.7	4.4	81.57	283.2	-16.7	155.6	145.9	9.68	16.070		
1,900.0	1,880.6	1,870.5	1,842.6	6.1	4.6	87.09	296.1	-5.4	170.6	160.3	10.36	16.471		
2,000.0	1,979.1	1,973.8	1,945.0	6.5	4.9	91.95	306.6	3.6	183.7	172.6	11.02	16.670		
2,100.0	2,077.5	2,077.0	2,047.6	6.9	5.2	96.28	315.3	10.5	195.2	183.5	11.66	16.733		
2,200.0	2,176.0	2,179.4	2,149.6	7.3	5.4	100.14	322.7	15.4	205.3	193.0	12.30	16.698		
2,300.0	2,274.4	2,280.6	2,250.6	7.7	5.7	103.85	328.5	19.2	214.8	201.9	12.91	16.643		
2,400.0	2,372.9	2,380.6	2,350.5	8.1	5.9	107.53	332.8	22.6	224.3	210.8	13.49	16.624		
2,500.0	2,471.3	2,480.6	2,450.3	8.5	6.2	111.02	336.4	25.5	234.0	219.9	14.05	16.650		
2,600.0	2,569.8	2,581.0	2,550.7	8.9	6.4	114.27	339.8	27.8	243.8	229.2	14.61	16.694		
2,700.0	2,668.2	2,682.7	2,652.2	9.3	6.7	117.35	342.9	29.2	253.5	238.3	15.15	16.733		
2,800.0	2,766.7	2,780.2	2,749.7	9.6	6.9	120.24	345.0	30.1	263.2	247.6	15.64	16.823		
2,900.0	2,865.1	2,878.2	2,847.7	10.0	7.1	123.34	345.3	31.7	274.2	258.1	16.05	17.078		
3,000.0	2,963.6	2,977.1	2,946.6	10.4	7.2	126.36	344.8	33.2	285.8	269.4	16.42	17.411		
3,100.0	3,062.0	3,075.7	3,045.3	10.8	7.3	129.15	344.4	34.5	298.0	281.2	16.75	17.790		
3,200.0	3,160.5	3,172.9	3,142.4	11.2	7.5	131.76	343.4	35.8	310.9	293.8	17.07	18.213		
3,300.0	3,259.0	3,270.9	3,240.4	11.6	7.6	134.08	343.0	37.4	324.6	307.2	17.41	18.642		
3,400.0	3,357.4	3,373.9	3,343.3	12.0	7.7	136.36	342.5	38.6	338.4	320.6	17.71	19.107		
3,500.0	3,455.9	3,478.1	3,447.6	12.4	7.8	138.50	342.2	37.9	350.8	332.8	17.96	19.535		
3,600.0	3,554.3	3,578.1	3,547.6	12.8	7.8	140.40	342.3	36.2	362.5	344.3	18.24	19.875		
3,700.0	3,652.8	3,676.1	3,645.5	13.2	8.0	142.05	342.9	34.7	374.6	356.1	18.58	20.162		
3,800.0	3,751.2	3,771.6	3,741.1	13.6	8.1	143.49	343.8	33.8	387.5	368.5	18.94	20.454		
3,900.0	3,849.7	3,872.3	3,841.7	14.0	8.2	145.05	343.8	33.0	401.0	381.8	19.26	20.822		
4,000.0	3,948.1	3,971.1	3,940.5	14.4	8.3	146.65	342.8	31.1	414.2	394.6	19.52	21.216		
4,100.0	4,046.6	4,071.1	4,040.5	14.8	8.4	148.09	342.4	29.5	427.7	407.8	19.83	21.565		
4,200.0	4,145.0	4,165.5	4,134.9	15.2	8.6	149.11	343.7	28.6	441.3	421.1	20.24	21.807		
4,300.0	4,243.5	4,261.2	4,230.5	15.6	8.8	150.08	344.7	28.9	456.4	435.7	20.68	22.065		
4,400.0	4,341.9	4,364.7	4,334.0	16.0	9.1	151.03	346.0	29.1	471.3	450.2	21.11	22.323		
4,500.0	4,440.4	4,467.8	4,437.1	16.4	9.2	152.10	346.6	27.5	485.1	463.6	21.49	22.572		
4,600.0	4,538.8	4,569.2	4,538.5	16.8	9.4	153.09	347.4	25.3	498.5	476.6	21.86	22.804		
4,700.0	4,637.3	4,674.7	4,643.9	17.2	9.5	154.22	347.5	21.7	511.2	489.0	22.20	23.026		
4,800.0	4,735.7	4,772.1	4,741.2	17.6	9.7	155.29	347.3	17.2	523.2	500.7	22.52	23.231		
4,900.0	4,834.2	4,868.0	4,837.1	18.0	9.8	156.30	346.8	13.4	536.1	513.2	22.85	23.458		
5,000.0	4,932.6	4,963.6	4,932.6	18.4	9.9	157.12	347.2	10.6	549.5	526.3	23.22	23.670		
5,100.0	5,031.1	5,060.6	5,029.6	18.8	10.1	157.87	347.8	8.5	563.6	540.0	23.60	23.883		
5,200.0	5,129.5	5,155.6	5,124.6	19.2	10.3	158.59	347.9	6.5	578.1	554.2	23.96	24.125		
5,300.0	5,228.0	5,253.8	5,222.7	19.6	10.4	159.36	347.2	4.7	593.4	569.1	24.32	24.402		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.10-T5N-R67W - B&B 10-14 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 100-NS-GYRO-MS													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,400.0	5,326.4	5,354.9	5,323.8	20.0	10.6	160.01	347.6	3.0	608.3	583.6	24.72	24.610		
5,500.0	5,424.9	5,451.0	5,419.9	20.4	10.8	160.57	348.2	1.6	623.2	598.1	25.13	24.804		
5,600.0	5,523.3	5,547.1	5,516.0	20.8	10.9	161.13	348.3	0.5	638.9	613.3	25.53	25.023		
5,700.0	5,621.8	5,648.4	5,617.3	21.2	11.2	161.55	349.7	0.3	654.5	628.5	25.98	25.189		
5,777.3	5,697.9	5,726.7	5,695.6	21.5	11.3	161.89	350.8	-0.4	666.2	639.8	26.35	25.284		
5,800.0	5,720.3	5,748.7	5,717.6	21.6	11.4	162.00	351.2	-0.6	669.5	643.1	26.46	25.305		
5,900.0	5,819.1	5,842.4	5,811.3	21.8	11.6	162.36	352.7	-1.0	682.6	655.7	26.89	25.380		
6,000.0	5,918.4	5,939.9	5,908.7	22.1	11.8	162.59	354.0	-0.3	693.4	666.1	27.30	25.398		
6,100.0	6,018.1	6,037.9	6,006.7	22.3	12.0	162.79	354.8	-0.7	700.2	672.6	27.64	25.332		
6,200.0	6,118.0	6,125.4	6,094.2	22.4	12.2	162.87	354.8	0.2	705.5	677.6	27.89	25.300		
6,282.0	6,200.0	6,207.7	6,176.5	22.6	12.2	127.16	353.8	1.1	707.9	673.8	34.04	20.793		
6,300.0	6,218.0	6,226.0	6,194.9	22.6	12.2	127.17	353.6	1.2	708.1	674.1	34.08	20.777		
6,400.0	6,318.0	6,331.0	6,299.8	22.7	12.3	127.17	352.8	2.2	709.4	675.1	34.32	20.667		
6,461.1	6,379.1	6,400.0	6,368.9	22.8	12.4	127.21	352.4	2.0	709.5	675.0	34.49	20.570		
6,500.0	6,418.0	6,440.8	6,409.6	22.8	12.5	37.34	352.1	1.6	708.5	679.9	28.54	24.827		
6,550.0	6,467.8	6,493.0	6,461.9	22.9	12.6	37.77	352.0	0.9	704.8	676.3	28.42	24.795		
6,600.0	6,517.2	6,541.0	6,509.8	22.9	12.6	38.47	351.9	0.3	698.4	670.2	28.21	24.761		
6,650.0	6,566.1	6,587.8	6,556.6	22.9	12.7	39.47	351.5	-0.4	689.7	661.8	27.91	24.717		
6,700.0	6,614.1	6,634.6	6,603.4	22.8	12.8	40.82	350.8	-1.2	678.8	651.3	27.53	24.655		
6,750.0	6,661.2	6,680.8	6,649.6	22.8	12.8	42.51	350.0	-2.0	665.7	638.6	27.13	24.540		
6,800.0	6,707.0	6,723.0	6,691.8	22.7	12.9	44.48	349.2	-2.8	650.6	623.9	26.73	24.343		
6,850.0	6,751.4	6,762.3	6,731.0	22.7	12.9	46.72	348.4	-3.1	634.0	607.6	26.38	24.036		
6,900.0	6,794.2	6,800.0	6,768.8	22.6	12.9	49.27	347.4	-3.2	616.1	590.0	26.13	23.575		
6,950.0	6,835.3	6,838.8	6,807.6	22.5	13.0	52.29	346.2	-3.3	597.1	571.1	26.06	22.910		
7,000.0	6,874.4	6,875.1	6,843.8	22.4	13.0	55.64	344.6	-3.5	577.4	551.1	26.20	22.033		
7,050.0	6,911.4	6,911.0	6,879.7	22.3	13.0	59.43	342.7	-3.9	557.2	530.6	26.60	20.945		
7,100.0	6,946.1	6,949.8	6,918.4	22.2	13.1	63.84	340.9	-4.4	536.9	509.6	27.31	19.660		
7,150.0	6,978.3	6,985.6	6,954.2	22.1	13.1	68.41	339.5	-5.0	516.9	488.7	28.20	18.328		
7,200.0	7,008.1	7,015.8	6,984.3	22.0	13.1	72.71	338.5	-5.4	497.9	468.7	29.14	17.086		
7,250.0	7,035.1	7,041.5	7,010.0	21.9	13.2	76.67	337.7	-5.7	480.8	450.7	30.06	15.993		
7,300.0	7,059.3	7,064.8	7,033.3	21.9	13.2	80.33	337.0	-5.9	466.4	435.4	30.95	15.067		
7,350.0	7,080.6	7,085.6	7,054.1	21.8	13.2	83.55	336.4	-5.9	455.4	423.6	31.79	14.326		
7,400.0	7,098.8	7,103.7	7,072.2	21.7	13.2	86.23	335.8	-5.9	448.5	415.9	32.56	13.775		
7,447.5	7,113.4	7,118.3	7,086.8	21.7	13.2	88.18	335.4	-5.9	446.2	413.0	33.25	13.419		
7,450.0	7,114.0	7,118.9	7,087.4	21.7	13.2	88.26	335.4	-5.9	446.2	413.0	33.29	13.406		
7,500.0	7,126.1	7,131.0	7,099.5	21.7	13.2	89.55	335.0	-5.9	449.1	415.1	34.00	13.210		
7,550.0	7,135.0	7,139.8	7,108.3	21.9	13.3	90.05	334.7	-5.9	457.1	422.4	34.71	13.170 SF		
7,600.0	7,140.6	7,145.4	7,113.9	22.4	13.3	89.74	334.6	-5.9	470.2	434.8	35.43	13.273		
7,650.0	7,142.9	7,147.7	7,116.2	23.2	13.3	88.60	334.5	-5.9	488.1	452.0	36.14	13.505		
7,665.5	7,143.0	7,147.8	7,116.3	23.4	13.3	88.08	334.5	-5.9	494.5	458.2	36.36	13.602		
7,700.0	7,142.8	7,147.6	7,116.1	24.0	13.3	88.06	334.5	-5.9	510.2	473.3	36.94	13.814		
7,800.0	7,142.2	7,147.0	7,115.4	25.9	13.3	87.98	334.5	-5.9	565.2	526.5	38.74	14.588		
7,900.0	7,141.7	7,146.4	7,114.8	27.9	13.3	87.90	334.5	-5.9	631.3	590.6	40.72	15.504		
8,000.0	7,141.1	7,145.7	7,114.2	30.1	13.3	87.82	334.6	-5.9	705.5	662.7	42.83	16.473		
8,100.0	7,140.5	7,145.1	7,113.6	32.3	13.3	87.74	334.6	-5.9	785.4	740.4	45.04	17.437		
8,200.0	7,139.9	7,144.5	7,113.0	34.7	13.3	87.67	334.6	-5.9	869.5	822.1	47.34	18.365		
8,300.0	7,139.4	7,143.9	7,112.4	37.1	13.3	87.59	334.6	-5.9	956.6	906.9	49.71	19.243		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.10-T5N-R67W - B&B 10-44 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1488-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
10,600.0	7,126.1	7,182.0	7,137.2	98.2	16.4	89.78	282.6	4,001.3	995.5	882.6	112.89	8.818		
10,700.0	7,125.5	7,181.7	7,136.9	101.0	16.4	89.74	282.6	4,001.3	910.3	794.7	115.64	7.872		
10,800.0	7,125.0	7,181.5	7,136.6	103.7	16.4	89.71	282.6	4,001.3	828.5	710.1	118.40	6.997		
10,900.0	7,124.4	7,181.2	7,136.3	106.5	16.4	89.67	282.6	4,001.3	751.1	629.9	121.16	6.199		
11,000.0	7,123.8	7,180.8	7,136.0	109.2	16.4	89.64	282.6	4,001.3	679.5	555.6	123.93	5.483		
11,100.0	7,123.2	7,180.5	7,135.7	112.0	16.4	89.60	282.6	4,001.3	616.0	489.3	126.69	4.862		
11,200.0	7,122.7	7,180.2	7,135.4	114.8	16.4	89.57	282.7	4,001.3	563.2	433.7	129.46	4.350		
11,300.0	7,122.1	7,179.9	7,135.1	117.5	16.4	89.53	282.7	4,001.3	524.3	392.0	132.23	3.965		
11,400.0	7,121.5	7,179.6	7,134.8	120.3	16.4	89.50	282.7	4,001.3	502.6	367.6	135.00	3.723		
11,461.5	7,121.2	7,179.4	7,134.6	122.0	16.4	89.47	282.7	4,001.3	498.8	362.1	136.71	3.649	CC, ES	
11,500.0	7,120.9	7,179.3	7,134.5	123.1	16.4	89.46	282.7	4,001.3	500.3	362.5	137.77	3.631	SF	
11,600.0	7,120.4	7,179.0	7,134.1	125.9	16.4	89.42	282.7	4,001.3	517.6	377.1	140.55	3.683		
11,700.0	7,119.8	7,178.7	7,133.8	128.6	16.4	89.39	282.7	4,001.3	552.9	409.5	143.32	3.857		
11,800.0	7,119.2	7,178.3	7,133.5	131.4	16.4	89.35	282.7	4,001.3	602.8	456.7	146.10	4.126		
11,900.0	7,118.6	7,178.0	7,133.2	134.2	16.4	89.31	282.7	4,001.3	664.1	515.2	148.88	4.461		
12,000.0	7,118.0	7,177.7	7,132.8	137.0	16.4	89.27	282.7	4,001.3	734.0	582.3	151.66	4.840		
12,100.0	7,117.5	7,177.3	7,132.5	139.7	16.4	89.24	282.7	4,001.3	810.2	655.8	154.44	5.246		
12,200.0	7,116.9	7,177.0	7,132.2	142.5	16.4	89.20	282.7	4,001.3	891.1	733.9	157.22	5.668		
12,300.0	7,116.3	7,176.7	7,131.8	145.3	16.4	89.16	282.7	4,001.3	975.6	815.6	160.00	6.098		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.10-T5N-R67W - Highpointe 10D (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1400-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
9,800.0	7,130.7	7,138.8	7,137.2	76.3	12.7	-93.33	869.5	3,327.1	991.2	902.6	88.56	11.193		
9,900.0	7,130.1	7,138.4	7,136.8	79.0	12.7	-93.09	869.5	3,327.1	891.6	800.3	91.31	9.765		
10,000.0	7,129.6	7,138.0	7,136.4	81.8	12.7	-92.84	869.6	3,327.1	792.2	698.1	94.06	8.422		
10,100.0	7,129.0	7,137.6	7,136.0	84.5	12.7	-92.60	869.6	3,327.1	692.9	596.1	96.82	7.157		
10,200.0	7,128.4	7,137.2	7,135.7	87.2	12.7	-92.35	869.6	3,327.1	593.8	494.3	99.58	5.963		
10,300.0	7,127.8	7,136.9	7,135.3	90.0	12.7	-92.10	869.6	3,327.1	495.2	392.8	102.35	4.838		
10,400.0	7,127.3	7,136.5	7,134.9	92.7	12.7	-91.85	869.6	3,327.1	397.2	292.1	105.11	3.778		
10,500.0	7,126.7	7,136.1	7,134.5	95.5	12.7	-91.60	869.6	3,327.1	300.5	192.6	107.89	2.785		
10,600.0	7,126.1	7,135.7	7,134.1	98.2	12.7	-91.35	869.6	3,327.1	207.0	96.3	110.66	1.870		
10,700.0	7,125.5	7,135.3	7,133.7	101.0	12.7	-91.10	869.6	3,327.1	124.1	10.6	113.43	1.094	Level 2	
10,787.2	7,125.0	7,135.0	7,133.4	103.4	12.7	-90.88	869.6	3,327.1	88.2	-27.7	115.85	0.761	Level 1, CC, ES, SF	
10,800.0	7,125.0	7,134.9	7,133.3	103.7	12.7	-90.85	869.6	3,327.1	89.1	-27.1	116.21	0.767	Level 1	
10,900.0	7,124.4	7,134.5	7,133.0	106.5	12.7	-90.60	869.6	3,327.1	143.1	24.2	118.99	1.203	Level 2	
11,000.0	7,123.8	7,134.1	7,132.6	109.2	12.7	-90.34	869.6	3,327.1	230.3	108.5	121.76	1.891		
11,100.0	7,123.2	7,133.8	7,132.2	112.0	12.7	-90.09	869.6	3,327.1	324.9	200.4	124.54	2.609		
11,200.0	7,122.7	7,133.4	7,131.8	114.8	12.7	-89.83	869.6	3,327.1	422.1	294.7	127.32	3.315		
11,300.0	7,122.1	7,133.0	7,131.4	117.5	12.7	-89.58	869.6	3,327.1	520.3	390.2	130.09	3.999		
11,400.0	7,121.5	7,132.6	7,131.0	120.3	12.7	-89.32	869.6	3,327.1	619.1	486.2	132.87	4.659		
11,500.0	7,120.9	7,132.2	7,130.6	123.1	12.7	-89.06	869.6	3,327.1	718.2	582.5	135.64	5.295		
11,600.0	7,120.4	7,131.8	7,130.2	125.9	12.7	-88.80	869.6	3,327.1	817.5	679.1	138.42	5.906		
11,700.0	7,119.8	7,131.4	7,129.8	128.6	12.7	-88.55	869.7	3,327.1	917.0	775.8	141.19	6.495		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10H-232 - Wellbore #1 - Plan															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	13.9	13.9	13.9	0.00	N/A			
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	13.9	13.9	13.7	0.22	61.951			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	13.9	13.9	13.3	0.67	20.650 CC			
300.0	300.0	300.0	300.0	0.6	0.6	129.90	0.0	13.9	14.7	13.6	1.13	13.083			
400.0	399.9	399.9	399.9	0.8	0.8	139.77	0.0	13.9	17.5	15.9	1.59	11.041			
500.0	499.7	499.7	499.7	1.0	1.0	150.36	0.0	13.9	22.9	20.8	2.05	11.145			
600.0	599.3	599.3	599.3	1.3	1.2	158.65	0.0	13.9	31.2	28.7	2.53	12.347			
700.0	698.6	698.6	698.6	1.6	1.5	164.40	0.0	13.9	42.4	39.4	3.00	14.135			
800.0	797.5	797.5	797.5	1.9	1.7	168.29	0.0	13.9	56.3	52.8	3.47	16.248			
873.0	869.5	870.7	870.7	2.1	1.8	170.50	0.3	13.4	67.6	63.8	3.80	17.772			
900.0	896.1	897.9	897.9	2.2	1.9	171.27	0.6	12.8	71.7	67.8	3.92	18.284			
1,000.0	994.6	998.8	998.8	2.6	2.1	173.85	2.5	9.4	85.4	81.1	4.36	19.588			
1,100.0	1,093.0	1,100.4	1,100.1	3.0	2.3	176.29	5.7	3.6	96.9	92.0	4.82	20.113			
1,200.0	1,191.5	1,202.4	1,201.6	3.4	2.6	178.79	10.2	-4.6	106.0	100.7	5.28	20.058			
1,300.0	1,289.9	1,304.7	1,303.2	3.7	2.9	-178.50	16.1	-15.2	112.9	107.1	5.77	19.565			
1,400.0	1,388.4	1,406.9	1,404.3	4.1	3.1	-175.46	23.2	-28.2	117.6	111.4	6.28	18.739			
1,500.0	1,486.8	1,506.6	1,502.8	4.5	3.4	-172.46	30.7	-41.8	121.8	114.9	6.81	17.881			
1,600.0	1,585.3	1,606.3	1,601.3	4.9	3.8	-169.65	38.3	-55.5	126.2	118.8	7.36	17.135			
1,700.0	1,683.7	1,706.0	1,699.8	5.3	4.1	-167.05	45.8	-69.1	130.9	122.9	7.94	16.484			
1,800.0	1,782.2	1,805.8	1,798.3	5.7	4.4	-164.62	53.3	-82.7	135.9	127.3	8.54	15.909			
1,900.0	1,880.6	1,905.5	1,896.8	6.1	4.8	-162.38	60.8	-96.4	141.0	131.9	9.16	15.402			
2,000.0	1,979.1	2,005.2	1,995.3	6.5	5.1	-160.29	68.3	-110.0	146.4	136.6	9.79	14.953			
2,100.0	2,077.5	2,104.9	2,093.8	6.9	5.4	-158.35	75.9	-123.7	152.0	141.6	10.44	14.554			
2,200.0	2,176.0	2,204.6	2,192.3	7.3	5.8	-156.55	83.4	-137.3	157.7	146.6	11.11	14.199			
2,300.0	2,274.4	2,304.3	2,290.8	7.7	6.1	-154.88	90.9	-150.9	163.6	151.8	11.78	13.883			
2,400.0	2,372.9	2,404.1	2,389.3	8.1	6.5	-153.33	98.4	-164.6	169.6	157.1	12.47	13.600			
2,500.0	2,471.3	2,503.8	2,487.8	8.5	6.8	-151.88	105.9	-178.2	175.7	162.6	13.17	13.347			
2,600.0	2,569.8	2,603.5	2,586.3	8.9	7.2	-150.53	113.5	-191.8	181.9	168.1	13.87	13.119			
2,700.0	2,668.2	2,703.2	2,684.8	9.3	7.6	-149.28	121.0	-205.5	188.3	173.7	14.58	12.914			
2,800.0	2,766.7	2,802.9	2,783.3	9.6	7.9	-148.10	128.5	-219.1	194.7	179.4	15.29	12.729			
2,900.0	2,865.1	2,902.6	2,881.7	10.0	8.3	-147.00	136.0	-232.7	201.1	185.1	16.01	12.562			
3,000.0	2,963.6	3,002.4	2,980.2	10.4	8.6	-145.96	143.5	-246.4	207.7	191.0	16.74	12.410			
3,100.0	3,062.0	3,102.1	3,078.7	10.8	9.0	-144.99	151.0	-260.0	214.3	196.8	17.46	12.272			
3,200.0	3,160.5	3,201.8	3,177.2	11.2	9.4	-144.08	158.6	-273.7	221.0	202.8	18.19	12.146			
3,300.0	3,259.0	3,301.5	3,275.7	11.6	9.7	-143.23	166.1	-287.3	227.7	208.8	18.93	12.031			
3,400.0	3,357.4	3,401.2	3,374.2	12.0	10.1	-142.42	173.6	-300.9	234.5	214.8	19.66	11.926			
3,500.0	3,455.9	3,501.0	3,472.7	12.4	10.5	-141.65	181.1	-314.6	241.3	220.9	20.40	11.829			
3,600.0	3,554.3	3,600.7	3,571.2	12.8	10.8	-140.93	188.6	-328.2	248.1	227.0	21.14	11.740			
3,700.0	3,652.8	3,700.4	3,669.7	13.2	11.2	-140.25	196.2	-341.8	255.0	233.1	21.88	11.658			
3,800.0	3,751.2	3,800.1	3,768.2	13.6	11.6	-139.61	203.7	-355.5	261.9	239.3	22.62	11.582			
3,900.0	3,849.7	3,899.8	3,866.7	14.0	11.9	-138.99	211.2	-369.1	268.9	245.5	23.36	11.512			
4,000.0	3,948.1	3,999.5	3,965.2	14.4	12.3	-138.41	218.7	-382.7	275.9	251.8	24.10	11.447			
4,100.0	4,046.6	4,099.3	4,063.7	14.8	12.7	-137.86	226.2	-396.4	282.9	258.1	24.84	11.387			
4,200.0	4,145.0	4,199.0	4,162.2	15.2	13.0	-137.33	233.8	-410.0	289.9	264.3	25.59	11.330			
4,300.0	4,243.5	4,298.7	4,260.7	15.6	13.4	-136.83	241.3	-423.7	297.0	270.7	26.33	11.278			
4,400.0	4,341.9	4,398.4	4,359.2	16.0	13.8	-136.35	248.8	-437.3	304.1	277.0	27.08	11.229			
4,500.0	4,440.4	4,498.1	4,457.7	16.4	14.1	-135.90	256.3	-450.9	311.2	283.4	27.83	11.183			
4,600.0	4,538.8	4,597.8	4,556.1	16.8	14.5	-135.46	263.8	-464.6	318.3	289.7	28.57	11.140			
4,700.0	4,637.3	4,697.6	4,654.6	17.2	14.9	-135.04	271.3	-478.2	325.4	296.1	29.32	11.100			
4,800.0	4,735.7	4,797.3	4,753.1	17.6	15.2	-134.64	278.9	-491.8	332.6	302.5	30.07	11.063			
4,900.0	4,834.2	4,897.0	4,851.6	18.0	15.6	-134.26	286.4	-505.5	339.8	309.0	30.81	11.027			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
	Sec.10-T5N-RR67W		
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10H-232 - Wellbore #1 - Plan															
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,932.6	4,996.7	4,950.1	18.4	16.0	-133.90	293.9	-519.1	347.0	315.4	31.56	10.994			
5,100.0	5,031.1	5,096.4	5,048.6	18.8	16.3	-133.55	301.4	-532.7	354.1	321.8	32.31	10.962			
5,200.0	5,129.5	5,192.5	5,143.7	19.2	16.6	-133.44	308.0	-544.6	361.8	328.9	32.95	10.981			
5,300.0	5,228.0	5,288.2	5,238.9	19.6	16.8	-133.82	312.9	-553.6	370.6	337.1	33.45	11.078			
5,400.0	5,326.4	5,383.5	5,333.8	20.0	17.0	-134.63	316.4	-559.9	380.5	346.6	33.86	11.237			
5,500.0	5,424.9	5,478.1	5,428.4	20.4	17.2	-135.82	318.3	-563.3	391.6	357.4	34.16	11.462			
5,600.0	5,523.3	5,573.0	5,523.3	20.8	17.3	-137.36	318.7	-564.1	404.0	369.7	34.38	11.751			
5,700.0	5,621.8	5,671.5	5,621.8	21.2	17.5	-138.98	318.7	-564.1	417.2	382.6	34.60	12.058			
5,777.3	5,697.9	5,747.6	5,697.9	21.5	17.6	-140.17	318.7	-564.1	427.6	392.8	34.77	12.297			
5,800.0	5,720.3	5,770.0	5,720.3	21.6	17.6	-140.54	318.7	-564.1	430.6	395.8	34.81	12.368			
5,900.0	5,819.1	5,868.8	5,819.1	21.8	17.8	-141.91	318.7	-564.1	442.4	407.4	34.99	12.643			
6,000.0	5,918.4	5,968.1	5,918.4	22.1	17.9	-142.93	318.7	-564.1	451.5	416.4	35.18	12.835			
6,100.0	6,018.1	6,067.8	6,018.1	22.3	18.1	-143.61	318.7	-564.1	458.0	422.6	35.39	12.943			
6,200.0	6,118.0	6,167.7	6,118.0	22.4	18.3	-144.00	318.7	-564.1	461.8	426.1	35.61	12.968			
6,282.0	6,200.0	6,249.7	6,200.0	22.6	18.4	-179.87	318.7	-564.1	462.7	427.4	35.32	13.101			
6,300.0	6,218.0	6,267.7	6,218.0	22.6	18.4	-179.87	318.7	-564.1	462.7	427.3	35.38	13.079			
6,400.0	6,318.0	6,367.7	6,318.0	22.7	18.6	-179.89	318.7	-563.9	462.7	427.0	35.71	12.956			
6,424.0	6,342.0	6,391.7	6,342.0	22.7	18.6	180.00	318.7	-563.0	462.7	426.9	35.81	12.921			
6,461.1	6,379.1	6,428.6	6,378.8	22.8	18.6	179.65	318.7	-560.1	462.7	426.7	35.98	12.859			
6,500.0	6,418.0	6,467.1	6,416.9	22.8	18.6	89.16	318.7	-555.3	462.8	426.5	36.24	12.770			
6,550.0	6,467.8	6,516.2	6,465.3	22.9	18.6	88.55	318.7	-546.3	462.9	426.7	36.16	12.799			
6,600.0	6,517.2	6,565.1	6,512.6	22.9	18.6	87.94	318.7	-534.3	463.0	427.0	36.05	12.843			
6,650.0	6,566.1	6,613.6	6,558.8	22.9	18.6	87.34	318.7	-519.4	463.2	427.3	35.90	12.901			
6,700.0	6,614.1	6,661.9	6,603.7	22.8	18.5	86.75	318.7	-501.7	463.5	427.7	35.73	12.970			
6,750.0	6,661.2	6,709.9	6,647.1	22.8	18.5	86.18	318.7	-481.4	463.7	428.2	35.55	13.045			
6,800.0	6,707.0	6,757.6	6,689.0	22.7	18.4	85.63	318.7	-458.5	464.1	428.7	35.36	13.122			
6,850.0	6,751.4	6,805.1	6,729.1	22.7	18.4	85.10	318.7	-433.1	464.4	429.2	35.19	13.198			
6,900.0	6,794.2	6,852.3	6,767.4	22.6	18.3	84.59	318.7	-405.5	464.8	429.8	35.03	13.266			
6,950.0	6,835.3	6,900.0	6,804.3	22.5	18.2	84.09	318.7	-375.2	465.2	430.3	34.92	13.321			
7,000.0	6,874.4	6,946.1	6,838.1	22.4	18.2	83.64	318.7	-343.8	465.6	430.7	34.87	13.353			
7,050.0	6,911.4	6,992.7	6,870.2	22.3	18.2	83.20	318.7	-310.1	466.0	431.1	34.89	13.358			
7,100.0	6,946.1	7,039.1	6,900.1	22.2	18.3	82.79	318.7	-274.6	466.4	431.4	34.99	13.328			
7,150.0	6,978.3	7,085.4	6,927.7	22.1	18.3	82.42	318.7	-237.5	466.8	431.6	35.21	13.257			
7,200.0	7,008.1	7,131.5	6,953.0	22.0	18.5	82.07	318.7	-199.0	467.2	431.6	35.55	13.142			
7,250.0	7,035.1	7,177.5	6,975.8	21.9	18.6	81.75	318.7	-159.0	467.5	431.5	36.02	12.981			
7,300.0	7,059.3	7,223.3	6,996.1	21.9	18.9	81.47	318.7	-118.0	467.9	431.3	36.63	12.774			
7,350.0	7,080.6	7,269.1	7,013.9	21.8	19.3	81.22	318.7	-75.8	468.2	430.8	37.38	12.524			
7,400.0	7,098.8	7,314.7	7,029.1	21.7	19.7	81.01	318.7	-32.8	468.5	430.2	38.29	12.236			
7,450.0	7,114.0	7,360.3	7,041.6	21.7	20.2	80.83	318.7	11.0	468.7	429.4	39.33	11.917			
7,500.0	7,126.1	7,405.8	7,051.6	21.7	20.7	80.69	318.7	55.4	468.9	428.4	40.51	11.576			
7,550.0	7,135.0	7,450.0	7,058.7	21.9	21.4	80.58	318.7	99.0	469.0	427.2	41.79	11.224			
7,600.0	7,140.6	7,496.6	7,063.4	22.4	22.1	80.51	318.7	145.4	469.1	425.9	43.22	10.854			
7,650.0	7,142.9	7,542.0	7,065.3	23.2	22.8	80.47	318.7	190.8	469.2	424.4	44.73	10.489			
7,665.5	7,143.0	7,556.3	7,065.3	23.4	23.0	80.47	318.7	205.0	469.2	424.0	45.21	10.377			
7,700.0	7,142.8	7,590.8	7,065.2	24.0	23.6	80.48	318.7	239.6	469.2	422.8	46.38	10.115			
7,800.0	7,142.2	7,690.8	7,064.8	25.9	25.5	80.50	318.7	339.6	469.1	419.1	50.02	9.379			
7,900.0	7,141.7	7,790.8	7,064.4	27.9	27.5	80.53	318.7	439.6	469.1	415.1	53.98	8.691			
8,000.0	7,141.1	7,890.8	7,064.1	30.1	29.7	80.55	318.7	539.6	469.1	410.9	58.20	8.060			
8,100.0	7,140.5	7,990.8	7,063.7	32.3	31.9	80.57	318.7	639.6	469.0	406.4	62.62	7.490			
8,200.0	7,139.9	8,090.8	7,063.3	34.7	34.2	80.59	318.7	739.6	469.0	401.8	67.22	6.978			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design		High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10H-232 - Wellbore #1 - Plan											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
8,300.0	7,139.4	8,190.8	7,062.9	37.1	36.6	80.62	318.7	839.6	469.0	397.0	71.94	6.519			
8,400.0	7,138.8	8,290.8	7,062.5	39.5	39.1	80.64	318.7	939.6	468.9	392.2	76.78	6.107			
8,500.0	7,138.2	8,390.8	7,062.1	42.0	41.6	80.66	318.7	1,039.5	468.9	387.2	81.71	5.739			
8,600.0	7,137.6	8,490.8	7,061.8	44.5	44.1	80.69	318.7	1,139.5	468.9	382.2	86.72	5.407			
8,700.0	7,137.1	8,590.8	7,061.4	47.1	46.7	80.71	318.7	1,239.5	468.8	377.1	91.78	5.108			
8,800.0	7,136.5	8,690.8	7,061.0	49.6	49.3	80.73	318.7	1,339.5	468.8	371.9	96.91	4.838			
8,900.0	7,135.9	8,790.8	7,060.6	52.2	51.9	80.76	318.7	1,439.5	468.8	366.7	102.07	4.593			
9,000.0	7,135.3	8,890.8	7,060.2	54.9	54.5	80.78	318.7	1,539.5	468.8	361.5	107.28	4.370			
9,100.0	7,134.8	8,990.8	7,059.8	57.5	57.2	80.80	318.7	1,639.5	468.7	356.2	112.52	4.166			
9,200.0	7,134.2	9,090.8	7,059.5	60.2	59.8	80.83	318.7	1,739.5	468.7	350.9	117.79	3.979			
9,300.0	7,133.6	9,190.8	7,059.1	62.8	62.5	80.85	318.7	1,839.5	468.7	345.6	123.08	3.808			
9,400.0	7,133.0	9,290.8	7,058.7	65.5	65.2	80.87	318.7	1,939.5	468.6	340.2	128.40	3.650			
9,500.0	7,132.4	9,390.8	7,058.3	68.2	67.9	80.90	318.7	2,039.5	468.6	334.9	133.73	3.504			
9,600.0	7,131.9	9,490.8	7,057.9	70.9	70.6	80.92	318.7	2,139.5	468.6	329.5	139.09	3.369			
9,700.0	7,131.3	9,590.8	7,057.5	73.6	73.3	80.94	318.7	2,239.5	468.5	324.1	144.46	3.243			
9,800.0	7,130.7	9,690.8	7,057.1	76.3	76.0	80.97	318.7	2,339.5	468.5	318.7	149.84	3.127			
9,900.0	7,130.1	9,790.8	7,056.8	79.0	78.7	80.99	318.7	2,439.5	468.5	313.2	155.24	3.018			
10,000.0	7,129.6	9,890.8	7,056.4	81.8	81.5	81.01	318.7	2,539.5	468.4	307.8	160.65	2.916			
10,100.0	7,129.0	9,990.8	7,056.0	84.5	84.2	81.03	318.7	2,639.5	468.4	302.3	166.07	2.821			
10,200.0	7,128.4	10,090.8	7,055.6	87.2	86.9	81.06	318.7	2,739.5	468.4	296.9	171.50	2.731			
10,300.0	7,127.8	10,190.8	7,055.2	90.0	89.7	81.08	318.7	2,839.5	468.4	291.4	176.93	2.647			
10,400.0	7,127.3	10,290.8	7,054.8	92.7	92.4	81.10	318.7	2,939.5	468.3	285.9	182.38	2.568			
10,500.0	7,126.7	10,390.8	7,054.5	95.5	95.2	81.13	318.7	3,039.5	468.3	280.5	187.83	2.493			
10,600.0	7,126.1	10,490.8	7,054.1	98.2	97.9	81.15	318.7	3,139.5	468.3	275.0	193.29	2.423			
10,700.0	7,125.5	10,590.8	7,053.7	101.0	100.7	81.17	318.7	3,239.5	468.2	269.5	198.76	2.356			
10,800.0	7,125.0	10,690.8	7,053.3	103.7	103.4	81.20	318.7	3,339.5	468.2	264.0	204.23	2.293			
10,900.0	7,124.4	10,790.8	7,052.9	106.5	106.2	81.22	318.7	3,439.5	468.2	258.5	209.71	2.233			
11,000.0	7,123.8	10,890.8	7,052.5	109.2	109.0	81.24	318.7	3,539.5	468.1	253.0	215.19	2.176			
11,100.0	7,123.2	10,990.8	7,052.2	112.0	111.7	81.27	318.7	3,639.5	468.1	247.4	220.68	2.121			
11,200.0	7,122.7	11,090.8	7,051.8	114.8	114.5	81.29	318.7	3,739.5	468.1	241.9	226.17	2.070			
11,300.0	7,122.1	11,190.8	7,051.4	117.5	117.3	81.31	318.7	3,839.5	468.1	236.4	231.66	2.020			
11,400.0	7,121.5	11,290.8	7,051.0	120.3	120.0	81.34	318.7	3,939.5	468.0	230.9	237.16	1.973			
11,500.0	7,120.9	11,390.8	7,050.6	123.1	122.8	81.36	318.7	4,039.5	468.0	225.3	242.67	1.929			
11,600.0	7,120.4	11,490.8	7,050.2	125.9	125.6	81.38	318.7	4,139.5	468.0	219.8	248.17	1.886			
11,700.0	7,119.8	11,590.8	7,049.9	128.6	128.4	81.41	318.7	4,239.5	467.9	214.3	253.68	1.845			
11,800.0	7,119.2	11,690.8	7,049.5	131.4	131.1	81.43	318.7	4,339.5	467.9	208.7	259.20	1.805			
11,900.0	7,118.6	11,790.8	7,049.1	134.2	133.9	81.45	318.7	4,439.5	467.9	203.2	264.71	1.768			
12,000.0	7,118.0	11,890.8	7,048.7	137.0	136.7	81.48	318.7	4,539.5	467.9	197.6	270.23	1.731			
12,100.0	7,117.5	11,990.8	7,048.3	139.7	139.5	81.50	318.7	4,639.5	467.8	192.1	275.75	1.697			
12,200.0	7,116.9	12,090.8	7,047.9	142.5	142.3	81.52	318.7	4,739.5	467.8	186.5	281.28	1.663			
12,300.0	7,116.3	12,190.8	7,047.5	145.3	145.0	81.55	318.7	4,839.5	467.8	181.0	286.80	1.631			
12,400.0	7,115.7	12,290.8	7,047.2	148.1	147.8	81.57	318.7	4,939.5	467.7	175.4	292.33	1.600			
12,500.0	7,115.2	12,390.8	7,046.8	150.9	150.6	81.59	318.7	5,039.5	467.7	169.9	297.86	1.570			
12,600.0	7,114.6	12,490.8	7,046.4	153.7	153.4	81.62	318.7	5,139.5	467.7	164.3	303.39	1.542			
12,700.0	7,114.0	12,590.8	7,046.0	156.4	156.2	81.64	318.7	5,239.5	467.7	158.7	308.93	1.514			
12,800.0	7,113.4	12,690.8	7,045.6	159.2	159.0	81.66	318.7	5,339.5	467.6	153.2	314.47	1.487 Level 3			
12,900.0	7,112.9	12,790.8	7,045.2	162.0	161.7	81.69	318.7	5,439.5	467.6	147.6	320.01	1.461 Level 3			
13,000.0	7,112.3	12,890.8	7,044.9	164.8	164.5	81.71	318.7	5,539.5	467.6	142.0	325.55	1.436 Level 3			
13,100.0	7,111.7	12,990.8	7,044.5	167.6	167.3	81.73	318.7	5,639.5	467.5	136.5	331.09	1.412 Level 3			
13,200.0	7,111.1	13,090.8	7,044.1	170.4	170.1	81.76	318.7	5,739.5	467.5	130.9	336.63	1.389 Level 3			
13,300.0	7,110.6	13,190.8	7,043.7	173.2	172.9	81.78	318.7	5,839.5	467.5	125.3	342.18	1.366 Level 3			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
13,400.0	7,110.0	13,290.8	7,043.3	176.0	175.7	81.80	318.7	5,939.5	467.5	119.7	347.73	1.344	Level 3		
13,500.0	7,109.4	13,390.8	7,042.9	178.8	178.5	81.82	318.7	6,039.5	467.4	114.2	353.28	1.323	Level 3		
13,600.0	7,108.8	13,490.8	7,042.6	181.6	181.3	81.85	318.7	6,139.5	467.4	108.6	358.83	1.303	Level 3		
13,700.0	7,108.3	13,590.8	7,042.2	184.3	184.0	81.87	318.7	6,239.5	467.4	103.0	364.38	1.283	Level 3		
13,800.0	7,107.7	13,690.8	7,041.8	187.1	186.8	81.89	318.7	6,339.5	467.4	97.4	369.93	1.263	Level 3		
13,900.0	7,107.1	13,790.8	7,041.4	189.9	189.6	81.92	318.7	6,439.5	467.3	91.8	375.49	1.245	Level 2		
14,000.0	7,106.5	13,890.8	7,041.0	192.7	192.4	81.94	318.7	6,539.5	467.3	86.3	381.04	1.226	Level 2		
14,100.0	7,106.0	13,990.8	7,040.6	195.5	195.2	81.96	318.7	6,639.5	467.3	80.7	386.60	1.209	Level 2		
14,200.0	7,105.4	14,090.8	7,040.3	198.3	198.0	81.99	318.7	6,739.5	467.2	75.1	392.16	1.191	Level 2		
14,300.0	7,104.8	14,190.8	7,039.9	201.1	200.8	82.01	318.7	6,839.5	467.2	69.5	397.72	1.175	Level 2		
14,400.0	7,104.2	14,290.8	7,039.5	203.9	203.6	82.03	318.7	6,939.5	467.2	63.9	403.28	1.158	Level 2		
14,500.0	7,103.7	14,390.8	7,039.1	206.7	206.4	82.06	318.7	7,039.5	467.2	58.3	408.84	1.143	Level 2		
14,600.0	7,103.1	14,490.8	7,038.7	209.5	209.2	82.08	318.7	7,139.5	467.1	52.7	414.40	1.127	Level 2		
14,700.0	7,102.5	14,590.8	7,038.3	212.3	212.0	82.10	318.7	7,239.5	467.1	47.1	419.97	1.112	Level 2		
14,800.0	7,101.9	14,690.8	7,038.0	215.1	214.8	82.13	318.7	7,339.5	467.1	41.5	425.53	1.098	Level 2		
14,900.0	7,101.3	14,790.8	7,037.6	217.9	217.6	82.15	318.7	7,439.5	467.1	36.0	431.10	1.083	Level 2		
15,000.0	7,100.8	14,890.8	7,037.2	220.7	220.4	82.17	318.7	7,539.5	467.0	30.4	436.67	1.070	Level 2		
15,100.0	7,100.2	14,990.8	7,036.8	223.5	223.2	82.20	318.7	7,639.5	467.0	24.8	442.24	1.056	Level 2		
15,200.0	7,099.6	15,090.8	7,036.4	226.3	225.9	82.22	318.7	7,739.5	467.0	19.2	447.81	1.043	Level 2		
15,300.0	7,099.0	15,190.8	7,036.0	229.1	228.7	82.24	318.7	7,839.5	467.0	13.6	453.38	1.030	Level 2		
15,400.0	7,098.5	15,290.8	7,035.6	231.9	231.5	82.27	318.7	7,939.5	466.9	8.0	458.95	1.017	Level 2		
15,500.0	7,097.9	15,390.8	7,035.3	234.7	234.3	82.29	318.7	8,039.5	466.9	2.4	464.52	1.005	Level 2		
15,600.0	7,097.3	15,490.8	7,034.9	237.5	237.1	82.31	318.7	8,139.5	466.9	-3.2	470.10	0.993	Level 1		
15,700.0	7,096.7	15,590.8	7,034.5	240.3	239.9	82.34	318.7	8,239.5	466.8	-8.8	475.67	0.981	Level 1		
15,800.0	7,096.2	15,690.8	7,034.1	243.1	242.7	82.36	318.7	8,339.5	466.8	-14.4	481.24	0.970	Level 1		
15,900.0	7,095.6	15,790.8	7,033.7	245.9	245.5	82.38	318.7	8,439.5	466.8	-20.0	486.82	0.959	Level 1		
16,000.0	7,095.0	15,890.8	7,033.3	248.7	248.3	82.41	318.7	8,539.5	466.8	-25.6	492.40	0.948	Level 1		
16,100.0	7,094.4	15,990.8	7,033.0	251.5	251.1	82.43	318.7	8,639.5	466.7	-31.2	497.98	0.937	Level 1		
16,200.0	7,093.9	16,090.8	7,032.6	254.3	253.9	82.45	318.7	8,739.5	466.7	-36.8	503.55	0.927	Level 1		
16,300.0	7,093.3	16,190.8	7,032.2	257.1	256.7	82.48	318.7	8,839.5	466.7	-42.4	509.13	0.917	Level 1		
16,400.0	7,092.7	16,290.8	7,031.8	259.9	259.5	82.50	318.8	8,939.5	466.7	-48.0	514.71	0.907	Level 1		
16,500.0	7,092.1	16,390.8	7,031.4	262.7	262.3	82.52	318.8	9,039.5	466.6	-53.7	520.29	0.897	Level 1		
16,600.0	7,091.6	16,490.8	7,031.0	265.5	265.1	82.55	318.8	9,139.5	466.6	-59.3	525.88	0.887	Level 1		
16,700.0	7,091.0	16,590.8	7,030.7	268.3	267.9	82.57	318.8	9,239.5	466.6	-64.9	531.46	0.878	Level 1		
16,800.0	7,090.4	16,690.8	7,030.3	271.1	270.7	82.59	318.8	9,339.5	466.6	-70.5	537.04	0.869	Level 1		
16,870.2	7,090.0	16,761.0	7,030.0	273.0	272.7	82.61	318.8	9,409.6	466.6	-74.4	540.96	0.862	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10I-202 - Wellbore #1 - Plan #															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	30.6	30.6						
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	30.6	30.6	30.4	0.22	136.292			
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	30.6	30.6	30.0	0.67	45.431 CC, ES			
300.0	300.0	300.0	300.0	0.6	0.6	127.72	0.0	30.6	31.4	30.3	1.13	27.917			
400.0	399.9	399.9	399.9	0.8	0.8	132.93	0.0	30.6	34.0	32.4	1.58	21.458			
500.0	499.7	499.7	499.7	1.0	1.0	139.98	0.0	30.6	38.7	36.7	2.05	18.893			
600.0	599.3	599.3	599.3	1.3	1.2	147.25	0.0	30.6	46.1	43.6	2.52	18.280 SF			
700.0	698.6	698.6	698.6	1.6	1.5	153.65	0.0	30.6	56.4	53.4	3.00	18.806			
800.0	797.5	797.5	797.5	1.9	1.7	158.82	0.0	30.6	69.5	66.1	3.47	20.030			
873.0	869.5	869.5	869.5	2.1	1.8	161.86	0.0	30.6	81.0	77.1	3.82	21.212			
900.0	896.1	896.1	896.1	2.2	1.9	162.85	0.0	30.6	85.5	81.5	3.94	21.699			
1,000.0	994.6	994.6	994.6	2.6	2.1	165.74	0.0	30.6	102.4	98.0	4.39	23.298			
1,100.0	1,093.0	1,094.2	1,094.2	3.0	2.3	168.34	-0.5	29.6	119.0	114.1	4.83	24.614			
1,200.0	1,191.5	1,194.1	1,194.0	3.4	2.5	171.34	-1.9	26.1	134.8	129.5	5.26	25.624			
1,300.0	1,289.9	1,293.9	1,293.6	3.7	2.7	174.64	-4.3	20.2	150.0	144.3	5.70	26.329			
1,400.0	1,388.4	1,393.5	1,392.8	4.1	2.9	178.19	-7.8	11.9	164.9	158.8	6.16	26.792			
1,500.0	1,486.8	1,492.8	1,491.4	4.5	3.2	-178.05	-12.2	1.3	179.8	173.2	6.64	27.067			
1,600.0	1,585.3	1,591.2	1,588.9	4.9	3.4	-174.27	-17.4	-11.2	195.1	187.9	7.17	27.212			
1,700.0	1,683.7	1,689.3	1,686.0	5.3	3.7	-170.98	-22.6	-23.9	211.0	203.3	7.72	27.327			
1,800.0	1,782.2	1,787.3	1,783.1	5.7	4.0	-168.16	-27.9	-36.6	227.5	219.3	8.30	27.429			
1,900.0	1,880.6	1,885.3	1,880.1	6.1	4.3	-165.72	-33.2	-49.3	244.5	235.7	8.89	27.522			
2,000.0	1,979.1	1,983.4	1,977.2	6.5	4.6	-163.60	-38.4	-62.1	261.9	252.4	9.49	27.604			
2,100.0	2,077.5	2,081.4	2,074.3	6.9	4.9	-161.74	-43.7	-74.8	279.6	269.5	10.10	27.684			
2,200.0	2,176.0	2,179.5	2,171.3	7.3	5.2	-160.10	-49.0	-87.5	297.5	286.8	10.72	27.758			
2,300.0	2,274.4	2,277.5	2,268.4	7.7	5.5	-158.65	-54.3	-100.2	315.7	304.3	11.34	27.828			
2,400.0	2,372.9	2,375.6	2,365.5	8.1	5.9	-157.36	-59.5	-112.9	334.0	322.0	11.97	27.895			
2,500.0	2,471.3	2,473.6	2,462.6	8.5	6.2	-156.20	-64.8	-125.6	352.5	339.9	12.61	27.960			
2,600.0	2,569.8	2,571.6	2,559.6	8.9	6.5	-155.15	-70.1	-138.3	371.1	357.8	13.24	28.021			
2,700.0	2,668.2	2,669.7	2,656.7	9.3	6.8	-154.21	-75.3	-151.0	389.8	375.9	13.88	28.080			
2,800.0	2,766.7	2,767.7	2,753.8	9.6	7.2	-153.35	-80.6	-163.7	408.6	394.1	14.52	28.137			
2,900.0	2,865.1	2,865.8	2,850.8	10.0	7.5	-152.57	-85.9	-176.5	427.5	412.3	15.16	28.191			
3,000.0	2,963.6	2,963.8	2,947.9	10.4	7.8	-151.85	-91.2	-189.2	446.4	430.6	15.81	28.243			
3,100.0	3,062.0	3,061.8	3,045.0	10.8	8.2	-151.19	-96.4	-201.9	465.4	449.0	16.45	28.293			
3,200.0	3,160.5	3,159.9	3,142.1	11.2	8.5	-150.59	-101.7	-214.6	484.5	467.4	17.09	28.341			
3,300.0	3,259.0	3,257.9	3,239.1	11.6	8.8	-150.03	-107.0	-227.3	503.6	485.9	17.74	28.387			
3,400.0	3,357.4	3,356.0	3,336.2	12.0	9.2	-149.51	-112.2	-240.0	522.8	504.4	18.39	28.431			
3,500.0	3,455.9	3,454.0	3,433.3	12.4	9.5	-149.02	-117.5	-252.7	542.0	522.9	19.03	28.474			
3,600.0	3,554.3	3,552.0	3,530.3	12.8	9.8	-148.57	-122.8	-265.4	561.2	541.5	19.68	28.514			
3,700.0	3,652.8	3,650.1	3,627.4	13.2	10.2	-148.15	-128.0	-278.1	580.4	560.1	20.33	28.554			
3,800.0	3,751.2	3,748.1	3,724.5	13.6	10.5	-147.76	-133.3	-290.9	599.7	578.8	20.98	28.591			
3,900.0	3,849.7	3,846.2	3,821.5	14.0	10.9	-147.39	-138.6	-303.6	619.1	597.4	21.62	28.627			
4,000.0	3,948.1	3,944.2	3,918.6	14.4	11.2	-147.05	-143.9	-316.3	638.4	616.1	22.27	28.662			
4,100.0	4,046.6	4,042.3	4,015.7	14.8	11.5	-146.72	-149.1	-329.0	657.7	634.8	22.92	28.695			
4,200.0	4,145.0	4,140.3	4,112.8	15.2	11.9	-146.41	-154.4	-341.7	677.1	653.6	23.57	28.727			
4,300.0	4,243.5	4,238.3	4,209.8	15.6	12.2	-146.12	-159.7	-354.4	696.5	672.3	24.22	28.758			
4,400.0	4,341.9	4,336.4	4,306.9	16.0	12.6	-145.85	-164.9	-367.1	715.9	691.1	24.87	28.788			
4,500.0	4,440.4	4,434.4	4,404.0	16.4	12.9	-145.59	-170.2	-379.8	735.4	709.8	25.52	28.817			
4,600.0	4,538.8	4,532.5	4,501.0	16.8	13.2	-145.34	-175.5	-392.5	754.8	728.6	26.17	28.844			
4,700.0	4,637.3	4,630.5	4,598.1	17.2	13.6	-145.11	-180.8	-405.3	774.3	747.4	26.82	28.871			
4,800.0	4,735.7	4,728.5	4,695.2	17.6	13.9	-144.88	-186.0	-418.0	793.7	766.3	27.47	28.896			
4,900.0	4,834.2	4,826.6	4,792.3	18.0	14.3	-144.67	-191.3	-430.7	813.2	785.1	28.12	28.921			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design													High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10I-202 - Wellbore #1 - Plan #		Offset Site Error:		0.0 ft
Survey Program:													0-MWD	Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
5,000.0	4,932.6	4,924.6	4,889.3	18.4	14.6	-144.47	-196.6	-443.4	832.7	803.9	28.77	28.945					
5,100.0	5,031.1	5,022.7	4,986.4	18.8	15.0	-144.27	-201.8	-456.1	852.2	822.8	29.42	28.968					
5,200.0	5,129.5	5,120.7	5,083.5	19.2	15.3	-144.09	-207.1	-468.8	871.7	841.6	30.07	28.991					
5,300.0	5,228.0	5,218.7	5,180.5	19.6	15.6	-143.91	-212.4	-481.5	891.2	860.5	30.72	29.012					
5,400.0	5,326.4	5,316.8	5,277.6	20.0	16.0	-143.75	-217.7	-494.2	910.7	879.4	31.37	29.033					
5,500.0	5,424.9	5,414.8	5,374.7	20.4	16.3	-143.58	-222.9	-506.9	930.3	898.3	32.02	29.053					
5,600.0	5,523.3	5,512.9	5,471.7	20.8	16.7	-143.43	-228.2	-519.7	949.8	917.1	32.67	29.073					
5,700.0	5,621.8	5,610.9	5,568.8	21.2	17.0	-143.28	-233.5	-532.4	969.4	936.0	33.32	29.092					
5,777.3	5,697.9	5,693.9	5,651.0	21.5	17.3	-143.19	-237.7	-542.7	984.3	950.5	33.82	29.105					
5,800.0	5,720.3	5,719.7	5,676.7	21.6	17.3	-143.23	-238.9	-545.5	988.5	954.5	33.96	29.109					

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.01	0.0	44.6	44.6						
100.0	100.0	100.0	100.0	0.1	0.1	90.01	0.0	44.6	44.6	44.3	0.22	198.243			
200.0	200.0	200.0	200.0	0.3	0.3	90.01	0.0	44.6	44.6	43.9	0.67	66.081	CC, ES		
300.0	300.0	300.0	300.0	0.6	0.6	127.12	0.0	44.6	45.3	44.2	1.13	40.290			
400.0	399.9	399.9	399.9	0.8	0.8	130.84	0.0	44.6	47.8	46.2	1.58	30.223			
500.0	499.7	499.7	499.7	1.0	1.0	136.21	0.0	44.6	52.3	50.3	2.05	25.555			
600.0	599.3	599.3	599.3	1.3	1.2	142.27	0.0	44.6	59.3	56.8	2.52	23.514			
700.0	698.6	698.6	698.6	1.6	1.5	148.17	0.0	44.6	69.0	66.0	3.00	22.999			
800.0	797.5	797.5	797.5	1.9	1.7	153.40	0.0	44.6	81.5	78.1	3.48	23.450			
873.0	869.5	869.5	869.5	2.1	1.8	156.68	0.0	44.6	92.5	88.7	3.83	24.193			
900.0	896.1	896.1	896.1	2.2	1.9	157.79	0.0	44.6	96.9	93.0	3.95	24.542			
1,000.0	994.6	994.6	994.6	2.6	2.1	161.13	0.0	44.6	113.4	109.0	4.41	25.722			
1,100.0	1,093.0	1,093.0	1,093.0	3.0	2.3	163.63	0.0	44.6	130.1	125.2	4.87	26.734			
1,200.0	1,191.5	1,191.5	1,191.5	3.4	2.6	165.55	0.0	44.6	147.0	141.7	5.33	27.599			
1,300.0	1,289.9	1,292.0	1,292.0	3.7	2.8	167.26	0.1	43.8	163.5	157.7	5.78	28.288			
1,400.0	1,388.4	1,393.1	1,393.1	4.1	3.0	169.02	0.3	41.3	178.7	172.5	6.22	28.724			
1,500.0	1,486.8	1,494.5	1,494.4	4.5	3.2	170.84	0.6	37.0	192.7	186.1	6.67	28.900			
1,600.0	1,585.3	1,596.1	1,595.8	4.9	3.4	172.74	1.2	30.9	205.6	198.5	7.12	28.862			
1,700.0	1,683.7	1,697.9	1,697.3	5.3	3.6	174.75	1.8	23.0	217.4	209.8	7.59	28.652			
1,800.0	1,782.2	1,799.8	1,798.7	5.7	3.9	176.88	2.7	13.3	228.2	220.1	8.06	28.297			
1,900.0	1,880.6	1,901.8	1,900.0	6.1	4.1	179.13	3.7	1.8	238.0	229.5	8.56	27.819			
2,000.0	1,979.1	2,003.2	2,000.6	6.5	4.4	-178.50	4.8	-11.4	247.1	238.0	9.07	27.243			
2,100.0	2,077.5	2,102.3	2,098.8	6.9	4.7	-176.23	6.0	-25.0	256.2	246.6	9.60	26.684			
2,200.0	2,176.0	2,201.4	2,196.9	7.3	5.0	-174.12	7.1	-38.5	265.6	255.5	10.15	26.175			
2,300.0	2,274.4	2,300.5	2,295.1	7.7	5.3	-172.16	8.3	-52.0	275.4	264.7	10.71	25.710			
2,400.0	2,372.9	2,399.6	2,393.2	8.1	5.6	-170.34	9.5	-65.6	285.5	274.2	11.29	25.286			
2,500.0	2,471.3	2,498.7	2,491.4	8.5	5.9	-168.64	10.6	-79.1	295.9	284.0	11.88	24.898			
2,600.0	2,569.8	2,597.8	2,589.5	8.9	6.2	-167.05	11.8	-92.7	306.5	294.0	12.49	24.544			
2,700.0	2,668.2	2,696.9	2,687.7	9.3	6.5	-165.57	13.0	-106.2	317.3	304.2	13.10	24.220			
2,800.0	2,766.7	2,795.9	2,785.8	9.6	6.8	-164.19	14.1	-119.7	328.3	314.6	13.72	23.923			
2,900.0	2,865.1	2,895.0	2,884.0	10.0	7.1	-162.90	15.3	-133.3	339.5	325.1	14.35	23.651			
3,000.0	2,963.6	2,994.1	2,982.1	10.4	7.4	-161.69	16.5	-146.8	350.8	335.8	14.99	23.402			
3,100.0	3,062.0	3,093.2	3,080.3	10.8	7.8	-160.56	17.6	-160.4	362.3	346.7	15.63	23.174			
3,200.0	3,160.5	3,192.3	3,178.4	11.2	8.1	-159.49	18.8	-173.9	373.9	357.7	16.28	22.964			
3,300.0	3,259.0	3,291.4	3,276.6	11.6	8.4	-158.49	19.9	-187.4	385.7	368.7	16.94	22.771			
3,400.0	3,357.4	3,390.5	3,374.7	12.0	8.7	-157.55	21.1	-201.0	397.5	379.9	17.60	22.593			
3,500.0	3,455.9	3,489.6	3,472.9	12.4	9.1	-156.67	22.3	-214.5	409.5	391.2	18.26	22.429			
3,600.0	3,554.3	3,588.7	3,571.1	12.8	9.4	-155.83	23.4	-228.0	421.5	402.6	18.92	22.278			
3,700.0	3,652.8	3,687.7	3,669.2	13.2	9.7	-155.04	24.6	-241.6	433.7	414.1	19.59	22.138			
3,800.0	3,751.2	3,786.8	3,767.4	13.6	10.0	-154.30	25.8	-255.1	445.9	425.6	20.26	22.009			
3,900.0	3,849.7	3,885.9	3,865.5	14.0	10.4	-153.59	26.9	-268.7	458.2	437.2	20.93	21.889			
4,000.0	3,948.1	3,985.0	3,963.7	14.4	10.7	-152.92	28.1	-282.2	470.5	448.9	21.60	21.777			
4,100.0	4,046.6	4,084.1	4,061.8	14.8	11.0	-152.29	29.3	-295.7	482.9	460.6	22.28	21.674			
4,200.0	4,145.0	4,183.2	4,160.0	15.2	11.4	-151.68	30.4	-309.3	495.4	472.4	22.96	21.577			
4,300.0	4,243.5	4,282.3	4,258.1	15.6	11.7	-151.11	31.6	-322.8	507.9	484.2	23.64	21.488			
4,400.0	4,341.9	4,381.4	4,356.3	16.0	12.0	-150.56	32.8	-336.4	520.4	496.1	24.31	21.404			
4,500.0	4,440.4	4,480.5	4,454.4	16.4	12.4	-150.04	33.9	-349.9	533.0	508.0	24.99	21.325			
4,600.0	4,538.8	4,579.5	4,552.6	16.8	12.7	-149.54	35.1	-363.4	545.7	520.0	25.68	21.252			
4,700.0	4,637.3	4,678.6	4,650.7	17.2	13.0	-149.07	36.3	-377.0	558.3	532.0	26.36	21.183			
4,800.0	4,735.7	4,777.7	4,748.9	17.6	13.4	-148.62	37.4	-390.5	571.1	544.0	27.04	21.119			
4,900.0	4,834.2	4,876.8	4,847.0	18.0	13.7	-148.18	38.6	-404.0	583.8	556.1	27.72	21.058			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W - High Pointe LLC 10I-312 - Wellbore #1 - Plan #													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,932.6	4,975.9	4,945.2	18.4	14.0	-147.77	39.7	-417.6	596.6	568.2	28.41	21.001		
5,100.0	5,031.1	5,075.0	5,043.3	18.8	14.4	-147.37	40.9	-431.1	609.4	580.3	29.09	20.947		
5,200.0	5,129.5	5,174.1	5,141.5	19.2	14.7	-146.99	42.1	-444.7	622.3	592.5	29.78	20.897		
5,300.0	5,228.0	5,273.2	5,239.6	19.6	15.1	-146.63	43.2	-458.2	635.1	604.7	30.46	20.849		
5,400.0	5,326.4	5,372.3	5,337.8	20.0	15.4	-146.27	44.4	-471.7	648.0	616.9	31.15	20.804		
5,500.0	5,424.9	5,471.3	5,436.0	20.4	15.7	-145.94	45.6	-485.3	660.9	629.1	31.83	20.761		
5,600.0	5,523.3	5,570.4	5,534.1	20.8	16.1	-145.61	46.7	-498.8	673.9	641.3	32.52	20.721		
5,700.0	5,621.8	5,669.5	5,632.3	21.2	16.4	-145.30	47.9	-512.4	686.8	653.6	33.21	20.683		
5,777.3	5,697.9	5,746.1	5,708.1	21.5	16.7	-145.07	48.8	-522.8	696.8	663.1	33.74	20.654		
5,800.0	5,720.3	5,768.6	5,730.4	21.6	16.7	-145.03	49.1	-525.9	699.7	665.8	33.90	20.643		
5,900.0	5,819.1	5,867.4	5,828.2	21.8	17.1	-144.75	50.2	-539.3	710.7	676.1	34.53	20.583		
6,000.0	5,918.4	5,964.6	5,924.8	22.1	17.3	-144.50	51.2	-550.2	719.0	684.0	35.02	20.529		
6,100.0	6,018.1	6,062.1	6,022.1	22.3	17.5	-144.32	51.8	-557.9	724.9	689.5	35.43	20.461		
6,200.0	6,118.0	6,159.9	6,119.8	22.4	17.7	-144.22	52.2	-562.3	728.3	692.5	35.75	20.372		
6,282.0	6,200.0	6,240.2	6,200.0	22.6	17.8	-179.97	52.3	-563.4	729.1	694.9	34.25	21.286		
6,300.0	6,218.0	6,258.2	6,218.0	22.6	17.8	-179.97	52.3	-563.4	729.1	694.8	34.31	21.250		
6,400.0	6,318.0	6,358.2	6,318.0	22.7	18.0	-179.97	52.3	-563.4	729.1	694.5	34.65	21.042		
6,461.1	6,379.1	6,419.3	6,379.1	22.8	18.1	-179.97	52.3	-563.4	729.1	694.2	34.86	20.916		
6,500.0	6,418.0	6,458.2	6,418.0	22.8	18.1	90.02	52.3	-562.3	729.1	692.5	36.63	19.905		
6,550.0	6,467.8	6,508.2	6,467.8	22.9	18.2	90.00	52.3	-557.9	729.1	692.4	36.70	19.867		
6,600.0	6,517.2	6,558.2	6,517.2	22.9	18.2	89.99	52.3	-550.3	729.1	692.4	36.72	19.857		
6,650.0	6,566.1	6,608.2	6,566.0	22.9	18.2	89.97	52.3	-539.4	729.1	692.4	36.69	19.870		
6,700.0	6,614.1	6,658.2	6,613.9	22.8	18.1	89.96	52.3	-525.4	729.1	692.5	36.63	19.904		
6,750.0	6,661.2	6,708.1	6,660.9	22.8	18.1	89.94	52.3	-508.3	729.1	692.6	36.54	19.955		
6,800.0	6,707.0	6,758.1	6,706.6	22.7	18.0	89.92	52.3	-488.2	729.1	692.7	36.42	20.017		
6,850.0	6,751.4	6,808.0	6,750.8	22.7	17.9	89.91	52.3	-465.1	729.1	692.8	36.30	20.084		
6,900.0	6,794.2	6,857.9	6,793.5	22.6	17.9	89.89	52.3	-439.2	729.1	692.9	36.19	20.149		
6,950.0	6,835.3	6,907.8	6,834.4	22.5	17.8	89.88	52.3	-410.6	729.1	693.0	36.09	20.203		
7,000.0	6,874.4	6,957.7	6,873.3	22.4	17.8	89.86	52.3	-379.3	729.1	693.1	36.03	20.236		
7,050.0	6,911.4	7,007.6	6,910.0	22.3	17.8	89.85	52.3	-345.6	729.1	693.1	36.03	20.235		
7,100.0	6,946.1	7,057.5	6,944.5	22.2	17.8	89.84	52.3	-309.6	729.1	693.0	36.11	20.191		
7,150.0	6,978.3	7,107.3	6,976.6	22.1	17.9	89.82	52.3	-271.5	729.1	692.8	36.29	20.091		
7,200.0	7,008.1	7,157.2	7,006.1	22.0	18.1	89.81	52.3	-231.3	729.1	692.5	36.59	19.928		
7,250.0	7,035.1	7,207.0	7,032.9	21.9	18.3	89.80	52.3	-189.3	729.1	692.1	37.02	19.696		
7,300.0	7,059.3	7,256.8	7,056.9	21.9	18.6	89.79	52.3	-145.6	729.1	691.5	37.60	19.392		
7,350.0	7,080.6	7,306.7	7,078.0	21.8	19.0	89.78	52.3	-100.5	729.1	690.8	38.33	19.019		
7,400.0	7,098.8	7,356.5	7,096.1	21.7	19.4	89.77	52.3	-54.1	729.1	689.9	39.23	18.584		
7,450.0	7,114.0	7,406.3	7,111.2	21.7	19.9	89.77	52.3	-6.6	729.1	688.8	40.29	18.098		
7,500.0	7,126.1	7,456.1	7,123.1	21.7	20.5	89.76	52.3	41.7	729.1	687.6	41.49	17.572		
7,550.0	7,135.0	7,505.9	7,131.9	21.9	21.2	89.76	52.3	90.7	729.1	686.2	42.83	17.021		
7,600.0	7,140.6	7,555.7	7,137.4	22.4	21.9	89.75	52.3	140.2	729.1	684.8	44.30	16.457		
7,650.0	7,142.9	7,605.5	7,139.7	23.2	22.7	89.75	52.3	189.9	729.1	683.2	45.87	15.894		
7,665.5	7,143.0	7,620.9	7,139.8	23.4	23.0	89.75	52.3	205.4	729.1	682.7	46.38	15.721		
7,700.0	7,142.8	7,655.4	7,139.6	24.0	23.6	89.75	52.3	239.9	729.1	681.5	47.56	15.331		
7,800.0	7,142.2	7,755.4	7,139.1	25.9	25.4	89.75	52.3	339.9	729.1	677.9	51.20	14.240		
7,900.0	7,141.7	7,855.4	7,138.5	27.9	27.4	89.75	52.3	439.9	729.1	673.9	55.17	13.216		
8,000.0	7,141.1	7,955.4	7,138.0	30.1	29.5	89.76	52.3	539.9	729.1	669.7	59.40	12.274		
8,100.0	7,140.5	8,055.4	7,137.5	32.3	31.7	89.76	52.4	639.9	729.1	665.2	63.85	11.419		
8,200.0	7,139.9	8,155.4	7,136.9	34.7	34.0	89.76	52.4	739.9	729.1	660.6	68.46	10.649		
8,300.0	7,139.4	8,255.4	7,136.4	37.1	36.4	89.77	52.4	839.9	729.0	655.8	73.22	9.957		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,400.0	7,138.8	8,355.4	7,135.8	39.5	38.9	89.77	52.4	939.9	729.0	650.9	78.09	9.335			
8,500.0	7,138.2	8,455.4	7,135.3	42.0	41.3	89.77	52.4	1,039.9	729.0	646.0	83.06	8.777			
8,600.0	7,137.6	8,555.4	7,134.7	44.5	43.9	89.77	52.4	1,139.9	729.0	640.9	88.10	8.275			
8,700.0	7,137.1	8,655.4	7,134.2	47.1	46.4	89.78	52.4	1,239.9	729.0	635.8	93.21	7.821			
8,800.0	7,136.5	8,755.4	7,133.7	49.6	49.0	89.78	52.4	1,339.9	729.0	630.6	98.38	7.411			
8,900.0	7,135.9	8,855.4	7,133.1	52.2	51.6	89.78	52.4	1,439.9	729.0	625.4	103.59	7.038			
9,000.0	7,135.3	8,955.4	7,132.6	54.9	54.2	89.78	52.4	1,539.9	729.0	620.2	108.84	6.698			
9,100.0	7,134.8	9,055.4	7,132.0	57.5	56.9	89.79	52.4	1,639.9	729.0	614.9	114.12	6.388			
9,200.0	7,134.2	9,155.4	7,131.5	60.2	59.5	89.79	52.4	1,739.9	729.0	609.6	119.44	6.104			
9,300.0	7,133.6	9,255.4	7,131.0	62.8	62.2	89.79	52.4	1,839.8	729.0	604.2	124.78	5.842			
9,400.0	7,133.0	9,355.4	7,130.4	65.5	64.9	89.80	52.4	1,939.8	729.0	598.8	130.15	5.601			
9,500.0	7,132.4	9,455.4	7,129.9	68.2	67.6	89.80	52.4	2,039.8	729.0	593.5	135.53	5.379			
9,600.0	7,131.9	9,555.4	7,129.3	70.9	70.3	89.80	52.4	2,139.8	729.0	588.0	140.93	5.172			
9,700.0	7,131.3	9,655.4	7,128.8	73.6	73.0	89.80	52.4	2,239.8	729.0	582.6	146.35	4.981			
9,800.0	7,130.7	9,755.4	7,128.3	76.3	75.7	89.81	52.4	2,339.8	729.0	577.2	151.79	4.803			
9,900.0	7,130.1	9,855.4	7,127.7	79.0	78.4	89.81	52.4	2,439.8	729.0	571.7	157.23	4.636			
10,000.0	7,129.6	9,955.4	7,127.2	81.8	81.2	89.81	52.5	2,539.8	729.0	566.3	162.69	4.481			
10,100.0	7,129.0	10,055.4	7,126.6	84.5	83.9	89.81	52.5	2,639.8	729.0	560.8	168.16	4.335			
10,200.0	7,128.4	10,155.4	7,126.1	87.2	86.6	89.82	52.5	2,739.8	729.0	555.3	173.63	4.198			
10,300.0	7,127.8	10,255.4	7,125.5	90.0	89.4	89.82	52.5	2,839.8	728.9	549.8	179.12	4.070			
10,400.0	7,127.3	10,355.4	7,125.0	92.7	92.1	89.82	52.5	2,939.8	728.9	544.3	184.61	3.949			
10,500.0	7,126.7	10,455.4	7,124.5	95.5	94.9	89.83	52.5	3,039.8	728.9	538.8	190.11	3.834			
10,600.0	7,126.1	10,555.4	7,123.9	98.2	97.6	89.83	52.5	3,139.8	728.9	533.3	195.62	3.726			
10,700.0	7,125.5	10,655.4	7,123.4	101.0	100.4	89.83	52.5	3,239.8	728.9	527.8	201.13	3.624			
10,800.0	7,125.0	10,755.4	7,122.8	103.7	103.1	89.83	52.5	3,339.8	728.9	522.3	206.65	3.527			
10,900.0	7,124.4	10,855.4	7,122.3	106.5	105.9	89.84	52.5	3,439.8	728.9	516.7	212.17	3.436			
11,000.0	7,123.8	10,955.4	7,121.8	109.2	108.6	89.84	52.5	3,539.8	728.9	511.2	217.70	3.348			
11,100.0	7,123.2	11,055.4	7,121.2	112.0	111.4	89.84	52.5	3,639.8	728.9	505.7	223.23	3.265			
11,200.0	7,122.7	11,155.4	7,120.7	114.8	114.2	89.84	52.5	3,739.8	728.9	500.1	228.77	3.186			
11,300.0	7,122.1	11,255.4	7,120.1	117.5	116.9	89.85	52.5	3,839.8	728.9	494.6	234.31	3.111			
11,400.0	7,121.5	11,355.4	7,119.6	120.3	119.7	89.85	52.5	3,939.8	728.9	489.0	239.85	3.039			
11,500.0	7,120.9	11,455.4	7,119.1	123.1	122.5	89.85	52.5	4,039.8	728.9	483.5	245.40	2.970			
11,600.0	7,120.4	11,555.4	7,118.5	125.9	125.3	89.86	52.5	4,139.8	728.9	477.9	250.95	2.905			
11,700.0	7,119.8	11,655.4	7,118.0	128.6	128.0	89.86	52.5	4,239.8	728.9	472.4	256.50	2.842			
11,800.0	7,119.2	11,755.4	7,117.4	131.4	130.8	89.86	52.5	4,339.8	728.9	466.8	262.05	2.781			
11,900.0	7,118.6	11,855.4	7,116.9	134.2	133.6	89.86	52.5	4,439.8	728.9	461.3	267.61	2.724			
12,000.0	7,118.0	11,955.4	7,116.4	137.0	136.4	89.87	52.6	4,539.8	728.9	455.7	273.17	2.668			
12,100.0	7,117.5	12,055.4	7,115.8	139.7	139.1	89.87	52.6	4,639.8	728.9	450.1	278.73	2.615			
12,200.0	7,116.9	12,155.4	7,115.3	142.5	141.9	89.87	52.6	4,739.8	728.9	444.6	284.29	2.564			
12,300.0	7,116.3	12,255.4	7,114.7	145.3	144.7	89.87	52.6	4,839.8	728.8	439.0	289.86	2.514			
12,400.0	7,115.7	12,355.4	7,114.2	148.1	147.5	89.88	52.6	4,939.8	728.8	433.4	295.43	2.467			
12,500.0	7,115.2	12,455.4	7,113.6	150.9	150.3	89.88	52.6	5,039.8	728.8	427.8	301.00	2.421			
12,600.0	7,114.6	12,555.4	7,113.1	153.7	153.1	89.88	52.6	5,139.8	728.8	422.3	306.57	2.377			
12,700.0	7,114.0	12,655.4	7,112.6	156.4	155.8	89.89	52.6	5,239.8	728.8	416.7	312.14	2.335			
12,800.0	7,113.4	12,755.4	7,112.0	159.2	158.6	89.89	52.6	5,339.8	728.8	411.1	317.71	2.294			
12,900.0	7,112.9	12,855.4	7,111.5	162.0	161.4	89.89	52.6	5,439.8	728.8	405.5	323.29	2.254			
13,000.0	7,112.3	12,955.4	7,110.9	164.8	164.2	89.89	52.6	5,539.8	728.8	399.9	328.87	2.216			
13,100.0	7,111.7	13,055.4	7,110.4	167.6	167.0	89.90	52.6	5,639.8	728.8	394.4	334.44	2.179			
13,200.0	7,111.1	13,155.4	7,109.9	170.4	169.8	89.90	52.6	5,739.8	728.8	388.8	340.02	2.143			
13,300.0	7,110.6	13,255.4	7,109.3	173.2	172.6	89.90	52.6	5,839.8	728.8	383.2	345.60	2.109			
13,400.0	7,110.0	13,355.4	7,108.8	176.0	175.3	89.90	52.6	5,939.8	728.8	377.6	351.19	2.075			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
13,500.0	7,109.4	13,455.4	7,108.2	178.8	178.1	89.91	52.6	6,039.8	728.8	372.0	356.77	2.043			
13,600.0	7,108.8	13,555.4	7,107.7	181.6	180.9	89.91	52.6	6,139.8	728.8	366.4	362.35	2.011			
13,700.0	7,108.3	13,655.4	7,107.2	184.3	183.7	89.91	52.6	6,239.8	728.8	360.8	367.94	1.981			
13,800.0	7,107.7	13,755.4	7,106.6	187.1	186.5	89.92	52.6	6,339.8	728.8	355.3	373.52	1.951			
13,900.0	7,107.1	13,855.4	7,106.1	189.9	189.3	89.92	52.7	6,439.8	728.8	349.7	379.11	1.922			
14,000.0	7,106.5	13,955.4	7,105.5	192.7	192.1	89.92	52.7	6,539.8	728.8	344.1	384.69	1.894			
14,100.0	7,106.0	14,055.4	7,105.0	195.5	194.9	89.92	52.7	6,639.8	728.8	338.5	390.28	1.867			
14,200.0	7,105.4	14,155.4	7,104.4	198.3	197.7	89.93	52.7	6,739.8	728.8	332.9	395.87	1.841			
14,300.0	7,104.8	14,255.4	7,103.9	201.1	200.5	89.93	52.7	6,839.8	728.8	327.3	401.46	1.815			
14,400.0	7,104.2	14,355.4	7,103.4	203.9	203.3	89.93	52.7	6,939.8	728.7	321.7	407.05	1.790			
14,500.0	7,103.7	14,455.4	7,102.8	206.7	206.0	89.94	52.7	7,039.8	728.7	316.1	412.64	1.766			
14,600.0	7,103.1	14,555.4	7,102.3	209.5	208.8	89.94	52.7	7,139.8	728.7	310.5	418.23	1.742			
14,700.0	7,102.5	14,655.4	7,101.7	212.3	211.6	89.94	52.7	7,239.8	728.7	304.9	423.82	1.719			
14,800.0	7,101.9	14,755.4	7,101.2	215.1	214.4	89.94	52.7	7,339.8	728.7	299.3	429.41	1.697			
14,900.0	7,101.3	14,855.4	7,100.7	217.9	217.2	89.95	52.7	7,439.8	728.7	293.7	435.01	1.675			
15,000.0	7,100.8	14,955.4	7,100.1	220.7	220.0	89.95	52.7	7,539.8	728.7	288.1	440.60	1.654			
15,100.0	7,100.2	15,055.4	7,099.6	223.5	222.8	89.95	52.7	7,639.8	728.7	282.5	446.19	1.633			
15,200.0	7,099.6	15,155.4	7,099.0	226.3	225.6	89.95	52.7	7,739.8	728.7	276.9	451.79	1.613			
15,300.0	7,099.0	15,255.4	7,098.5	229.1	228.4	89.96	52.7	7,839.8	728.7	271.3	457.38	1.593			
15,400.0	7,098.5	15,355.4	7,098.0	231.9	231.2	89.96	52.7	7,939.8	728.7	265.7	462.98	1.574			
15,500.0	7,097.9	15,455.4	7,097.4	234.7	234.0	89.96	52.7	8,039.8	728.7	260.1	468.57	1.555			
15,600.0	7,097.3	15,555.4	7,096.9	237.5	236.8	89.97	52.7	8,139.8	728.7	254.5	474.17	1.537			
15,700.0	7,096.7	15,655.4	7,096.3	240.3	239.6	89.97	52.7	8,239.8	728.7	248.9	479.77	1.519			
15,800.0	7,096.2	15,755.4	7,095.8	243.1	242.4	89.97	52.7	8,339.8	728.7	243.3	485.36	1.501			
15,900.0	7,095.6	15,855.4	7,095.3	245.9	245.2	89.97	52.8	8,439.8	728.7	237.7	490.96	1.484 Level 3			
16,000.0	7,095.0	15,955.4	7,094.7	248.7	248.0	89.98	52.8	8,539.8	728.7	232.1	496.56	1.467 Level 3			
16,100.0	7,094.4	16,055.4	7,094.2	251.5	250.8	89.98	52.8	8,639.7	728.7	226.5	502.16	1.451 Level 3			
16,200.0	7,093.9	16,155.4	7,093.6	254.3	253.6	89.98	52.8	8,739.7	728.7	220.9	507.75	1.435 Level 3			
16,300.0	7,093.3	16,255.4	7,093.1	257.1	256.4	89.98	52.8	8,839.7	728.7	215.3	513.35	1.419 Level 3			
16,400.0	7,092.7	16,355.4	7,092.5	259.9	259.2	89.99	52.8	8,939.7	728.6	209.7	518.95	1.404 Level 3			
16,500.0	7,092.1	16,455.4	7,092.0	262.7	262.0	89.99	52.8	9,039.7	728.6	204.1	524.55	1.389 Level 3			
16,600.0	7,091.6	16,555.4	7,091.5	265.5	264.8	89.99	52.8	9,139.7	728.6	198.5	530.15	1.374 Level 3			
16,700.0	7,091.0	16,655.4	7,090.9	268.3	267.6	90.00	52.8	9,239.7	728.6	192.9	535.75	1.360 Level 3			
16,800.0	7,090.4	16,755.4	7,090.4	271.1	270.4	90.00	52.8	9,339.7	728.6	187.3	541.35	1.346 Level 3			
16,870.2	7,090.0	16,825.6	7,090.0	273.0	272.1	90.00	52.8	9,409.9	728.6	183.6	545.03	1.337 Level 3, SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Highpoint 10LD Pad Sec.10-T5N-R67W - Highpointe 10B (Vert.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1400-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
7,400.0	7,098.8	7,083.4	7,082.9	21.7	12.0	3.91	759.2	909.3	964.6	952.9	11.69	82.531		
7,450.0	7,114.0	7,098.9	7,098.4	21.7	12.0	5.12	758.9	909.3	917.0	906.8	10.21	89.783		
7,500.0	7,126.1	7,110.8	7,110.3	21.7	12.0	7.08	758.6	909.3	868.6	859.5	9.07	95.755		
7,550.0	7,135.0	7,119.6	7,119.1	21.9	12.0	10.78	758.4	909.3	819.4	810.6	8.83	92.818		
7,600.0	7,140.6	7,125.2	7,124.7	22.4	12.1	20.01	758.3	909.3	769.8	757.9	11.83	65.077		
7,650.0	7,142.9	7,127.6	7,127.1	23.2	12.1	62.01	758.3	909.3	719.9	689.7	30.12	23.902		
7,665.5	7,143.0	7,127.7	7,127.2	23.4	12.1	95.52	758.3	909.3	704.4	668.8	35.56	19.807		
7,700.0	7,142.8	7,127.6	7,127.1	24.0	12.1	95.20	758.3	909.3	669.9	633.7	36.14	18.534		
7,800.0	7,142.2	7,127.2	7,126.7	25.9	12.1	94.27	758.3	909.3	570.0	532.0	37.96	15.015		
7,900.0	7,141.7	7,126.8	7,126.3	27.9	12.1	93.33	758.3	909.3	470.1	430.1	39.93	11.771		
8,000.0	7,141.1	7,126.4	7,125.9	30.1	12.1	92.38	758.3	909.3	370.2	328.2	42.04	8.807		
8,100.0	7,140.5	7,126.0	7,125.5	32.3	12.1	91.42	758.3	909.3	270.5	226.2	44.24	6.114		
8,200.0	7,139.9	7,125.7	7,125.1	34.7	12.1	90.46	758.3	909.3	171.1	124.5	46.51	3.678		
8,300.0	7,139.4	7,125.3	7,124.8	37.1	12.1	89.49	758.3	909.3	73.2	24.4	48.85	1.499 Level 3		
8,369.5	7,139.0	7,125.0	7,124.5	38.7	12.1	88.82	758.3	909.3	23.1	-27.4	50.50	0.457 Level 1, CC, ES, SF		
8,400.0	7,138.8	7,124.9	7,124.4	39.5	12.1	88.52	758.3	909.3	38.3	-13.0	51.23	0.747 Level 1		
8,500.0	7,138.2	7,124.5	7,124.0	42.0	12.1	87.55	758.3	909.3	132.5	78.9	53.64	2.471		
8,600.0	7,137.6	7,124.1	7,123.6	44.5	12.1	86.57	758.3	909.3	231.7	175.6	56.08	4.131		
8,700.0	7,137.1	7,123.7	7,123.2	47.1	12.1	85.59	758.4	909.3	331.3	272.8	58.52	5.661		
8,800.0	7,136.5	7,123.3	7,122.8	49.6	12.1	84.61	758.4	909.3	431.1	370.1	60.98	7.070		
8,900.0	7,135.9	7,122.9	7,122.4	52.2	12.1	83.62	758.4	909.3	531.0	467.6	63.43	8.372		
9,000.0	7,135.3	7,122.5	7,122.0	54.9	12.1	82.63	758.4	909.3	630.9	565.1	65.88	9.577		
9,100.0	7,134.8	7,122.1	7,121.6	57.5	12.1	81.64	758.4	909.3	730.9	662.6	68.31	10.699		
9,200.0	7,134.2	7,121.7	7,121.2	60.2	12.1	80.66	758.4	909.3	830.8	760.1	70.73	11.746		
9,300.0	7,133.6	7,121.3	7,120.8	62.8	12.1	79.67	758.4	909.3	930.8	857.7	73.13	12.728		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 90-MWD													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,000.0	7,141.1	7,234.1	7,110.7	30.1	22.9	89.10	-200.2	702.1	995.0	948.4	46.58	21.363		
8,100.0	7,140.5	7,233.1	7,109.7	32.3	22.9	89.04	-200.1	702.1	983.7	934.9	48.80	20.159		
8,162.4	7,140.2	7,232.4	7,109.1	33.8	22.9	89.00	-200.1	702.1	981.7	931.4	50.23	19.542 CC		
8,200.0	7,139.9	7,232.0	7,108.7	34.7	22.9	88.98	-200.1	702.1	982.4	931.3	51.10	19.225 ES		
8,300.0	7,139.4	7,231.0	7,107.6	37.1	22.9	88.92	-200.1	702.1	991.3	937.8	53.47	18.537 SF		

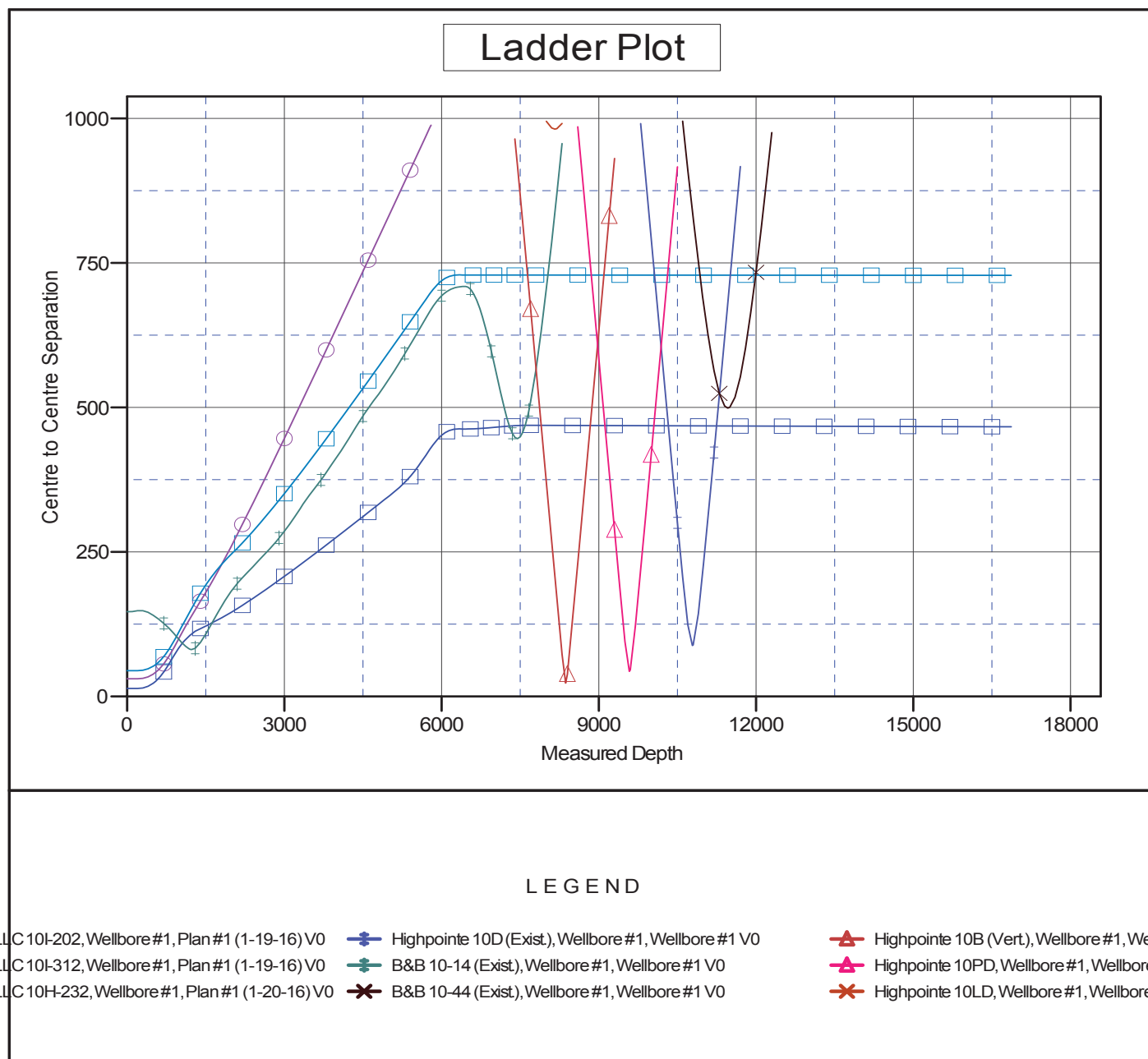
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Offset Design Highpoint 10LD Pad Sec.10-T5N-R67W - Highpointe 10PD - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 120-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
8,600.0	7,137.6	7,298.1	7,123.2	44.5	26.9	-96.95	824.7	2,124.4	985.5	915.2	70.34	14.011		
8,700.0	7,137.1	7,297.5	7,122.7	47.1	26.9	-96.26	824.7	2,124.4	885.7	812.7	73.00	12.132		
8,800.0	7,136.5	7,297.0	7,122.2	49.6	26.9	-95.57	824.7	2,124.4	785.8	710.1	75.69	10.382		
8,900.0	7,135.9	7,296.5	7,121.7	52.2	26.9	-94.88	824.7	2,124.4	686.0	607.6	78.39	8.751		
9,000.0	7,135.3	7,296.0	7,121.1	54.9	26.9	-94.19	824.7	2,124.4	586.2	505.1	81.11	7.228		
9,100.0	7,134.8	7,295.4	7,120.6	57.5	26.9	-93.50	824.7	2,124.4	486.5	402.7	83.83	5.804		
9,200.0	7,134.2	7,294.9	7,120.1	60.2	26.9	-92.81	824.7	2,124.4	387.0	300.5	86.57	4.471		
9,300.0	7,133.6	7,294.4	7,119.6	62.8	26.9	-92.12	824.7	2,124.4	287.9	198.6	89.31	3.224		
9,400.0	7,133.0	7,293.9	7,119.0	65.5	26.9	-91.42	824.7	2,124.4	189.6	97.6	92.04	2.060		
9,500.0	7,132.4	7,293.3	7,118.5	68.2	26.9	-90.73	824.7	2,124.4	95.1	0.3	94.78	1.003 Level 2		
9,584.6	7,132.0	7,292.9	7,118.1	70.5	26.9	-90.15	824.7	2,124.4	43.3	-53.8	97.10	0.446 Level 1, CC, ES, SF		
9,600.0	7,131.9	7,292.8	7,118.0	70.9	26.9	-90.04	824.7	2,124.4	46.0	-51.5	97.52	0.471 Level 1		
9,700.0	7,131.3	7,292.3	7,117.5	73.6	26.9	-89.35	824.7	2,124.4	123.3	23.0	100.25	1.229 Level 2		
9,800.0	7,130.7	7,291.8	7,116.9	76.3	26.9	-88.66	824.7	2,124.4	219.7	116.7	102.97	2.134		
9,900.0	7,130.1	7,291.3	7,116.4	79.0	26.9	-87.97	824.7	2,124.4	318.3	212.7	105.69	3.012		
10,000.0	7,129.6	7,290.7	7,115.9	81.8	26.9	-87.29	824.7	2,124.4	417.6	309.2	108.39	3.853		
10,100.0	7,129.0	7,290.2	7,115.4	84.5	26.9	-86.60	824.7	2,124.4	517.2	406.1	111.08	4.656		
10,200.0	7,128.4	7,289.7	7,114.9	87.2	26.9	-85.92	824.7	2,124.4	616.9	503.1	113.76	5.423		
10,300.0	7,127.8	7,289.2	7,114.3	90.0	26.9	-85.23	824.7	2,124.4	716.7	600.3	116.43	6.156		
10,400.0	7,127.3	7,288.7	7,113.8	92.7	26.9	-84.55	824.7	2,124.4	816.5	697.5	119.07	6.857		
10,500.0	7,126.7	7,288.1	7,113.3	95.5	26.9	-83.88	824.7	2,124.4	916.4	794.7	121.70	7.530		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well High Pointe LLC 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4990.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: High Pointe LLC 10H-302
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 10H-302
Project:	SEC.10-T5N-R67W	TVD Reference:	WELL @ 4990.0ft (Original Well Elev)
Reference Site:	High Pointe LLC 5N67W10L Pad Sec.10-T5N-RR67W	MD Reference:	WELL @ 4990.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	High Pointe LLC 10H-302	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 (1-20-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4990.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: High Pointe LLC 10H-302
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.40°

