

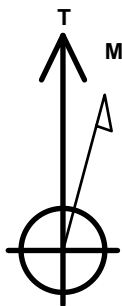
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Clark 14J-303**

Surface Location: Clark 5N65W14EJ Pad Sec.14-T5N-R65W
 North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4616.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1391636.23 3242606.06 40.405172 -104.628835
 Original Well Elev WELL @ 4629.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 550'FNL, 2159'FEL, SEC.14	1.0	0.0	0.0	Point
BHL 2658'FSL, 1455'FWL, SEC.23	6829.0	-7427.5	-1627.2	Point
LPL 300'FNL, 1477'FWL, SEC.14	6859.0	240.4	-1627.2	Point



Azimuths to True North
 Magnetic North: 8.15°

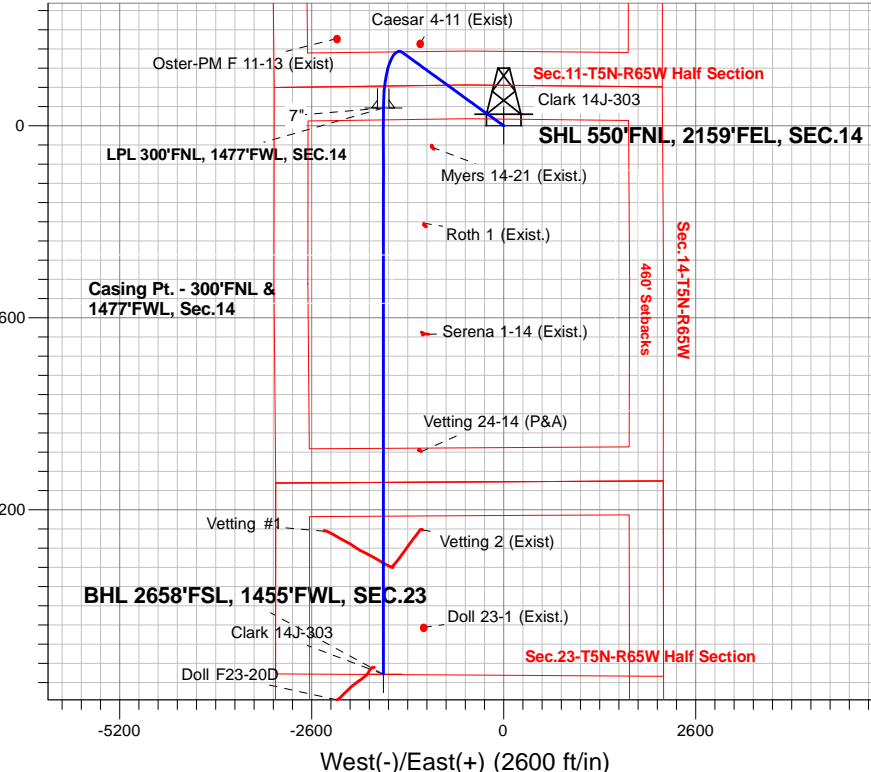
Magnetic Field
 Strength: 52653.0snT
 Dip Angle: 66.91°
 Date: 3/2/2016
 Model: IGRF2010

Clark 5N65W14EJ Pad Sec.14-T5N-R65W
 Clark 14J-303
 Plan #2 (3-02-16)
 8:44, March 02 2016

ANNOTATIONS

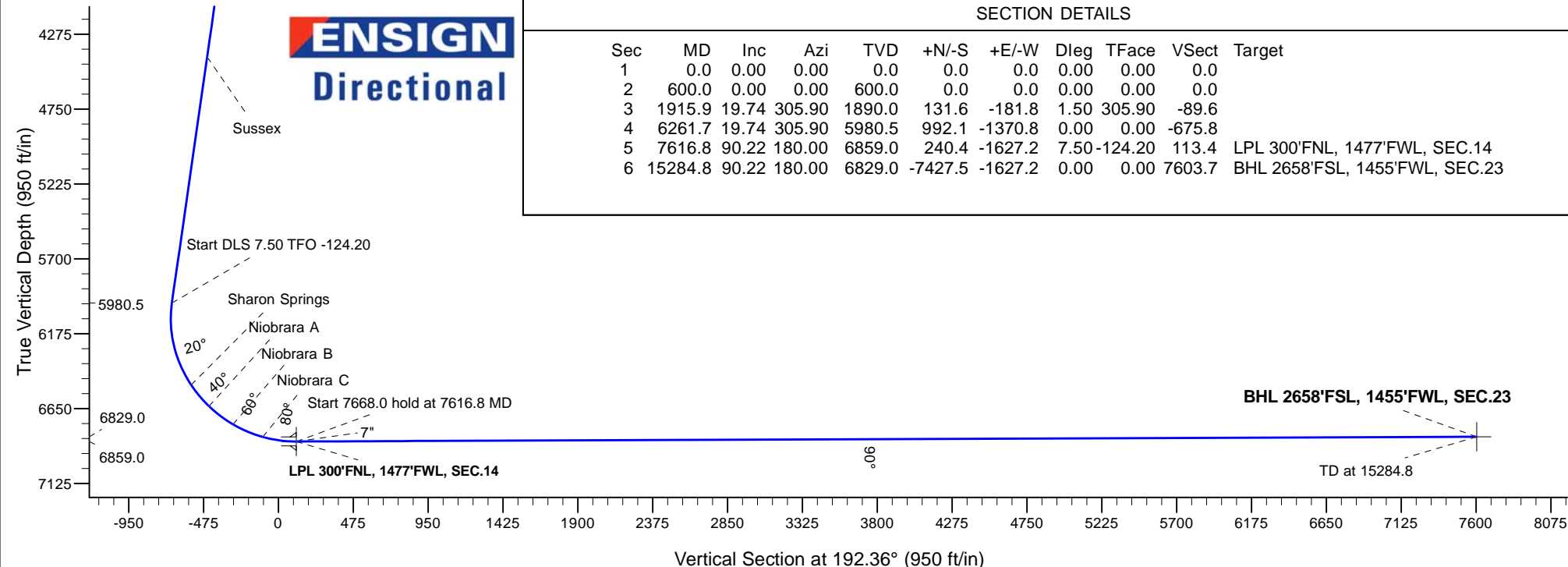
TVD	MD	Annotation
600.0	600.0	KOP - Start Build 1.50
1890.0	1915.9	Start 4345.8 hold at 1915.9 MD
5980.5	6261.7	Start DLS 7.50 TFO -124.20
6859.0	7616.8	Start 7668.0 hold at 7616.8 MD
6829.0	15284.8	TD at 15284.8

South(-)/North(+) (2600 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1915.9	19.74	305.90	1890.0	131.6	-181.8	1.50	305.90	-89.6	
4	6261.7	19.74	305.90	5980.5	992.1	-1370.8	0.00	0.00	-675.8	
5	7616.8	90.22	180.00	6859.0	240.4	-1627.2	7.50	-124.20	113.4	LPL 300'FNL, 1477'FWL, SEC.14
6	15284.8	90.22	180.00	6829.0	-7427.5	-1627.2	0.00	0.00	7603.7	BHL 2658'FSL, 1455'FWL, SEC.23





PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.14-T5N-R65W

Clark 5N65W14EJ Pad Sec.14-T5N-R65W

Clark 14J-303

Wellbore #1

Plan: Plan #2 (3-02-16)

Standard Planning Report

02 March, 2016

Database:	US_EDM	Local Co-ordinate Reference:	Well Clark 14J-303
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Project	SEC.14-T5N-R65W, 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	Clark 5N65W14EJ Pad Sec.14-T5N-R65W		
Site Position:		Northing:	1,391,636.33 usft
From:	Lat/Long	Easting:	3,242,575.99 usft
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "
		Latitude:	40.405173
		Longitude:	-104.628943
		Grid Convergence:	0.56 °

Well	Clark 14J-303		
Well Position	+N/-S	-0.4 ft	Northing:
	+E/-W	30.1 ft	Easting:
Position Uncertainty		0.0 ft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	3/2/2016	8.16
			Dip Angle (°)
			66.91
			Field Strength (nT)
			52,653

Design	Plan #2 (3-02-16)		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			192.36

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,915.9	19.74	305.90	1,890.0	131.6	-181.8	1.50	1.50	0.00	305.90	
6,261.7	19.74	305.90	5,980.5	992.1	-1,370.8	0.00	0.00	0.00	0.00	
7,616.8	90.22	180.00	6,859.0	240.4	-1,627.2	7.50	5.20	-9.29	-124.20	LPL 300'FNL, 1477'F
15,284.8	90.22	180.00	6,829.0	-7,427.5	-1,627.2	0.00	0.00	0.00	0.00	BHL 2658'FSL, 1455'I

Database:	US_EDM	Local Co-ordinate Reference:	Well Clark 14J-303
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 550'FNL, 2159'FEL, SEC.14									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
700.0	1.50	305.90	700.0	0.8	-1.1	-0.5	1.50	1.50	0.00
800.0	3.00	305.90	799.9	3.1	-4.2	-2.1	1.50	1.50	0.00
900.0	4.50	305.90	899.7	6.9	-9.5	-4.7	1.50	1.50	0.00
1,000.0	6.00	305.90	999.3	12.3	-17.0	-8.4	1.50	1.50	0.00
1,100.0	7.50	305.90	1,098.6	19.2	-26.5	-13.1	1.50	1.50	0.00
1,200.0	9.00	305.90	1,197.5	27.6	-38.1	-18.8	1.50	1.50	0.00
1,300.0	10.50	305.90	1,296.1	37.5	-51.8	-25.5	1.50	1.50	0.00
1,400.0	12.00	305.90	1,394.2	48.9	-67.6	-33.3	1.50	1.50	0.00
1,500.0	13.50	305.90	1,491.7	61.9	-85.5	-42.1	1.50	1.50	0.00
1,600.0	15.00	305.90	1,588.6	76.3	-105.4	-52.0	1.50	1.50	0.00
1,700.0	16.50	305.90	1,684.9	92.2	-127.4	-62.8	1.50	1.50	0.00
1,800.0	18.00	305.90	1,780.4	109.6	-151.4	-74.7	1.50	1.50	0.00
1,900.0	19.50	305.90	1,875.0	128.5	-177.5	-87.5	1.50	1.50	0.00
1,915.9	19.74	305.90	1,890.0	131.6	-181.8	-89.6	1.50	1.50	0.00
Start 4345.8 hold at 1915.9 MD									
2,000.0	19.74	305.90	1,969.2	148.2	-204.8	-101.0	0.00	0.00	0.00
2,100.0	19.74	305.90	2,063.3	168.0	-232.2	-114.5	0.00	0.00	0.00
2,200.0	19.74	305.90	2,157.4	187.8	-259.5	-127.9	0.00	0.00	0.00
2,300.0	19.74	305.90	2,251.6	207.6	-286.9	-141.4	0.00	0.00	0.00
2,400.0	19.74	305.90	2,345.7	227.4	-314.3	-154.9	0.00	0.00	0.00
2,500.0	19.74	305.90	2,439.8	247.2	-341.6	-168.4	0.00	0.00	0.00
2,600.0	19.74	305.90	2,533.9	267.0	-369.0	-181.9	0.00	0.00	0.00
2,700.0	19.74	305.90	2,628.1	286.8	-396.3	-195.4	0.00	0.00	0.00
2,800.0	19.74	305.90	2,722.2	306.6	-423.7	-208.9	0.00	0.00	0.00
2,900.0	19.74	305.90	2,816.3	326.4	-451.0	-222.4	0.00	0.00	0.00
3,000.0	19.74	305.90	2,910.4	346.2	-478.4	-235.8	0.00	0.00	0.00
3,100.0	19.74	305.90	3,004.6	366.0	-505.8	-249.3	0.00	0.00	0.00
3,200.0	19.74	305.90	3,098.7	385.8	-533.1	-262.8	0.00	0.00	0.00
3,300.0	19.74	305.90	3,192.8	405.7	-560.5	-276.3	0.00	0.00	0.00
3,400.0	19.74	305.90	3,286.9	425.5	-587.8	-289.8	0.00	0.00	0.00
3,500.0	19.74	305.90	3,381.1	445.3	-615.2	-303.3	0.00	0.00	0.00
3,600.0	19.74	305.90	3,475.2	465.1	-642.6	-316.8	0.00	0.00	0.00
3,679.5	19.74	305.90	3,550.0	480.8	-664.3	-327.5	0.00	0.00	0.00
Parkman									
3,700.0	19.74	305.90	3,569.3	484.9	-669.9	-330.3	0.00	0.00	0.00
3,800.0	19.74	305.90	3,663.4	504.7	-697.3	-343.7	0.00	0.00	0.00
3,900.0	19.74	305.90	3,757.5	524.5	-724.6	-357.2	0.00	0.00	0.00
4,000.0	19.74	305.90	3,851.7	544.3	-752.0	-370.7	0.00	0.00	0.00
4,100.0	19.74	305.90	3,945.8	564.1	-779.4	-384.2	0.00	0.00	0.00
4,200.0	19.74	305.90	4,039.9	583.9	-806.7	-397.7	0.00	0.00	0.00
4,300.0	19.74	305.90	4,134.0	603.7	-834.1	-411.2	0.00	0.00	0.00
4,400.0	19.74	305.90	4,228.2	623.5	-861.4	-424.7	0.00	0.00	0.00
4,500.0	19.74	305.90	4,322.3	643.3	-888.8	-438.2	0.00	0.00	0.00

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Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	19.74	305.90	4,416.4	663.1	-916.2	-451.6	0.00	0.00	0.00
4,603.8	19.74	305.90	4,420.0	663.8	-917.2	-452.2	0.00	0.00	0.00
Sussex									
4,700.0	19.74	305.90	4,510.5	682.9	-943.5	-465.1	0.00	0.00	0.00
4,800.0	19.74	305.90	4,604.7	702.7	-970.9	-478.6	0.00	0.00	0.00
4,900.0	19.74	305.90	4,698.8	722.5	-998.2	-492.1	0.00	0.00	0.00
5,000.0	19.74	305.90	4,792.9	742.3	-1,025.6	-505.6	0.00	0.00	0.00
5,100.0	19.74	305.90	4,887.0	762.1	-1,052.9	-519.1	0.00	0.00	0.00
5,200.0	19.74	305.90	4,981.2	781.9	-1,080.3	-532.6	0.00	0.00	0.00
5,300.0	19.74	305.90	5,075.3	801.7	-1,107.7	-546.1	0.00	0.00	0.00
5,400.0	19.74	305.90	5,169.4	821.5	-1,135.0	-559.5	0.00	0.00	0.00
5,500.0	19.74	305.90	5,263.5	841.3	-1,162.4	-573.0	0.00	0.00	0.00
5,600.0	19.74	305.90	5,357.7	861.1	-1,189.7	-586.5	0.00	0.00	0.00
5,700.0	19.74	305.90	5,451.8	880.9	-1,217.1	-600.0	0.00	0.00	0.00
5,800.0	19.74	305.90	5,545.9	900.7	-1,244.5	-613.5	0.00	0.00	0.00
5,900.0	19.74	305.90	5,640.0	920.5	-1,271.8	-627.0	0.00	0.00	0.00
6,000.0	19.74	305.90	5,734.2	940.3	-1,299.2	-640.5	0.00	0.00	0.00
6,100.0	19.74	305.90	5,828.3	960.1	-1,326.5	-654.0	0.00	0.00	0.00
6,200.0	19.74	305.90	5,922.4	979.9	-1,353.9	-667.4	0.00	0.00	0.00
6,261.7	19.74	305.90	5,980.5	992.1	-1,370.8	-675.8	0.00	0.00	0.00
Start DLS 7.50 TFO -124.20									
6,300.0	18.27	298.29	6,016.7	998.7	-1,381.3	-680.0	7.50	-3.83	-19.84
6,400.0	16.25	273.74	6,112.3	1,007.1	-1,409.1	-682.2	7.50	-2.02	-24.55
6,500.0	17.43	247.96	6,208.2	1,002.4	-1,437.0	-671.6	7.50	1.18	-25.78
6,600.0	21.29	228.37	6,302.6	984.7	-1,464.5	-648.5	7.50	3.85	-19.59
6,700.0	26.68	215.44	6,394.0	954.3	-1,491.1	-613.1	7.50	5.39	-12.93
6,800.0	32.86	206.84	6,480.8	911.7	-1,516.4	-566.1	7.50	6.18	-8.61
6,823.1	34.35	205.26	6,500.0	900.3	-1,522.0	-553.7	7.50	6.47	-6.84
Sharon Springs									
6,900.0	39.45	200.77	6,561.5	857.7	-1,540.0	-508.3	7.50	6.63	-5.84
7,000.0	46.29	196.21	6,634.8	793.2	-1,561.3	-440.7	7.50	6.83	-4.55
7,000.3	46.31	196.20	6,635.0	793.0	-1,561.4	-440.5	7.50	6.92	-4.01
Niobrara A									
7,100.0	53.27	192.60	6,699.3	719.3	-1,580.2	-364.5	7.50	6.98	-3.61
7,191.9	59.76	189.83	6,750.0	644.2	-1,595.0	-287.9	7.50	7.07	-3.02
Niobrara B									
7,200.0	60.33	189.60	6,754.1	637.3	-1,596.2	-280.9	7.50	7.10	-2.79
7,300.0	67.46	187.00	6,798.0	548.4	-1,609.1	-191.4	7.50	7.13	-2.60
7,398.1	74.49	184.69	6,830.0	456.2	-1,618.5	-99.3	7.50	7.16	-2.35
Niobrara C									
7,400.0	74.63	184.65	6,830.5	454.4	-1,618.7	-97.5	7.50	7.18	-2.25
7,500.0	81.81	182.46	6,850.9	356.8	-1,624.7	-0.8	7.50	7.19	-2.19
7,600.0	89.01	180.35	6,858.9	257.2	-1,627.1	97.0	7.50	7.20	-2.11
7,616.8	90.22	180.00	6,859.0	240.4	-1,627.2	113.4	7.50	7.20	-2.09
Start 7668.0 hold at 7616.8 MD - 7" - LPL 300'FNL, 1477'FWL, SEC.14									
7,700.0	90.22	180.00	6,858.7	157.2	-1,627.2	194.7	0.00	0.00	0.00
7,800.0	90.22	180.00	6,858.3	57.2	-1,627.2	292.3	0.00	0.00	0.00
7,900.0	90.22	180.00	6,857.9	-42.8	-1,627.2	390.0	0.00	0.00	0.00
8,000.0	90.22	180.00	6,857.5	-142.8	-1,627.2	487.7	0.00	0.00	0.00
8,100.0	90.22	180.00	6,857.1	-242.8	-1,627.2	585.4	0.00	0.00	0.00
8,200.0	90.22	180.00	6,856.7	-342.8	-1,627.2	683.1	0.00	0.00	0.00
8,300.0	90.22	180.00	6,856.3	-442.8	-1,627.2	780.8	0.00	0.00	0.00

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Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.0	90.22	180.00	6,855.9	-542.8	-1,627.2	878.4	0.00	0.00	0.00
8,500.0	90.22	180.00	6,855.5	-642.8	-1,627.2	976.1	0.00	0.00	0.00
8,600.0	90.22	180.00	6,855.2	-742.8	-1,627.2	1,073.8	0.00	0.00	0.00
8,700.0	90.22	180.00	6,854.8	-842.8	-1,627.2	1,171.5	0.00	0.00	0.00
8,800.0	90.22	180.00	6,854.4	-942.8	-1,627.2	1,269.2	0.00	0.00	0.00
8,900.0	90.22	180.00	6,854.0	-1,042.8	-1,627.2	1,366.8	0.00	0.00	0.00
9,000.0	90.22	180.00	6,853.6	-1,142.8	-1,627.2	1,464.5	0.00	0.00	0.00
9,100.0	90.22	180.00	6,853.2	-1,242.8	-1,627.2	1,562.2	0.00	0.00	0.00
9,200.0	90.22	180.00	6,852.8	-1,342.8	-1,627.2	1,659.9	0.00	0.00	0.00
9,300.0	90.22	180.00	6,852.4	-1,442.8	-1,627.2	1,757.6	0.00	0.00	0.00
9,400.0	90.22	180.00	6,852.0	-1,542.8	-1,627.2	1,855.3	0.00	0.00	0.00
9,500.0	90.22	180.00	6,851.6	-1,642.8	-1,627.2	1,952.9	0.00	0.00	0.00
9,600.0	90.22	180.00	6,851.2	-1,742.8	-1,627.2	2,050.6	0.00	0.00	0.00
9,700.0	90.22	180.00	6,850.8	-1,842.8	-1,627.2	2,148.3	0.00	0.00	0.00
9,800.0	90.22	180.00	6,850.5	-1,942.8	-1,627.2	2,246.0	0.00	0.00	0.00
9,900.0	90.22	180.00	6,850.1	-2,042.8	-1,627.2	2,343.7	0.00	0.00	0.00
10,000.0	90.22	180.00	6,849.7	-2,142.8	-1,627.2	2,441.4	0.00	0.00	0.00
10,100.0	90.22	180.00	6,849.3	-2,242.8	-1,627.2	2,539.0	0.00	0.00	0.00
10,200.0	90.22	180.00	6,848.9	-2,342.8	-1,627.2	2,636.7	0.00	0.00	0.00
10,300.0	90.22	180.00	6,848.5	-2,442.8	-1,627.2	2,734.4	0.00	0.00	0.00
10,400.0	90.22	180.00	6,848.1	-2,542.8	-1,627.2	2,832.1	0.00	0.00	0.00
10,500.0	90.22	180.00	6,847.7	-2,642.8	-1,627.2	2,929.8	0.00	0.00	0.00
10,600.0	90.22	180.00	6,847.3	-2,742.8	-1,627.2	3,027.5	0.00	0.00	0.00
10,700.0	90.22	180.00	6,846.9	-2,842.8	-1,627.2	3,125.1	0.00	0.00	0.00
10,800.0	90.22	180.00	6,846.5	-2,942.8	-1,627.2	3,222.8	0.00	0.00	0.00
10,900.0	90.22	180.00	6,846.2	-3,042.8	-1,627.2	3,320.5	0.00	0.00	0.00
11,000.0	90.22	180.00	6,845.8	-3,142.8	-1,627.2	3,418.2	0.00	0.00	0.00
11,100.0	90.22	180.00	6,845.4	-3,242.8	-1,627.2	3,515.9	0.00	0.00	0.00
11,200.0	90.22	180.00	6,845.0	-3,342.8	-1,627.2	3,613.5	0.00	0.00	0.00
11,300.0	90.22	180.00	6,844.6	-3,442.8	-1,627.2	3,711.2	0.00	0.00	0.00
11,400.0	90.22	180.00	6,844.2	-3,542.8	-1,627.2	3,808.9	0.00	0.00	0.00
11,500.0	90.22	180.00	6,843.8	-3,642.8	-1,627.2	3,906.6	0.00	0.00	0.00
11,600.0	90.22	180.00	6,843.4	-3,742.8	-1,627.2	4,004.3	0.00	0.00	0.00
11,700.0	90.22	180.00	6,843.0	-3,842.8	-1,627.2	4,102.0	0.00	0.00	0.00
11,800.0	90.22	180.00	6,842.6	-3,942.8	-1,627.2	4,199.6	0.00	0.00	0.00
11,900.0	90.22	180.00	6,842.2	-4,042.8	-1,627.2	4,297.3	0.00	0.00	0.00
12,000.0	90.22	180.00	6,841.9	-4,142.8	-1,627.2	4,395.0	0.00	0.00	0.00
12,100.0	90.22	180.00	6,841.5	-4,242.8	-1,627.2	4,492.7	0.00	0.00	0.00
12,200.0	90.22	180.00	6,841.1	-4,342.8	-1,627.2	4,590.4	0.00	0.00	0.00
12,300.0	90.22	180.00	6,840.7	-4,442.8	-1,627.2	4,688.1	0.00	0.00	0.00
12,400.0	90.22	180.00	6,840.3	-4,542.8	-1,627.2	4,785.7	0.00	0.00	0.00
12,500.0	90.22	180.00	6,839.9	-4,642.8	-1,627.2	4,883.4	0.00	0.00	0.00
12,600.0	90.22	180.00	6,839.5	-4,742.8	-1,627.2	4,981.1	0.00	0.00	0.00
12,700.0	90.22	180.00	6,839.1	-4,842.8	-1,627.2	5,078.8	0.00	0.00	0.00
12,800.0	90.22	180.00	6,838.7	-4,942.7	-1,627.2	5,176.5	0.00	0.00	0.00
12,900.0	90.22	180.00	6,838.3	-5,042.7	-1,627.2	5,274.2	0.00	0.00	0.00
13,000.0	90.22	180.00	6,837.9	-5,142.7	-1,627.2	5,371.8	0.00	0.00	0.00
13,100.0	90.22	180.00	6,837.5	-5,242.7	-1,627.2	5,469.5	0.00	0.00	0.00
13,200.0	90.22	180.00	6,837.2	-5,342.7	-1,627.2	5,567.2	0.00	0.00	0.00
13,300.0	90.22	180.00	6,836.8	-5,442.7	-1,627.2	5,664.9	0.00	0.00	0.00
13,400.0	90.22	180.00	6,836.4	-5,542.7	-1,627.2	5,762.6	0.00	0.00	0.00
13,500.0	90.22	180.00	6,836.0	-5,642.7	-1,627.2	5,860.2	0.00	0.00	0.00
13,600.0	90.22	180.00	6,835.6	-5,742.7	-1,627.2	5,957.9	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Clark 14J-303
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,700.0	90.22	180.00	6,835.2	-5,842.7	-1,627.2	6,055.6	0.00	0.00	0.00
13,800.0	90.22	180.00	6,834.8	-5,942.7	-1,627.2	6,153.3	0.00	0.00	0.00
13,900.0	90.22	180.00	6,834.4	-6,042.7	-1,627.2	6,251.0	0.00	0.00	0.00
14,000.0	90.22	180.00	6,834.0	-6,142.7	-1,627.2	6,348.7	0.00	0.00	0.00
14,100.0	90.22	180.00	6,833.6	-6,242.7	-1,627.2	6,446.3	0.00	0.00	0.00
14,200.0	90.22	180.00	6,833.2	-6,342.7	-1,627.2	6,544.0	0.00	0.00	0.00
14,300.0	90.22	180.00	6,832.9	-6,442.7	-1,627.2	6,641.7	0.00	0.00	0.00
14,400.0	90.22	180.00	6,832.5	-6,542.7	-1,627.2	6,739.4	0.00	0.00	0.00
14,500.0	90.22	180.00	6,832.1	-6,642.7	-1,627.2	6,837.1	0.00	0.00	0.00
14,600.0	90.22	180.00	6,831.7	-6,742.7	-1,627.2	6,934.8	0.00	0.00	0.00
14,700.0	90.22	180.00	6,831.3	-6,842.7	-1,627.2	7,032.4	0.00	0.00	0.00
14,800.0	90.22	180.00	6,830.9	-6,942.7	-1,627.2	7,130.1	0.00	0.00	0.00
14,900.0	90.22	180.00	6,830.5	-7,042.7	-1,627.2	7,227.8	0.00	0.00	0.00
15,000.0	90.22	180.00	6,830.1	-7,142.7	-1,627.2	7,325.5	0.00	0.00	0.00
15,100.0	90.22	180.00	6,829.7	-7,242.7	-1,627.2	7,423.2	0.00	0.00	0.00
15,200.0	90.22	180.00	6,829.3	-7,342.7	-1,627.2	7,520.9	0.00	0.00	0.00
15,284.8	90.22	180.00	6,829.0	-7,427.5	-1,627.2	7,603.7	0.00	0.00	0.00
TD at 15284.8 - BHL 2658'FSL, 1455'FWL, SEC.23									

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 550'FNL, 2159'FEL - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,391,636.26	3,242,606.06	40.405172	-104.628835
BHL 2658'FSL, 1455'FW - plan hits target center - Point	0.00	0.00	6,829.0	-7,427.5	-1,627.2	1,384,193.41	3,241,051.96	40.384784	-104.634676
LPL 300'FNL, 1477'FWL - plan hits target center - Point	0.00	0.00	6,859.0	240.4	-1,627.2	1,391,860.63	3,240,976.65	40.405832	-104.634678

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,616.8	6,859.0	7"	7	8-3/4	

Database:	US_EDM	Local Co-ordinate Reference:	Well Clark 14J-303
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Project:	SEC.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	North Reference:	True
Well:	Clark 14J-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-02-16)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,679.5	3,550.0	Parkman		0.00	
4,603.8	4,420.0	Sussex		0.00	
6,823.1	6,500.0	Sharon Springs		0.00	
7,000.3	6,635.0	Niobrara A		0.00	
7,191.9	6,750.0	Niobrara B		0.00	
7,398.1	6,830.0	Niobrara C		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
600.0	600.0	0.0	0.0	KOP - Start Build 1.50	
1,915.9	1,890.0	131.6	-181.8	Start 4345.8 hold at 1915.9 MD	
6,261.7	5,980.5	992.1	-1,370.8	Start DLS 7.50 TFO -124.20	
7,616.8	6,859.0	240.4	-1,627.2	Start 7668.0 hold at 7616.8 MD	
15,284.8	6,829.0	-7,427.5	-1,627.2	TD at 15284.8	



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.14-T5N-R65W

Clark 5N65W14EJ Pad Sec.14-T5N-R65W

Clark 14J-303

Wellbore #1

Plan #2 (3-02-16)

Anticollision Report

02 March, 2016



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (3-02-16)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 800.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	3/2/2016		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	15,284.8	Plan #2 (3-02-16) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Brown 5N65W23 Pad Sec.23-T5N-R65W						
Brown 23P-201 - Wellbore #1 - Plan #1 (8-31-15)						Out of range
Brown 23P-221 - Wellbore #1 - Plan #1 (9-2-15)						Out of range
Brown 23P-321 - Wellbore #1 - Plan #1 (1-08-16)						Out of range
Clark 5N65W14EJ Pad Sec.14-T5N-R65W						
Clark 14J-203 - Wellbore #1 - Plan #2 (3-02-16)	400.0	400.0	15.0	13.5	9.559 CC	
Clark 14J-203 - Wellbore #1 - Plan #2 (3-02-16)	15,284.8	14,743.5	266.0	-21.8	0.924 Level 1, ES, SF	
Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)	600.0	600.0	14.8	12.3	5.970 CC	
Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)	15,284.8	15,179.0	283.1	-3.3	0.988 Level 1, ES, SF	
Clark 14J-343 - Wellbore #1 - Plan #2 (3-02-16)	200.0	200.0	30.1	29.4	44.610 CC, ES	
Clark 14J-343 - Wellbore #1 - Plan #2 (3-02-16)	15,284.8	14,858.5	510.1	215.5	1.732 SF	
Clark 14M-343 - Wellbore #1 - Plan #2 (3-02-16)	600.0	599.0	29.8	27.3	12.065 CC, ES	
Clark 14M-343 - Wellbore #1 - Plan #2 (3-02-16)	15,284.8	15,176.9	690.9	393.4	2.322 SF	
Doll Pad Sec.23-T5N-R65W						
Doll 23-1 (Exist.) - Wellbore #1 - Wellbore #1	14,650.9	6,857.5	546.1	272.2	1.994 CC, ES, SF	
Doll F23-20D - Doll F 23-20D (Exist) - Doll F23-20D						Out of range
Existing Sec. 23-T5N-R65W						
Myers 14-21 (Exist.) - Wellbore #1 - Wellbore #1	8,153.5	6,867.1	664.1	627.1	17.977 CC, ES	
Myers 14-21 (Exist.) - Wellbore #1 - Wellbore #1	8,300.0	6,862.6	680.0	641.8	17.817 SF	
Roth 1 (Exist.) - Wellbore #1 - Wellbore #1	9,215.1	6,858.0	573.9	522.4	11.142 CC, ES	
Roth 1 (Exist.) - Wellbore #1 - Wellbore #1	9,300.0	6,853.0	580.1	527.3	10.992 SF	
Serena 1-14 (Exist.) - Wellbore #1 - Wellbore #1	10,677.9	6,798.1	595.6	520.2	7.892 CC, ES	
Serena 1-14 (Exist.) - Wellbore #1 - Wellbore #1	10,800.0	6,798.3	608.0	530.3	7.828 SF	
Vetting 24-14 (P&A) - Wellbore #1 - Wellbore #1	12,267.0	6,828.3	508.7	405.0	4.907 CC, ES	
Vetting 24-14 (P&A) - Wellbore #1 - Wellbore #1	12,300.0	6,828.7	509.8	405.5	4.888 SF	
Existing Wells Sec.14-T5N-R65W						
Caesar 4-11 (Exist) - Wellbore #1 - Wellbore #1	5,899.3	5,625.4	242.3	96.1	1.657 CC	
Caesar 4-11 (Exist) - Wellbore #1 - Wellbore #1	5,900.0	5,626.0	242.3	96.1	1.657 ES	
Caesar 4-11 (Exist) - Wellbore #1 - Wellbore #1	6,000.0	5,720.2	244.7	96.2	1.648 SF	
Oster-PM F 11-13 (Exist) - Wellbore #1 - Wellbore #1	6,863.9	6,522.2	786.0	636.5	5.258 CC, ES	
Oster-PM F 11-13 (Exist) - Wellbore #1 - Wellbore #1	6,900.0	6,550.5	786.7	637.0	5.253 SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

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						
Vetting Pad Sec.23-T5N-R65W						
Vetting #1 - Vetting 1 (Exist) - Vetting #1						Out of range
Vetting 2 (Exist) - Vetting #2 - Vetting #2	13,329.1	6,905.4	526.3	398.0	4.101	CC, ES
Vetting 2 (Exist) - Vetting #2 - Vetting #2	13,400.0	6,906.0	531.1	401.4	4.096	SF

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-203 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-89.94	0.0	-15.0	15.0	15.0	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	-89.94	0.0	-15.0	15.0	14.8	0.22	66.910		
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-15.0	15.0	14.4	0.67	22.303		
300.0	300.0	300.0	300.0	0.6	0.6	-89.94	0.0	-15.0	15.0	13.9	1.12	13.382		
400.0	400.0	400.0	400.0	0.8	0.8	-89.94	0.0	-15.0	15.0	13.5	1.57	9.559 CC		
500.0	500.0	499.6	499.6	1.0	1.0	-88.51	0.4	-16.3	16.3	14.3	2.01	8.084		
600.0	600.0	599.1	599.0	1.2	1.2	-85.30	1.6	-20.0	20.1	17.6	2.45	8.170		
700.0	700.0	698.4	698.1	1.5	1.4	-29.24	3.7	-26.1	25.3	22.4	2.89	8.749		
800.0	799.9	797.5	796.8	1.7	1.7	-29.35	6.5	-34.7	30.8	27.4	3.33	9.246		
900.0	899.7	896.5	895.1	1.9	2.0	-30.59	10.1	-45.6	36.5	32.8	3.77	9.677		
1,000.0	999.3	995.3	992.9	2.1	2.3	-32.46	14.5	-59.0	42.6	38.4	4.23	10.058		
1,100.0	1,098.6	1,093.9	1,090.1	2.4	2.6	-34.70	19.7	-74.7	49.0	44.3	4.71	10.396		
1,200.0	1,197.5	1,192.4	1,186.7	2.7	3.0	-37.12	25.7	-92.8	55.8	50.6	5.22	10.689		
1,300.0	1,296.1	1,290.7	1,282.6	3.0	3.4	-39.62	32.4	-113.2	63.0	57.3	5.77	10.928		
1,400.0	1,394.2	1,388.8	1,377.7	3.4	3.8	-42.12	39.9	-135.9	70.8	64.4	6.37	11.106		
1,500.0	1,491.7	1,486.6	1,472.0	3.8	4.3	-44.57	48.2	-160.8	79.0	72.0	7.05	11.215		
1,600.0	1,588.6	1,584.3	1,565.4	4.2	4.9	-46.94	57.1	-188.0	87.9	80.1	7.80	11.260		
1,700.0	1,684.9	1,682.4	1,658.5	4.7	5.5	-49.25	66.9	-217.4	97.2	88.5	8.66	11.224		
1,800.0	1,780.4	1,781.9	1,752.6	5.3	6.1	-52.09	76.9	-247.9	105.5	95.9	9.64	10.945		
1,900.0	1,875.0	1,881.4	1,846.8	5.9	6.8	-55.58	87.0	-278.4	112.7	101.9	10.79	10.446		
1,915.9	1,890.0	1,897.2	1,861.8	6.0	6.9	-56.19	88.6	-283.2	113.7	102.7	10.98	10.353		
2,000.0	1,969.2	1,980.9	1,941.0	6.5	7.4	-59.40	97.1	-308.8	119.3	107.2	12.07	9.885		
2,100.0	2,063.3	2,080.3	2,035.2	7.2	8.1	-62.83	107.1	-339.3	126.4	113.0	13.41	9.424		
2,200.0	2,157.4	2,179.8	2,129.3	7.8	8.7	-65.89	117.2	-369.8	133.9	119.1	14.79	9.051		
2,300.0	2,251.6	2,279.3	2,223.5	8.5	9.4	-68.62	127.2	-400.2	141.7	125.5	16.20	8.750		
2,400.0	2,345.7	2,378.8	2,317.7	9.2	10.1	-71.05	137.3	-430.7	149.9	132.3	17.62	8.505		
2,500.0	2,439.8	2,478.3	2,411.8	9.9	10.7	-73.24	147.4	-461.1	158.3	139.2	19.05	8.306		
2,600.0	2,533.9	2,577.7	2,506.0	10.5	11.4	-75.20	157.4	-491.6	166.8	146.3	20.49	8.142		
2,700.0	2,628.1	2,677.2	2,600.1	11.2	12.1	-76.97	167.5	-522.1	175.6	153.7	21.93	8.008		
2,800.0	2,722.2	2,776.7	2,694.3	11.9	12.8	-78.57	177.6	-552.5	184.5	161.1	23.36	7.897		
2,900.0	2,816.3	2,876.2	2,788.5	12.6	13.4	-80.02	187.6	-583.0	193.5	168.7	24.80	7.804		
3,000.0	2,910.4	2,975.6	2,882.6	13.3	14.1	-81.35	197.7	-613.4	202.7	176.5	26.23	7.726		
3,100.0	3,004.6	3,075.1	2,976.8	14.0	14.8	-82.56	207.7	-643.9	211.9	184.3	27.66	7.661		
3,200.0	3,098.7	3,174.6	3,070.9	14.7	15.5	-83.66	217.8	-674.4	221.3	192.2	29.09	7.606		
3,300.0	3,192.8	3,274.1	3,165.1	15.4	16.2	-84.68	227.9	-704.8	230.7	200.2	30.52	7.559		
3,400.0	3,286.9	3,373.5	3,259.3	16.1	16.8	-85.62	237.9	-735.3	240.1	208.2	31.94	7.519		
3,500.0	3,381.1	3,473.0	3,353.4	16.8	17.5	-86.48	248.0	-765.7	249.7	216.3	33.36	7.485		
3,600.0	3,475.2	3,572.5	3,447.6	17.5	18.2	-87.28	258.0	-796.2	259.3	224.5	34.77	7.456		
3,700.0	3,569.3	3,672.0	3,541.8	18.2	18.9	-88.03	268.1	-826.7	268.9	232.7	36.19	7.431		

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-203 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program:		0-MWD												
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
3,800.0	3,663.4	3,771.4	3,635.9	18.9	19.5	-88.72	278.2	-857.1	278.6	241.0	37.60	7.409		
3,900.0	3,757.5	3,870.9	3,730.1	19.6	20.2	-89.37	288.2	-887.6	288.3	249.3	39.01	7.390		
4,000.0	3,851.7	3,970.4	3,824.2	20.3	20.9	-89.97	298.3	-918.0	298.0	257.6	40.42	7.374		
4,100.0	3,945.8	4,069.9	3,918.4	21.0	21.6	-90.54	308.4	-948.5	307.8	266.0	41.82	7.360		
4,200.0	4,039.9	4,169.3	4,012.6	21.7	22.3	-91.07	318.4	-979.0	317.6	274.4	43.22	7.348		
4,300.0	4,134.0	4,268.8	4,106.7	22.4	23.0	-91.57	328.5	-1,009.4	327.4	282.8	44.62	7.338		
4,400.0	4,228.2	4,368.3	4,200.9	23.1	23.6	-92.04	338.5	-1,039.9	337.3	291.3	46.02	7.329		
4,500.0	4,322.3	4,467.8	4,295.0	23.9	24.3	-92.48	348.6	-1,070.4	347.2	299.8	47.42	7.321		
4,600.0	4,416.4	4,567.3	4,389.2	24.6	25.0	-92.90	358.7	-1,100.8	357.1	308.3	48.82	7.314		
4,700.0	4,510.5	4,666.7	4,483.4	25.3	25.7	-93.30	368.7	-1,131.3	367.0	316.8	50.21	7.309		
4,800.0	4,604.7	4,766.2	4,577.5	26.0	26.4	-93.68	378.8	-1,161.7	376.9	325.3	51.61	7.304		
4,900.0	4,698.8	4,865.7	4,671.7	26.7	27.0	-94.03	388.8	-1,192.2	386.9	333.9	53.00	7.299		
5,000.0	4,792.9	4,965.2	4,765.9	27.4	27.7	-94.37	398.9	-1,222.7	396.8	342.4	54.39	7.296		
5,100.0	4,887.0	5,064.6	4,860.0	28.1	28.4	-94.69	409.0	-1,253.1	406.8	351.0	55.78	7.292		
5,200.0	4,981.2	5,164.1	4,954.2	28.8	29.1	-95.00	419.0	-1,283.6	416.8	359.6	57.17	7.290		
5,300.0	5,075.3	5,263.6	5,048.3	29.5	29.8	-95.29	429.1	-1,314.0	426.8	368.2	58.56	7.288		
5,400.0	5,169.4	5,363.1	5,142.5	30.2	30.5	-95.57	439.2	-1,344.5	436.8	376.8	59.95	7.286		
5,500.0	5,263.5	5,462.5	5,236.7	30.9	31.1	-95.84	449.2	-1,375.0	446.8	385.5	61.34	7.284		
5,600.0	5,357.7	5,562.0	5,330.8	31.6	31.8	-96.09	459.3	-1,405.4	456.8	394.1	62.72	7.283		
5,700.0	5,451.8	5,661.5	5,425.0	32.3	32.5	-96.33	469.3	-1,435.9	466.8	402.7	64.11	7.282		
5,800.0	5,545.9	5,761.0	5,519.2	33.0	33.2	-96.57	479.4	-1,466.3	476.9	411.4	65.49	7.282		
5,900.0	5,640.0	5,860.4	5,613.3	33.8	33.9	-96.79	489.5	-1,496.8	486.9	420.1	66.88	7.281		
6,000.0	5,734.2	5,959.9	5,707.5	34.5	34.6	-97.01	499.5	-1,527.3	497.0	428.7	68.26	7.281		
6,100.0	5,828.3	6,059.4	5,801.6	35.2	35.2	-97.21	509.6	-1,557.7	507.1	437.4	69.64	7.281		
6,200.0	5,922.4	6,158.9	5,895.8	35.9	35.9	-97.41	519.6	-1,588.2	517.1	446.1	71.03	7.281		
6,261.7	5,980.5	6,220.2	5,953.9	36.3	36.3	-97.53	525.8	-1,607.0	523.3	451.5	71.88	7.281		
6,300.0	6,016.7	6,258.4	5,990.0	36.6	36.6	-90.46	529.7	-1,618.7	526.3	453.9	72.47	7.262		
6,350.0	6,064.4	6,293.4	6,023.1	36.8	36.8	-79.44	532.9	-1,629.4	528.2	455.4	72.86	7.250		
6,400.0	6,112.3	6,324.2	6,052.5	37.1	37.0	-66.93	534.4	-1,638.9	529.0	456.1	72.92	7.254		
6,450.0	6,160.3	6,350.0	6,077.0	37.3	37.2	-54.02	534.7	-1,646.8	528.6	456.0	72.67	7.274		
6,500.0	6,208.2	6,386.0	6,111.2	37.4	37.3	-41.87	533.7	-1,657.9	527.1	454.9	72.19	7.302		
6,550.0	6,255.7	6,416.9	6,140.5	37.6	37.5	-31.38	531.5	-1,667.4	524.5	453.1	71.40	7.347		
6,600.0	6,302.6	6,450.0	6,171.8	37.7	37.7	-22.68	527.7	-1,677.5	520.9	450.5	70.35	7.404		
6,650.0	6,348.8	6,478.8	6,198.9	37.8	37.8	-15.64	523.3	-1,686.3	516.1	447.1	69.01	7.478		
6,700.0	6,394.0	6,509.9	6,227.9	37.8	37.9	-9.87	517.3	-1,695.7	510.3	442.8	67.44	7.566		
6,750.0	6,438.1	6,550.0	6,265.0	37.9	38.1	-4.96	507.8	-1,707.7	503.5	437.9	65.67	7.668		
6,800.0	6,480.8	6,572.3	6,285.3	37.9	38.2	-1.00	501.6	-1,714.3	495.6	431.9	63.62	7.789		
6,850.0	6,522.0	6,600.0	6,310.4	37.9	38.3	2.48	493.0	-1,722.4	486.7	425.3	61.41	7.926		
6,900.0	6,561.5	6,635.1	6,341.7	37.8	38.4	5.72	480.8	-1,732.6	476.9	417.9	59.05	8.077		
6,950.0	6,599.2	6,666.8	6,369.5	37.8	38.5	8.64	468.6	-1,741.6	466.3	409.7	56.56	8.243		
7,000.0	6,634.8	6,700.0	6,398.0	37.7	38.6	11.43	454.4	-1,750.9	454.7	400.7	54.00	8.421		
7,050.0	6,668.2	6,730.5	6,423.8	37.6	38.7	14.05	440.2	-1,759.3	442.4	391.0	51.39	8.608		
7,100.0	6,699.3	6,762.7	6,450.3	37.5	38.8	16.67	424.1	-1,767.9	429.4	380.6	48.83	8.793		
7,150.0	6,728.0	6,800.0	6,480.1	37.4	38.9	19.49	404.0	-1,777.6	415.8	369.4	46.41	8.958		
7,200.0	6,754.1	6,827.8	6,501.7	37.2	38.9	22.03	388.1	-1,784.6	401.5	357.4	44.12	9.101		
7,250.0	6,777.4	6,860.7	6,526.7	37.1	39.0	24.84	368.1	-1,792.7	386.9	344.8	42.15	9.179		
7,300.0	6,798.0	6,900.0	6,555.3	37.0	39.1	28.12	342.8	-1,802.0	372.1	331.4	40.66	9.151		
7,350.0	6,815.7	6,927.6	6,574.6	36.8	39.1	30.95	324.2	-1,808.3	356.9	317.5	39.45	9.047		
7,400.0	6,830.5	6,961.6	6,597.5	36.6	39.2	34.30	300.2	-1,815.8	342.0	303.1	38.87	8.798		
7,450.0	6,842.2	7,000.0	6,622.1	36.5	39.2	38.19	271.8	-1,823.8	327.3	288.4	38.91	8.410		
7,500.0	6,850.9	7,031.0	6,641.0	36.3	39.3	41.75	248.1	-1,830.0	313.1	273.8	39.24	7.978		

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (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		
7,550.0	6,856.5	7,066.4	6,661.4	36.2	39.3	45.88	219.9	-1,836.6	299.8	259.7	40.06	7.484		
7,600.0	6,858.9	7,100.0	6,679.6	36.0	39.3	50.01	192.3	-1,842.6	287.7	246.7	41.03	7.011		
7,616.8	6,859.0	7,114.8	6,687.3	36.0	39.4	51.80	179.9	-1,845.1	284.0	242.5	41.49	6.844		
7,700.0	6,858.7	7,178.9	6,717.7	35.7	39.4	58.28	124.3	-1,855.1	270.0	226.7	43.25	6.242		
7,800.0	6,858.3	7,264.2	6,751.1	35.5	39.5	65.84	46.7	-1,866.0	262.0	217.3	44.69	5.862		
7,895.7	6,857.9	7,353.4	6,777.0	35.3	39.6	71.90	-38.2	-1,874.6	260.3	214.7	45.55	5.714		
7,900.0	6,857.9	7,357.6	6,778.0	35.3	39.6	72.13	-42.2	-1,874.9	260.3	214.7	45.58	5.710		
8,000.0	6,857.5	7,457.2	6,795.1	35.2	39.6	76.17	-140.1	-1,880.7	261.0	214.7	46.39	5.627		
8,100.0	6,857.1	7,559.7	6,799.9	35.2	39.7	77.38	-242.4	-1,882.4	261.6	214.0	47.59	5.496		
8,200.0	6,856.7	7,659.7	6,799.3	35.3	39.9	77.32	-342.4	-1,882.4	261.6	212.5	49.12	5.326		
8,300.0	6,856.3	7,759.7	6,798.7	35.5	40.1	77.27	-442.4	-1,882.4	261.7	210.8	50.86	5.145		
8,400.0	6,855.9	7,859.7	6,798.0	35.8	40.3	77.22	-542.4	-1,882.4	261.7	208.9	52.81	4.956		
8,500.0	6,855.5	7,959.7	6,797.4	36.2	40.7	77.16	-642.4	-1,882.4	261.8	206.8	54.95	4.764		
8,600.0	6,855.2	8,059.7	6,796.7	36.8	41.1	77.11	-742.4	-1,882.4	261.8	204.6	57.26	4.573		
8,700.0	6,854.8	8,159.7	6,796.1	37.6	41.7	77.06	-842.4	-1,882.4	261.9	202.2	59.71	4.386		
8,800.0	6,854.4	8,259.7	6,795.5	38.5	42.3	77.00	-942.4	-1,882.4	261.9	199.6	62.30	4.205		
8,900.0	6,854.0	8,359.7	6,794.8	39.5	43.0	76.95	-1,042.4	-1,882.4	262.0	197.0	64.99	4.031		
9,000.0	6,853.6	8,459.7	6,794.2	40.6	43.8	76.90	-1,142.4	-1,882.4	262.1	194.3	67.79	3.865		
9,100.0	6,853.2	8,559.7	6,793.5	41.8	44.7	76.85	-1,242.4	-1,882.4	262.1	191.4	70.68	3.708		
9,200.0	6,852.8	8,659.7	6,792.9	43.0	45.6	76.79	-1,342.4	-1,882.4	262.2	188.5	73.64	3.560		
9,300.0	6,852.4	8,759.7	6,792.3	44.4	46.6	76.74	-1,442.4	-1,882.4	262.2	185.5	76.68	3.420		
9,400.0	6,852.0	8,859.7	6,791.6	45.8	47.7	76.69	-1,542.4	-1,882.4	262.3	182.5	79.77	3.288		
9,500.0	6,851.6	8,959.7	6,791.0	47.2	48.9	76.63	-1,642.4	-1,882.4	262.3	179.4	82.92	3.164		
9,600.0	6,851.2	9,059.7	6,790.4	48.7	50.1	76.58	-1,742.4	-1,882.4	262.4	176.3	86.11	3.047		
9,700.0	6,850.8	9,159.7	6,789.7	50.2	51.4	76.53	-1,842.4	-1,882.4	262.4	173.1	89.35	2.937		
9,800.0	6,850.5	9,259.7	6,789.1	51.8	52.7	76.48	-1,942.4	-1,882.4	262.5	169.9	92.62	2.834		
9,900.0	6,850.1	9,359.7	6,788.4	53.4	54.1	76.42	-2,042.4	-1,882.4	262.6	166.6	95.92	2.737		
10,000.0	6,849.7	9,459.7	6,787.8	55.0	55.5	76.37	-2,142.4	-1,882.4	262.6	163.4	99.26	2.646		
10,100.0	6,849.3	9,559.7	6,787.2	56.6	57.0	76.32	-2,242.4	-1,882.4	262.7	160.1	102.62	2.560		
10,200.0	6,848.9	9,659.7	6,786.5	58.2	58.4	76.27	-2,342.4	-1,882.4	262.7	156.7	106.01	2.478		
10,300.0	6,848.5	9,759.7	6,785.9	59.9	59.9	76.21	-2,442.4	-1,882.4	262.8	153.4	109.42	2.402		
10,400.0	6,848.1	9,859.7	6,785.2	61.5	61.5	76.16	-2,542.4	-1,882.4	262.9	150.0	112.85	2.329		
10,500.0	6,847.7	9,959.7	6,784.6	63.2	63.0	76.11	-2,642.4	-1,882.4	262.9	146.6	116.29	2.261		
10,600.0	6,847.3	10,059.7	6,784.0	64.9	64.6	76.05	-2,742.4	-1,882.4	263.0	143.2	119.75	2.196		
10,700.0	6,846.9	10,159.7	6,783.3	66.6	66.2	76.00	-2,842.4	-1,882.4	263.0	139.8	123.23	2.134		
10,800.0	6,846.5	10,259.7	6,782.7	68.4	67.9	75.95	-2,942.4	-1,882.4	263.1	136.4	126.72	2.076		
10,900.0	6,846.2	10,359.7	6,782.0	70.1	69.5	75.90	-3,042.4	-1,882.4	263.1	132.9	130.22	2.021		
11,000.0	6,845.8	10,459.7	6,781.4	71.8	71.2	75.84	-3,142.4	-1,882.4	263.2	129.5	133.73	1.968		
11,100.0	6,845.4	10,559.7	6,780.8	73.6	72.8	75.79	-3,242.4	-1,882.4	263.3	126.0	137.25	1.918		
11,200.0	6,845.0	10,659.7	6,780.1	75.4	74.5	75.74	-3,342.3	-1,882.4	263.3	122.5	140.78	1.870		
11,300.0	6,844.6	10,759.7	6,779.5	77.1	76.2	75.69	-3,442.3	-1,882.4	263.4	119.1	144.32	1.825		
11,400.0	6,844.2	10,859.7	6,778.8	78.9	77.9	75.64	-3,542.3	-1,882.4	263.4	115.6	147.87	1.782		
11,500.0	6,843.8	10,959.7	6,778.2	80.7	79.6	75.58	-3,642.3	-1,882.4	263.5	112.1	151.42	1.740		
11,600.0	6,843.4	11,059.7	6,777.6	82.5	81.4	75.53	-3,742.3	-1,882.4	263.6	108.6	154.98	1.701		
11,700.0	6,843.0	11,159.7	6,776.9	84.2	83.1	75.48	-3,842.3	-1,882.4	263.6	105.1	158.55	1.663		
11,800.0	6,842.6	11,259.7	6,776.3	86.0	84.8	75.43	-3,942.3	-1,882.4	263.7	101.6	162.12	1.627		
11,900.0	6,842.2	11,359.7	6,775.6	87.8	86.6	75.37	-4,042.3	-1,882.4	263.8	98.1	165.70	1.592		
12,000.0	6,841.9	11,459.7	6,775.0	89.6	88.4	75.32	-4,142.3	-1,882.4	263.8	94.5	169.28	1.559		
12,100.0	6,841.5	11,559.7	6,774.4	91.5	90.1	75.27	-4,242.3	-1,882.4	263.9	91.0	172.86	1.527		
12,200.0	6,841.1	11,659.7	6,773.7	93.3	91.9	75.22	-4,342.3	-1,882.4	263.9	87.5	176.45	1.496 Level 3		
12,300.0	6,840.7	11,759.7	6,773.1	95.1	93.7	75.16	-4,442.3	-1,882.4	264.0	84.0	180.04	1.466 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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-203 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
12,400.0	6,840.3	11,859.7	6,772.4	96.9	95.5	75.11	-4,542.3	-1,882.4	264.1	80.4	183.63	1.438	Level 3	
12,500.0	6,839.9	11,959.7	6,771.8	98.7	97.3	75.06	-4,642.3	-1,882.4	264.1	76.9	187.23	1.411	Level 3	
12,600.0	6,839.5	12,059.7	6,771.2	100.6	99.0	75.01	-4,742.3	-1,882.4	264.2	73.4	190.83	1.384	Level 3	
12,700.0	6,839.1	12,159.7	6,770.5	102.4	100.8	74.96	-4,842.3	-1,882.4	264.3	69.8	194.43	1.359	Level 3	
12,800.0	6,838.7	12,259.7	6,769.9	104.2	102.7	74.90	-4,942.3	-1,882.4	264.3	66.3	198.04	1.335	Level 3	
12,900.0	6,838.3	12,359.7	6,769.2	106.1	104.5	74.85	-5,042.3	-1,882.4	264.4	62.7	201.64	1.311	Level 3	
13,000.0	6,837.9	12,459.7	6,768.6	107.9	106.3	74.80	-5,142.3	-1,882.4	264.5	59.2	205.25	1.288	Level 3	
13,100.0	6,837.5	12,559.7	6,768.0	109.8	108.1	74.75	-5,242.3	-1,882.4	264.5	55.7	208.86	1.266	Level 3	
13,200.0	6,837.2	12,659.7	6,767.3	111.6	109.9	74.70	-5,342.3	-1,882.4	264.6	52.1	212.47	1.245	Level 2	
13,300.0	6,836.8	12,759.7	6,766.7	113.4	111.7	74.64	-5,442.3	-1,882.4	264.6	48.6	216.08	1.225	Level 2	
13,400.0	6,836.4	12,859.7	6,766.0	115.3	113.6	74.59	-5,542.3	-1,882.4	264.7	45.0	219.69	1.205	Level 2	
13,500.0	6,836.0	12,959.7	6,765.4	117.1	115.4	74.54	-5,642.3	-1,882.4	264.8	41.5	223.30	1.186	Level 2	
13,600.0	6,835.6	13,059.7	6,764.8	119.0	117.2	74.49	-5,742.3	-1,882.4	264.8	37.9	226.92	1.167	Level 2	
13,700.0	6,835.2	13,159.7	6,764.1	120.9	119.1	74.44	-5,842.3	-1,882.4	264.9	34.4	230.53	1.149	Level 2	
13,800.0	6,834.8	13,259.7	6,763.5	122.7	120.9	74.39	-5,942.3	-1,882.4	265.0	30.8	234.15	1.132	Level 2	
13,900.0	6,834.4	13,359.7	6,762.9	124.6	122.7	74.33	-6,042.3	-1,882.4	265.0	27.3	237.76	1.115	Level 2	
14,000.0	6,834.0	13,459.7	6,762.2	126.4	124.6	74.28	-6,142.3	-1,882.4	265.1	23.7	241.38	1.098	Level 2	
14,100.0	6,833.6	13,559.7	6,761.6	128.3	126.4	74.23	-6,242.3	-1,882.4	265.2	20.2	244.99	1.082	Level 2	
14,200.0	6,833.2	13,659.7	6,760.9	130.2	128.3	74.18	-6,342.3	-1,882.4	265.2	16.6	248.61	1.067	Level 2	
14,300.0	6,832.9	13,759.7	6,760.3	132.0	130.1	74.13	-6,442.3	-1,882.4	265.3	13.1	252.22	1.052	Level 2	
14,400.0	6,832.5	13,859.7	6,759.7	133.9	132.0	74.08	-6,542.3	-1,882.4	265.4	9.5	255.84	1.037	Level 2	
14,500.0	6,832.1	13,959.7	6,759.0	135.8	133.8	74.02	-6,642.3	-1,882.4	265.4	6.0	259.45	1.023	Level 2	
14,600.0	6,831.7	14,059.7	6,758.4	137.6	135.7	73.97	-6,742.3	-1,882.4	265.5	2.4	263.07	1.009	Level 2	
14,700.0	6,831.3	14,159.7	6,757.7	139.5	137.6	73.92	-6,842.3	-1,882.4	265.6	-1.1	266.68	0.996	Level 1	
14,800.0	6,830.9	14,259.7	6,757.1	141.4	139.4	73.87	-6,942.3	-1,882.4	265.6	-4.7	270.30	0.983	Level 1	
14,900.0	6,830.5	14,359.7	6,756.5	143.3	141.3	73.82	-7,042.3	-1,882.4	265.7	-8.2	273.91	0.970	Level 1	
15,000.0	6,830.1	14,459.7	6,755.8	145.1	143.1	73.77	-7,142.3	-1,882.4	265.8	-11.7	277.53	0.958	Level 1	
15,100.0	6,829.7	14,559.7	6,755.2	147.0	145.0	73.71	-7,242.3	-1,882.4	265.9	-15.3	281.14	0.946	Level 1	
15,200.0	6,829.3	14,659.7	6,754.5	148.9	146.9	73.66	-7,342.3	-1,882.4	265.9	-18.8	284.75	0.934	Level 1	
15,241.0	6,829.2	14,700.7	6,754.3	149.7	147.6	73.64	-7,383.3	-1,882.4	265.9	-20.3	286.23	0.929	Level 1	
15,284.8	6,829.0	14,743.5	6,754.0	150.5	148.4	73.62	-7,426.0	-1,882.4	266.0	-21.8	287.80	0.924	Level 1, ES, SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program:		0-MWD												
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	89.97	0.0	14.8	14.8	14.8	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	89.97	0.0	14.8	14.8	14.5	0.22	65.671		
200.0	200.0	200.0	200.0	0.3	0.3	89.97	0.0	14.8	14.8	14.1	0.67	21.890		
300.0	300.0	300.0	300.0	0.6	0.6	89.97	0.0	14.8	14.8	13.6	1.12	13.134		
400.0	400.0	400.0	400.0	0.8	0.8	89.97	0.0	14.8	14.8	13.2	1.57	9.382		
500.0	500.0	500.0	500.0	1.0	1.0	89.97	0.0	14.8	14.8	12.7	2.02	7.297		
600.0	600.0	600.0	600.0	1.2	1.2	89.97	0.0	14.8	14.8	12.3	2.47	5.970 CC		
700.0	700.0	700.0	700.0	1.5	1.5	146.84	0.0	14.8	15.8	12.9	2.92	5.428		
800.0	799.9	799.9	799.9	1.7	1.7	153.22	0.0	14.8	19.2	15.9	3.36	5.724		
900.0	899.7	900.3	900.3	1.9	1.9	158.59	0.9	13.8	24.1	20.3	3.80	6.331		
1,000.0	999.3	1,000.8	1,000.7	2.1	2.1	161.69	3.5	10.8	29.1	24.9	4.24	6.867		
1,100.0	1,098.6	1,101.4	1,101.1	2.4	2.4	163.48	7.8	5.8	34.3	29.6	4.68	7.323		
1,200.0	1,197.5	1,202.2	1,201.4	2.7	2.6	164.45	13.9	-1.2	39.6	34.4	5.13	7.707		
1,300.0	1,296.1	1,303.1	1,301.6	3.0	2.9	164.90	21.8	-10.2	44.9	39.3	5.59	8.029		
1,400.0	1,394.2	1,404.1	1,401.6	3.4	3.1	164.97	31.4	-21.2	50.2	44.2	6.05	8.297		
1,500.0	1,491.7	1,505.3	1,501.3	3.8	3.5	164.79	42.7	-34.1	55.6	49.1	6.54	8.514		
1,600.0	1,588.6	1,606.6	1,600.6	4.2	3.8	164.41	55.8	-49.2	61.1	54.1	7.03	8.684		
1,700.0	1,684.9	1,708.0	1,699.5	4.7	4.2	163.89	70.7	-66.2	66.6	59.0	7.56	8.809		
1,800.0	1,780.4	1,809.6	1,797.9	5.3	4.6	163.25	87.2	-85.2	72.1	64.0	8.11	8.894		
1,900.0	1,875.0	1,911.3	1,895.6	5.9	5.1	162.53	105.6	-106.2	77.7	69.0	8.70	8.933		
1,915.9	1,890.0	1,927.4	1,911.1	6.0	5.2	162.41	108.6	-109.7	78.6	69.8	8.80	8.935		
2,000.0	1,969.2	2,013.1	1,992.8	6.5	5.7	161.56	125.6	-129.1	82.4	73.1	9.36	8.805		
2,100.0	2,063.3	2,113.7	2,088.1	7.2	6.3	160.15	146.7	-153.3	85.4	75.3	10.09	8.460		
2,200.0	2,157.4	2,213.6	2,182.8	7.8	6.9	158.80	167.8	-177.4	88.3	77.4	10.87	8.125		
2,300.0	2,251.6	2,313.5	2,277.5	8.5	7.5	157.55	188.8	-201.5	91.2	79.5	11.67	7.813		
2,400.0	2,345.7	2,413.5	2,372.2	9.2	8.1	156.37	209.9	-225.6	94.2	81.7	12.52	7.525		
2,500.0	2,439.8	2,513.4	2,466.8	9.9	8.7	155.26	230.9	-249.7	97.2	83.8	13.39	7.259		
2,600.0	2,533.9	2,613.4	2,561.5	10.5	9.3	154.22	251.9	-273.8	100.2	85.9	14.29	7.014		
2,700.0	2,628.1	2,713.3	2,656.2	11.2	10.0	153.25	273.0	-297.9	103.3	88.1	15.22	6.788		
2,800.0	2,722.2	2,813.2	2,750.9	11.9	10.6	152.32	294.0	-322.0	106.4	90.2	16.17	6.581		
2,900.0	2,816.3	2,913.2	2,845.5	12.6	11.3	151.46	315.1	-346.1	109.5	92.4	17.14	6.391		
3,000.0	2,910.4	3,013.1	2,940.2	13.3	11.9	150.63	336.1	-370.2	112.7	94.6	18.13	6.215		
3,100.0	3,004.6	3,113.0	3,034.9	14.0	12.6	149.86	357.2	-394.3	115.9	96.7	19.14	6.054		
3,200.0	3,098.7	3,213.0	3,129.6	14.7	13.2	149.13	378.2	-418.4	119.0	98.9	20.16	5.905		
3,300.0	3,192.8	3,312.9	3,224.3	15.4	13.9	148.43	399.2	-442.5	122.3	101.1	21.20	5.768		
3,400.0	3,286.9	3,412.9	3,318.9	16.1	14.5	147.77	420.3	-466.6	125.5	103.2	22.25	5.641		
3,500.0	3,381.1	3,512.8	3,413.6	16.8	15.2	147.14	441.3	-490.7	128.7	105.4	23.31	5.523		
3,600.0	3,475.2	3,612.7	3,508.3	17.5	15.8	146.55	462.4	-514.8	132.0	107.6	24.38	5.414		
3,700.0	3,569.3	3,712.7	3,603.0	18.2	16.5	145.98	483.4	-538.9	135.3	109.8	25.46	5.313		
3,800.0	3,663.4	3,812.6	3,697.6	18.9	17.1	145.44	504.5	-563.0	138.5	112.0	26.55	5.219		
3,900.0	3,757.5	3,912.5	3,792.3	19.6	17.8	144.92	525.5	-587.1	141.8	114.2	27.65	5.131		
4,000.0	3,851.7	4,012.5	3,887.0	20.3	18.5	144.43	546.5	-611.2	145.1	116.4	28.75	5.048		
4,100.0	3,945.8	4,112.4	3,981.7	21.0	19.1	143.96	567.6	-635.3	148.5	118.6	29.86	4.972		
4,200.0	4,039.9	4,212.4	4,076.4	21.7	19.8	143.51	588.6	-659.4	151.8	120.8	30.98	4.900		
4,300.0	4,134.0	4,312.3	4,171.0	22.4	20.4	143.08	609.7	-683.5	155.1	123.0	32.10	4.832		
4,400.0	4,228.2	4,412.2	4,265.7	23.1	21.1	142.67	630.7	-707.6	158.5	125.2	33.23	4.769		
4,500.0	4,322.3	4,512.2	4,360.4	23.9	21.8	142.28	651.8	-731.7	161.8	127.5	34.37	4.709		
4,600.0	4,416.4	4,612.1	4,455.1	24.6	22.4	141.90	672.8	-755.8	165.2	129.7	35.50	4.653		
4,700.0	4,510.5	4,712.0	4,549.7	25.3	23.1	141.53	693.8	-779.9	168.6	131.9	36.65	4.600		
4,800.0	4,604.7	4,812.0	4,644.4	26.0	23.8	141.18	714.9	-804.0	171.9	134.1	37.79	4.549		
4,900.0	4,698.8	4,911.9	4,739.1	26.7	24.4	140.85	735.9	-828.1	175.3	136.4	38.94	4.502		

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference				Offset			Semi Major Axis		Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,792.9	5,011.9	4,833.8	27.4	25.1	140.52	757.0	-852.3	178.7	138.6	40.09	4.457	
5,100.0	4,887.0	5,111.8	4,928.5	28.1	25.8	140.21	778.0	-876.4	182.1	140.8	41.25	4.414	
5,200.0	4,981.2	5,211.7	5,023.1	28.8	26.4	139.91	799.1	-900.5	185.5	143.1	42.41	4.374	
5,300.0	5,075.3	5,311.7	5,117.8	29.5	27.1	139.62	820.1	-924.6	188.9	145.3	43.57	4.335	
5,400.0	5,169.4	5,411.6	5,212.5	30.2	27.8	139.35	841.1	-948.7	192.3	147.6	44.73	4.299	
5,500.0	5,263.5	5,511.5	5,307.2	30.9	28.4	139.08	862.2	-972.8	195.7	149.8	45.90	4.264	
5,600.0	5,357.7	5,611.5	5,401.8	31.6	29.1	138.82	883.2	-996.9	199.1	152.0	47.07	4.231	
5,700.0	5,451.8	5,711.4	5,496.5	32.3	29.8	138.57	904.3	-1,021.0	202.5	154.3	48.23	4.199	
5,800.0	5,545.9	5,811.4	5,591.2	33.0	30.4	138.32	925.3	-1,045.1	205.9	156.5	49.41	4.168	
5,900.0	5,640.0	5,911.3	5,685.9	33.8	31.1	138.09	946.4	-1,069.2	209.4	158.8	50.58	4.139	
6,000.0	5,734.2	6,011.2	5,780.6	34.5	31.8	137.86	967.4	-1,093.3	212.8	161.0	51.76	4.112	
6,100.0	5,828.3	6,111.2	5,875.2	35.2	32.4	137.64	988.4	-1,117.4	216.2	163.3	52.93	4.085	
6,200.0	5,922.4	6,213.8	5,973.0	35.9	33.0	138.30	1,006.7	-1,142.3	219.2	165.7	53.53	4.095	
6,261.7	5,980.5	6,276.9	6,034.0	36.3	33.3	140.37	1,011.5	-1,157.8	220.4	167.6	52.84	4.072	
6,300.0	6,016.7	6,315.6	6,071.5	36.6	33.4	149.28	1,011.9	-1,167.4	221.2	169.2	52.07	4.249	
6,350.0	6,064.4	6,365.5	6,119.8	36.8	33.6	162.54	1,009.5	-1,179.7	222.6	171.6	50.97	4.367	
6,400.0	6,112.3	6,414.9	6,167.3	37.1	33.7	177.18	1,003.9	-1,191.8	224.2	174.4	49.81	4.501	
6,450.0	6,160.3	6,463.7	6,213.9	37.3	33.8	-167.87	995.3	-1,203.7	226.1	177.5	48.65	4.648	
6,500.0	6,208.2	6,512.1	6,259.4	37.4	33.8	-153.87	983.8	-1,215.3	228.3	180.8	47.50	4.806	
6,550.0	6,255.7	6,560.0	6,303.7	37.6	33.9	-141.64	969.4	-1,226.6	230.7	184.3	46.40	4.973	
6,600.0	6,302.6	6,607.5	6,346.6	37.7	33.9	-131.38	952.4	-1,237.6	233.4	188.0	45.36	5.145	
6,650.0	6,348.8	6,654.5	6,388.0	37.8	33.8	-122.91	932.9	-1,248.2	236.2	191.8	44.40	5.320	
6,700.0	6,394.0	6,700.0	6,427.0	37.8	33.8	-115.94	911.5	-1,258.1	239.2	195.6	43.54	5.493	
6,750.0	6,438.1	6,747.4	6,466.1	37.9	33.7	-110.06	886.8	-1,268.1	242.2	199.5	42.72	5.670	
6,800.0	6,480.8	6,793.3	6,502.5	37.9	33.7	-105.14	860.5	-1,277.5	245.3	203.4	42.00	5.842	
6,850.0	6,522.0	6,838.8	6,537.1	37.9	33.6	-100.95	832.1	-1,286.3	248.5	207.2	41.35	6.010	
6,900.0	6,561.5	6,884.1	6,569.7	37.8	33.5	-97.35	802.0	-1,294.7	251.7	210.9	40.77	6.173	
6,950.0	6,599.2	6,929.0	6,600.4	37.8	33.3	-94.22	770.1	-1,302.6	254.8	214.5	40.24	6.330	
7,000.0	6,634.8	6,973.7	6,629.0	37.7	33.2	-91.51	736.6	-1,309.9	257.8	218.0	39.78	6.480	
7,050.0	6,668.2	7,018.1	6,655.6	37.6	33.1	-89.14	701.6	-1,316.7	260.7	221.3	39.38	6.621	
7,100.0	6,699.3	7,062.3	6,680.0	37.5	32.9	-87.07	665.3	-1,323.0	263.5	224.5	39.03	6.751	
7,150.0	6,728.0	7,106.3	6,702.2	37.4	32.8	-85.27	627.8	-1,328.7	266.1	227.4	38.75	6.869	
7,200.0	6,754.1	7,150.0	6,722.2	37.2	32.6	-83.70	589.3	-1,333.9	268.6	230.1	38.53	6.971	
7,250.0	6,777.4	7,193.8	6,740.0	37.1	32.4	-82.35	549.6	-1,338.5	270.8	232.4	38.39	7.054	
7,300.0	6,798.0	7,237.3	6,755.5	37.0	32.3	-81.19	509.2	-1,342.5	272.8	234.5	38.34	7.116	
7,350.0	6,815.7	7,280.7	6,768.7	36.8	32.1	-80.22	468.0	-1,345.9	274.6	236.2	38.38	7.155	
7,400.0	6,830.5	7,323.9	6,779.7	36.6	32.0	-79.42	426.2	-1,348.8	276.1	237.6	38.51	7.169	
7,450.0	6,842.2	7,367.1	6,788.2	36.5	31.8	-78.79	384.0	-1,351.0	277.3	238.6	38.75	7.157	
7,500.0	6,850.9	7,410.2	6,794.5	36.3	31.6	-78.31	341.4	-1,352.7	278.2	239.2	39.08	7.120	
7,550.0	6,856.5	7,450.0	6,798.2	36.2	31.5	-78.00	301.8	-1,353.7	278.9	239.4	39.51	7.058	
7,600.0	6,858.9	7,496.2	6,800.0	36.0	31.3	-77.82	255.6	-1,354.2	279.2	239.2	40.04	6.974	
7,616.8	6,859.0	7,511.1	6,800.0	36.0	31.3	-77.80	240.8	-1,354.2	279.3	239.0	40.23	6.941	
7,700.0	6,858.7	7,594.2	6,799.5	35.7	31.0	-77.76	157.6	-1,354.2	279.3	239.0	40.28	6.933	
7,800.0	6,858.3	7,694.2	6,798.9	35.5	30.7	-77.72	57.6	-1,354.2	279.3	238.8	40.59	6.882	
7,900.0	6,857.9	7,794.2	6,798.3	35.3	30.5	-77.68	-42.4	-1,354.2	279.4	238.2	41.24	6.775	
8,000.0	6,857.5	7,894.2	6,797.7	35.2	30.4	-77.64	-142.4	-1,354.2	279.4	237.2	42.21	6.620	
8,100.0	6,857.1	7,994.2	6,797.1	35.2	30.4	-77.60	-242.4	-1,354.2	279.5	236.0	43.49	6.426	
8,200.0	6,856.7	8,094.2	6,796.5	35.3	30.5	-77.56	-342.4	-1,354.2	279.5	234.5	45.04	6.206	
8,300.0	6,856.3	8,194.2	6,795.9	35.5	30.9	-77.51	-442.4	-1,354.2	279.6	232.7	46.85	5.968	
8,400.0	6,855.9	8,294.2	6,795.3	35.8	31.4	-77.47	-542.4	-1,354.2	279.6	230.7	48.88	5.721	
8,500.0	6,855.5	8,394.2	6,794.7	36.2	32.1	-77.43	-642.4	-1,354.2	279.7	228.6	51.10	5.473	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design		Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8,600.0	6,855.2	8,494.2	6,794.1	36.8	33.0	-77.39	-742.4	-1,354.2	279.7	226.2	53.49	5.229			
8,700.0	6,854.8	8,594.2	6,793.5	37.6	34.0	-77.35	-842.4	-1,354.2	279.8	223.7	56.03	4.993			
8,800.0	6,854.4	8,694.2	6,792.9	38.5	35.2	-77.31	-942.4	-1,354.2	279.8	221.1	58.71	4.766			
8,900.0	6,854.0	8,794.2	6,792.3	39.5	36.5	-77.27	-1,042.4	-1,354.2	279.9	218.4	61.49	4.551			
9,000.0	6,853.6	8,894.2	6,791.7	40.6	37.8	-77.22	-1,142.4	-1,354.2	279.9	215.5	64.37	4.348			
9,100.0	6,853.2	8,994.2	6,791.1	41.8	39.2	-77.18	-1,242.4	-1,354.2	279.9	212.6	67.34	4.157			
9,200.0	6,852.8	9,094.2	6,790.5	43.0	40.7	-77.14	-1,342.4	-1,354.2	280.0	209.6	70.38	3.979			
9,300.0	6,852.4	9,194.2	6,789.9	44.4	42.1	-77.10	-1,442.4	-1,354.2	280.0	206.6	73.48	3.811			
9,400.0	6,852.0	9,294.2	6,789.3	45.8	43.7	-77.06	-1,542.4	-1,354.2	280.1	203.4	76.64	3.655			
9,500.0	6,851.6	9,394.2	6,788.7	47.2	45.2	-77.02	-1,642.4	-1,354.2	280.1	200.3	79.85	3.508			
9,600.0	6,851.2	9,494.2	6,788.1	48.7	46.8	-76.97	-1,742.4	-1,354.2	280.2	197.1	83.11	3.371			
9,700.0	6,850.8	9,594.2	6,787.5	50.2	48.4	-76.93	-1,842.4	-1,354.2	280.2	193.8	86.40	3.243			
9,800.0	6,850.5	9,694.2	6,786.9	51.8	50.0	-76.89	-1,942.4	-1,354.2	280.3	190.6	89.73	3.124			
9,900.0	6,850.1	9,794.2	6,786.3	53.4	51.7	-76.85	-2,042.4	-1,354.2	280.3	187.2	93.08	3.012			
10,000.0	6,849.7	9,894.2	6,785.7	55.0	53.3	-76.81	-2,142.4	-1,354.2	280.4	183.9	96.47	2.906			
10,100.0	6,849.3	9,994.2	6,785.1	56.6	55.0	-76.77	-2,242.4	-1,354.2	280.4	180.5	99.88	2.808			
10,200.0	6,848.9	10,094.2	6,784.5	58.2	56.7	-76.73	-2,342.4	-1,354.2	280.5	177.2	103.31	2.715			
10,300.0	6,848.5	10,194.2	6,783.9	59.9	58.4	-76.68	-2,442.4	-1,354.2	280.5	173.8	106.76	2.628			
10,400.0	6,848.1	10,294.2	6,783.3	61.5	60.1	-76.64	-2,542.4	-1,354.2	280.6	170.3	110.23	2.545			
10,500.0	6,847.7	10,394.2	6,782.7	63.2	61.9	-76.60	-2,642.4	-1,354.2	280.6	166.9	113.71	2.468			
10,600.0	6,847.3	10,494.2	6,782.1	64.9	63.6	-76.56	-2,742.4	-1,354.2	280.7	163.5	117.21	2.395			
10,700.0	6,846.9	10,594.2	6,781.5	66.6	65.4	-76.52	-2,842.4	-1,354.2	280.7	160.0	120.72	2.325			
10,800.0	6,846.5	10,694.2	6,780.9	68.4	67.1	-76.48	-2,942.4	-1,354.2	280.8	156.5	124.24	2.260			
10,900.0	6,846.2	10,794.2	6,780.3	70.1	68.9	-76.44	-3,042.4	-1,354.2	280.8	153.0	127.78	2.198			
11,000.0	6,845.8	10,894.2	6,779.7	71.8	70.7	-76.40	-3,142.4	-1,354.2	280.9	149.5	131.32	2.139			
11,100.0	6,845.4	10,994.2	6,779.1	73.6	72.5	-76.35	-3,242.4	-1,354.2	280.9	146.0	134.87	2.083			
11,200.0	6,845.0	11,094.2	6,778.5	75.4	74.2	-76.31	-3,342.4	-1,354.2	281.0	142.5	138.43	2.030			
11,300.0	6,844.6	11,194.2	6,777.9	77.1	76.0	-76.27	-3,442.4	-1,354.2	281.0	139.0	142.00	1.979			
11,400.0	6,844.2	11,294.2	6,777.3	78.9	77.8	-76.23	-3,542.4	-1,354.2	281.1	135.5	145.57	1.931			
11,500.0	6,843.8	11,394.2	6,776.7	80.7	79.6	-76.19	-3,642.4	-1,354.2	281.1	132.0	149.15	1.885			
11,600.0	6,843.4	11,494.2	6,776.1	82.5	81.4	-76.15	-3,742.4	-1,354.2	281.2	128.4	152.74	1.841			
11,700.0	6,843.0	11,594.2	6,775.5	84.2	83.3	-76.11	-3,842.4	-1,354.2	281.2	124.9	156.33	1.799			
11,800.0	6,842.6	11,694.2	6,774.9	86.0	85.1	-76.07	-3,942.3	-1,354.2	281.3	121.3	159.93	1.759			
11,900.0	6,842.2	11,794.2	6,774.3	87.8	86.9	-76.02	-4,042.3	-1,354.2	281.3	117.8	163.53	1.720			
12,000.0	6,841.9	11,894.2	6,773.7	89.6	88.7	-75.98	-4,142.3	-1,354.2	281.4	114.2	167.13	1.684			
12,100.0	6,841.5	11,994.2	6,773.1	91.5	90.6	-75.94	-4,242.3	-1,354.2	281.4	110.7	170.74	1.648			
12,200.0	6,841.1	12,094.2	6,772.5	93.3	92.4	-75.90	-4,342.3	-1,354.2	281.5	107.1	174.35	1.614			
12,300.0	6,840.7	12,194.2	6,771.9	95.1	94.2	-75.86	-4,442.3	-1,354.2	281.5	103.6	177.97	1.582			
12,400.0	6,840.3	12,294.2	6,771.3	96.9	96.1	-75.82	-4,542.3	-1,354.2	281.6	100.0	181.58	1.551			
12,500.0	6,839.9	12,394.2	6,770.7	98.7	97.9	-75.78	-4,642.3	-1,354.2	281.6	96.4	185.20	1.521			
12,600.0	6,839.5	12,494.2	6,770.1	100.6	99.8	-75.74	-4,742.3	-1,354.2	281.7	92.9	188.83	1.492 Level 3			
12,700.0	6,839.1	12,594.2	6,769.5	102.4	101.6	-75.70	-4,842.3	-1,354.2	281.7	89.3	192.45	1.464 Level 3			
12,800.0	6,838.7	12,694.2	6,768.9	104.2	103.5	-75.66	-4,942.3	-1,354.2	281.8	85.7	196.08	1.437 Level 3			
12,900.0	6,838.3	12,794.2	6,768.3	106.1	105.3	-75.61	-5,042.3	-1,354.2	281.8	82.1	199.70	1.411 Level 3			
13,000.0	6,837.9	12,894.2	6,767.7	107.9	107.2	-75.57	-5,142.3	-1,354.2	281.9	78.6	203.33	1.386 Level 3			
13,100.0	6,837.5	12,994.2	6,767.1	109.8	109.0	-75.53	-5,242.3	-1,354.2	281.9	75.0	206.96	1.362 Level 3			
13,200.0	6,837.2	13,094.2	6,766.5	111.6	110.9	-75.49	-5,342.3	-1,354.2	282.0	71.4	210.60	1.339 Level 3			
13,300.0	6,836.8	13,194.2	6,765.9	113.4	112.7	-75.45	-5,442.3	-1,354.2	282.0	67.8	214.23	1.317 Level 3			
13,400.0	6,836.4	13,294.2	6,765.3	115.3	114.6	-75.41	-5,542.3	-1,354.2	282.1	64.2	217.87	1.295 Level 3			
13,500.0	6,836.0	13,394.2	6,764.7	117.1	116.5	-75.37	-5,642.3	-1,354.2	282.2	60.6	221.50	1.274 Level 3			
13,600.0	6,835.6	13,494.2	6,764.1	119.0	118.3	-75.33	-5,742.3	-1,354.2	282.2	57.1	225.14	1.253 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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-223 - Wellbore #1 - Plan #2 (3-02-16)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,700.0	6,835.2	13,594.2	6,763.5	120.9	120.2	-75.29	-5,842.3	-1,354.2	282.3	53.5	228.77	1.234	Level 2	
13,800.0	6,834.8	13,694.2	6,762.9	122.7	122.1	-75.25	-5,942.3	-1,354.2	282.3	49.9	232.41	1.215	Level 2	
13,900.0	6,834.4	13,794.2	6,762.3	124.6	123.9	-75.20	-6,042.3	-1,354.2	282.4	46.3	236.05	1.196	Level 2	
14,000.0	6,834.0	13,894.2	6,761.7	126.4	125.8	-75.16	-6,142.3	-1,354.2	282.4	42.7	239.69	1.178	Level 2	
14,100.0	6,833.6	13,994.2	6,761.1	128.3	127.7	-75.12	-6,242.3	-1,354.2	282.5	39.1	243.33	1.161	Level 2	
14,200.0	6,833.2	14,094.2	6,760.5	130.2	129.6	-75.08	-6,342.3	-1,354.2	282.5	35.6	246.97	1.144	Level 2	
14,300.0	6,832.9	14,194.2	6,759.9	132.0	131.4	-75.04	-6,442.3	-1,354.2	282.6	32.0	250.61	1.128	Level 2	
14,400.0	6,832.5	14,294.2	6,759.3	133.9	133.3	-75.00	-6,542.3	-1,354.2	282.6	28.4	254.25	1.112	Level 2	
14,500.0	6,832.1	14,394.2	6,758.7	135.8	135.2	-74.96	-6,642.3	-1,354.2	282.7	24.8	257.89	1.096	Level 2	
14,600.0	6,831.7	14,494.2	6,758.1	137.6	137.1	-74.92	-6,742.3	-1,354.2	282.7	21.2	261.53	1.081	Level 2	
14,700.0	6,831.3	14,594.2	6,757.5	139.5	139.0	-74.88	-6,842.3	-1,354.2	282.8	17.6	265.17	1.067	Level 2	
14,800.0	6,830.9	14,694.2	6,756.9	141.4	140.8	-74.84	-6,942.3	-1,354.2	282.9	14.1	268.80	1.052	Level 2	
14,900.0	6,830.5	14,794.2	6,756.3	143.3	142.7	-74.80	-7,042.3	-1,354.2	282.9	10.5	272.44	1.038	Level 2	
15,000.0	6,830.1	14,894.2	6,755.7	145.1	144.6	-74.76	-7,142.3	-1,354.2	283.0	6.9	276.08	1.025	Level 2	
15,100.0	6,829.7	14,994.2	6,755.1	147.0	146.5	-74.72	-7,242.3	-1,354.2	283.0	3.3	279.72	1.012	Level 2	
15,200.0	6,829.3	15,094.2	6,754.5	148.9	148.4	-74.68	-7,342.3	-1,354.2	283.1	-0.3	283.36	0.999	Level 1	
15,284.8	6,829.0	15,179.0	6,754.0	150.5	150.0	-74.64	-7,427.1	-1,354.2	283.1	-3.3	286.45	0.988	Level 1, ES, SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-89.27	0.4	-30.1	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	-89.27	0.4	-30.1	30.1	29.9	0.22	133.830	
200.0	200.0	200.0	200.0	0.3	0.3	-89.27	0.4	-30.1	30.1	29.4	0.67	44.610 CC, ES	
300.0	300.0	299.2	299.2	0.6	0.6	-88.64	0.7	-31.3	31.3	30.2	1.12	28.098	
400.0	400.0	398.3	398.2	0.8	0.8	-87.04	1.8	-35.0	35.1	33.6	1.56	22.501	
500.0	500.0	497.1	496.8	1.0	1.0	-85.03	3.6	-41.2	41.5	39.4	2.02	20.550	
600.0	600.0	595.6	594.9	1.2	1.3	-83.06	6.1	-49.7	50.4	47.9	2.49	20.251	
700.0	700.0	693.6	692.2	1.5	1.5	-27.76	9.2	-60.7	60.7	57.8	2.91	20.869	
800.0	799.9	791.4	789.0	1.7	1.9	-27.58	13.0	-74.0	71.3	67.9	3.36	21.227	
900.0	899.7	888.9	885.1	1.9	2.2	-28.02	17.5	-89.6	82.1	78.3	3.82	21.501	
1,000.0	999.3	986.0	980.5	2.1	2.6	-28.86	22.7	-107.5	93.1	88.8	4.29	21.707	
1,100.0	1,098.6	1,082.9	1,075.1	2.4	3.0	-29.96	28.5	-127.7	104.3	99.6	4.78	21.848	
1,200.0	1,197.5	1,179.5	1,168.8	2.7	3.5	-31.23	35.0	-150.1	115.9	110.6	5.29	21.921	
1,300.0	1,296.1	1,275.7	1,261.6	3.0	4.0	-32.62	42.1	-174.7	127.7	121.9	5.83	21.920	
1,400.0	1,394.2	1,371.7	1,353.4	3.4	4.5	-34.08	49.8	-201.4	139.9	133.5	6.40	21.850	
1,500.0	1,491.7	1,467.3	1,444.1	3.8	5.1	-35.58	58.1	-230.2	152.4	145.4	7.03	21.678	
1,600.0	1,588.6	1,563.4	1,534.7	4.2	5.8	-37.12	67.0	-261.4	165.3	157.5	7.72	21.409	
1,700.0	1,684.9	1,662.6	1,627.8	4.7	6.5	-38.92	76.5	-294.1	176.9	168.4	8.49	20.835	
1,800.0	1,780.4	1,761.8	1,721.0	5.3	7.2	-41.01	85.9	-327.0	186.8	177.4	9.36	19.960	
1,900.0	1,875.0	1,861.1	1,814.2	5.9	7.9	-43.42	95.4	-359.8	195.0	184.7	10.34	18.858	
1,915.9	1,890.0	1,876.9	1,829.0	6.0	8.0	-43.83	96.9	-365.0	196.2	185.7	10.51	18.667	
2,000.0	1,969.2	1,960.4	1,907.5	6.5	8.6	-46.03	104.9	-392.6	202.4	190.9	11.44	17.687	
2,100.0	2,063.3	2,059.8	2,000.7	7.2	9.3	-48.47	114.3	-425.5	210.1	197.5	12.61	16.660	
2,200.0	2,157.4	2,159.1	2,094.0	7.8	10.0	-50.74	123.8	-458.3	218.2	204.4	13.84	15.769	
2,300.0	2,251.6	2,258.4	2,187.2	8.5	10.7	-52.85	133.3	-491.1	226.7	211.6	15.11	14.999	
2,400.0	2,345.7	2,357.7	2,280.4	9.2	11.5	-54.80	142.7	-523.9	235.4	219.0	16.42	14.333	
2,500.0	2,439.8	2,457.0	2,373.7	9.9	12.2	-56.61	152.2	-556.8	244.3	226.6	17.76	13.756	
2,600.0	2,533.9	2,556.3	2,466.9	10.5	12.9	-58.29	161.6	-589.6	253.5	234.4	19.13	13.255	
2,700.0	2,628.1	2,655.6	2,560.2	11.2	13.6	-59.85	171.1	-622.4	262.9	242.4	20.51	12.818	
2,800.0	2,722.2	2,754.9	2,653.4	11.9	14.4	-61.31	180.6	-655.3	272.5	250.6	21.91	12.436	
2,900.0	2,816.3	2,854.2	2,746.7	12.6	15.1	-62.66	190.0	-688.1	282.2	258.9	23.33	12.100	
3,000.0	2,910.4	2,953.5	2,839.9	13.3	15.8	-63.93	199.5	-720.9	292.1	267.4	24.75	11.804	
3,100.0	3,004.6	3,052.9	2,933.2	14.0	16.5	-65.11	208.9	-753.8	302.1	275.9	26.18	11.541	
3,200.0	3,098.7	3,152.2	3,026.4	14.7	17.3	-66.22	218.4	-786.6	312.3	284.6	27.61	11.308	
3,300.0	3,192.8	3,251.5	3,119.7	15.4	18.0	-67.25	227.9	-819.4	322.5	293.4	29.06	11.099	
3,400.0	3,286.9	3,350.8	3,212.9	16.1	18.7	-68.23	237.3	-852.3	332.8	302.3	30.50	10.912	
3,500.0	3,381.1	3,450.1	3,306.2	16.8	19.4	-69.14	246.8	-885.1	343.3	311.3	31.95	10.744	
3,600.0	3,475.2	3,549.4	3,399.4	17.5	20.2	-70.00	256.3	-917.9	353.8	320.4	33.40	10.593	
3,700.0	3,569.3	3,648.7	3,492.7	18.2	20.9	-70.81	265.7	-950.8	364.4	329.5	34.85	10.455	
3,800.0	3,663.4	3,748.0	3,585.9	18.9	21.6	-71.57	275.2	-983.6	375.0	338.7	36.30	10.330	
3,900.0	3,757.5	3,847.3	3,679.1	19.6	22.4	-72.30	284.6	-1,016.4	385.7	348.0	37.76	10.217	
4,000.0	3,851.7	3,946.6	3,772.4	20.3	23.1	-72.98	294.1	-1,049.3	396.5	357.3	39.21	10.113	
4,100.0	3,945.8	4,045.9	3,865.6	21.0	23.8	-73.63	303.6	-1,082.1	407.3	366.7	40.66	10.018	
4,200.0	4,039.9	4,145.3	3,958.9	21.7	24.5	-74.24	313.0	-1,114.9	418.2	376.1	42.12	9.930	
4,300.0	4,134.0	4,244.6	4,052.1	22.4	25.3	-74.82	322.5	-1,147.8	429.1	385.6	43.57	9.850	
4,400.0	4,228.2	4,343.9	4,145.4	23.1	26.0	-75.38	332.0	-1,180.6	440.1	395.1	45.02	9.775	
4,500.0	4,322.3	4,443.2	4,238.6	23.9	26.7	-75.90	341.4	-1,213.4	451.1	404.6	46.47	9.706	
4,600.0	4,416.4	4,542.5	4,331.9	24.6	27.5	-76.40	350.9	-1,246.2	462.1	414.2	47.93	9.643	
4,700.0	4,510.5	4,641.8	4,425.1	25.3	28.2	-76.88	360.3	-1,279.1	473.2	423.8	49.38	9.584	
4,800.0	4,604.7	4,741.1	4,518.4	26.0	28.9	-77.34	369.8	-1,311.9	484.3	433.5	50.83	9.528	
4,900.0	4,698.8	4,840.4	4,611.6	26.7	29.7	-77.77	379.3	-1,344.7	495.4	443.2	52.28	9.477	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (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	4,792.9	4,939.7	4,704.9	27.4	30.4	-78.19	388.7	-1,377.6	506.6	452.9	53.73	9.429		
5,100.0	4,887.0	5,039.0	4,798.1	28.1	31.1	-78.59	398.2	-1,410.4	517.8	462.6	55.17	9.384		
5,200.0	4,981.2	5,138.4	4,891.4	28.8	31.8	-78.97	407.6	-1,443.2	529.0	472.4	56.62	9.342		
5,300.0	5,075.3	5,237.7	4,984.6	29.5	32.6	-79.34	417.1	-1,476.1	540.2	482.1	58.07	9.303		
5,400.0	5,169.4	5,337.0	5,077.8	30.2	33.3	-79.69	426.6	-1,508.9	551.5	491.9	59.52	9.266		
5,500.0	5,263.5	5,436.3	5,171.1	30.9	34.0	-80.03	436.0	-1,541.7	562.7	501.8	60.96	9.231		
5,600.0	5,357.7	5,535.6	5,264.3	31.6	34.8	-80.35	445.5	-1,574.6	574.0	511.6	62.41	9.198		
5,700.0	5,451.8	5,634.9	5,357.6	32.3	35.5	-80.66	455.0	-1,607.4	585.3	521.5	63.85	9.167		
5,800.0	5,545.9	5,734.2	5,450.8	33.0	36.2	-80.96	464.4	-1,640.2	596.6	531.4	65.30	9.138		
5,900.0	5,640.0	5,833.5	5,544.1	33.8	37.0	-81.25	473.9	-1,673.1	608.0	541.2	66.74	9.110		
6,000.0	5,734.2	5,932.8	5,637.3	34.5	37.7	-81.53	483.3	-1,705.9	619.3	551.2	68.18	9.084		
6,100.0	5,828.3	6,032.1	5,730.6	35.2	38.4	-81.80	492.8	-1,738.7	630.7	561.1	69.62	9.059		
6,200.0	5,922.4	6,131.4	5,823.8	35.9	39.1	-82.05	502.3	-1,771.6	642.1	571.0	71.06	9.035		
6,261.7	5,980.5	6,192.7	5,881.3	36.3	39.6	-82.21	508.1	-1,791.8	649.1	577.2	71.95	9.021		
6,300.0	6,016.7	6,230.8	5,917.1	36.6	39.9	-75.24	511.7	-1,804.4	652.8	580.1	72.61	8.989		
6,350.0	6,064.4	6,280.7	5,964.0	36.8	40.2	-64.22	516.5	-1,820.9	655.4	582.2	73.15	8.959		
6,400.0	6,112.3	6,330.6	6,010.8	37.1	40.6	-51.47	521.2	-1,837.4	655.6	582.2	73.35	8.938		
6,450.0	6,160.3	6,380.2	6,057.4	37.3	41.0	-38.06	526.0	-1,853.8	653.4	580.2	73.20	8.926		
6,500.0	6,208.2	6,415.7	6,090.8	37.4	41.2	-25.46	529.0	-1,865.5	649.2	576.5	72.67	8.933		
6,550.0	6,255.7	6,450.0	6,123.1	37.6	41.4	-14.47	530.6	-1,876.9	644.2	572.3	71.85	8.965		
6,600.0	6,302.6	6,476.5	6,148.0	37.7	41.6	-5.39	530.7	-1,885.7	638.3	567.5	70.77	9.019		
6,650.0	6,348.8	6,500.0	6,170.2	37.8	41.7	2.01	530.0	-1,893.5	631.7	562.3	69.47	9.094		
6,700.0	6,394.0	6,537.6	6,205.6	37.8	41.9	8.43	527.4	-1,906.0	624.3	556.4	67.91	9.194		
6,750.0	6,438.1	6,568.4	6,234.5	37.9	42.1	13.76	524.0	-1,916.2	616.3	550.2	66.18	9.314		
6,800.0	6,480.8	6,600.0	6,263.9	37.9	42.3	18.40	519.1	-1,926.5	607.8	543.5	64.28	9.455		
6,850.0	6,522.0	6,630.4	6,292.1	37.9	42.4	22.49	513.3	-1,936.5	598.7	536.4	62.26	9.615		
6,900.0	6,561.5	6,661.7	6,320.8	37.8	42.6	26.24	506.0	-1,946.6	589.1	528.9	60.16	9.792		
6,950.0	6,599.2	6,700.0	6,355.4	37.8	42.7	29.98	495.4	-1,958.8	579.3	521.3	57.99	9.988		
7,000.0	6,634.8	6,725.0	6,377.8	37.7	42.8	33.06	487.5	-1,966.7	569.1	513.2	55.92	10.177		
7,050.0	6,668.2	6,750.0	6,399.9	37.6	42.9	35.98	478.8	-1,974.5	558.9	504.9	53.91	10.366		
7,100.0	6,699.3	6,789.3	6,434.1	37.5	43.1	39.40	463.6	-1,986.6	548.5	496.5	51.97	10.554		
7,150.0	6,728.0	6,821.9	6,461.9	37.4	43.2	42.50	449.6	-1,996.4	538.3	488.1	50.25	10.713		
7,200.0	6,754.1	6,850.0	6,485.3	37.2	43.3	45.32	436.6	-2,004.7	528.5	479.7	48.76	10.838		
7,250.0	6,777.4	6,888.3	6,516.6	37.1	43.4	48.65	417.3	-2,015.7	519.0	471.5	47.53	10.921		
7,300.0	6,798.0	6,922.2	6,543.4	37.0	43.5	51.72	398.9	-2,025.2	510.2	463.6	46.57	10.956		
7,350.0	6,815.7	6,956.6	6,569.8	36.8	43.6	54.80	378.9	-2,034.5	502.2	456.3	45.88	10.945		
7,400.0	6,830.5	6,991.6	6,595.8	36.6	43.7	57.87	357.4	-2,043.7	495.1	449.7	45.43	10.898		
7,450.0	6,842.2	7,027.3	6,621.3	36.5	43.8	60.93	334.1	-2,052.7	489.3	444.1	45.19	10.826		
7,500.0	6,850.9	7,063.7	6,646.2	36.3	43.9	63.98	309.1	-2,061.5	484.7	439.6	45.11	10.747		
7,550.0	6,856.5	7,100.0	6,669.9	36.2	43.9	66.91	282.9	-2,069.9	481.8	436.6	45.12	10.678		
7,600.0	6,858.9	7,139.2	6,694.2	36.0	44.0	69.94	253.4	-2,078.5	480.5	435.3	45.20	10.630		
7,610.6	6,859.0	7,147.4	6,699.1	36.0	44.0	70.56	247.0	-2,080.2	480.4	435.2	45.22	10.624		
7,616.8	6,859.0	7,152.3	6,701.9	36.0	44.0	70.92	243.2	-2,081.2	480.5	435.2	45.23	10.622		
7,700.0	6,858.7	7,222.0	6,740.5	35.7	44.1	75.81	186.8	-2,094.9	483.3	438.0	45.33	10.662		
7,800.0	6,858.3	7,318.5	6,785.6	35.5	44.3	81.43	103.1	-2,110.9	491.3	446.2	45.13	10.887		
7,900.0	6,857.9	7,428.7	6,824.4	35.3	44.4	86.13	0.9	-2,124.8	500.6	455.7	44.90	11.150		
8,000.0	6,857.5	7,550.3	6,850.7	35.2	44.5	89.22	-117.2	-2,134.2	507.7	462.6	45.10	11.256		
8,100.0	6,857.1	7,676.3	6,859.0	35.2	44.6	90.21	-242.8	-2,137.3	510.1	463.9	46.16	11.050		
8,200.0	6,856.7	7,776.3	6,858.6	35.3	44.7	90.21	-342.8	-2,137.3	510.1	462.5	47.60	10.716		
8,300.0	6,856.3	7,876.3	6,858.1	35.5	44.9	90.20	-442.8	-2,137.3	510.1	460.8	49.27	10.353		
8,400.0	6,855.9	7,976.3	6,857.7	35.8	45.1	90.20	-542.8	-2,137.3	510.1	458.9	51.18	9.967		

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14J-343 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program:		0-MWD												
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,500.0	6,855.5	8,076.3	6,857.3	36.2	45.4	90.20	-642.8	-2,137.3	510.1	456.8	53.29	9.571		
8,600.0	6,855.2	8,176.3	6,856.9	36.8	45.8	90.19	-742.8	-2,137.3	510.1	454.5	55.60	9.175		
8,700.0	6,854.8	8,276.3	6,856.5	37.6	46.2	90.19	-842.8	-2,137.3	510.1	452.0	58.06	8.785		
8,800.0	6,854.4	8,376.3	6,856.1	38.5	46.7	90.19	-942.8	-2,137.3	510.1	449.4	60.67	8.407		
8,900.0	6,854.0	8,476.3	6,855.6	39.5	47.3	90.19	-1,042.8	-2,137.3	510.1	446.7	63.41	8.045		
9,000.0	6,853.6	8,576.3	6,855.2	40.6	48.0	90.18	-1,142.8	-2,137.3	510.1	443.8	66.25	7.699		
9,100.0	6,853.2	8,676.3	6,854.8	41.8	48.7	90.18	-1,242.8	-2,137.3	510.1	440.9	69.19	7.372		
9,200.0	6,852.8	8,776.3	6,854.4	43.0	49.5	90.18	-1,342.8	-2,137.3	510.1	437.9	72.22	7.063		
9,300.0	6,852.4	8,876.3	6,854.0	44.4	50.4	90.17	-1,442.8	-2,137.3	510.1	434.8	75.32	6.772		
9,400.0	6,852.0	8,976.3	6,853.5	45.8	51.4	90.17	-1,542.8	-2,137.3	510.1	431.6	78.49	6.499		
9,500.0	6,851.6	9,076.3	6,853.1	47.2	52.4	90.17	-1,642.8	-2,137.3	510.1	428.4	81.72	6.242		
9,600.0	6,851.2	9,176.3	6,852.7	48.7	53.5	90.17	-1,742.8	-2,137.3	510.1	425.1	84.99	6.002		
9,700.0	6,850.8	9,276.3	6,852.3	50.2	54.6	90.16	-1,842.8	-2,137.3	510.1	421.8	88.31	5.776		
9,800.0	6,850.5	9,376.3	6,851.9	51.8	55.8	90.16	-1,942.8	-2,137.3	510.1	418.4	91.68	5.564		
9,900.0	6,850.1	9,476.3	6,851.5	53.4	57.1	90.16	-2,042.8	-2,137.3	510.1	415.0	95.07	5.365		
10,000.0	6,849.7	9,576.3	6,851.0	55.0	58.3	90.15	-2,142.8	-2,137.3	510.1	411.6	98.51	5.178		
10,100.0	6,849.3	9,676.3	6,850.6	56.6	59.7	90.15	-2,242.8	-2,137.3	510.1	408.1	101.97	5.002		
10,200.0	6,848.9	9,776.3	6,850.2	58.2	61.1	90.15	-2,342.8	-2,137.3	510.1	404.6	105.45	4.837		
10,300.0	6,848.5	9,876.3	6,849.8	59.9	62.5	90.14	-2,442.8	-2,137.3	510.1	401.1	108.97	4.681		
10,400.0	6,848.1	9,976.3	6,849.4	61.5	63.9	90.14	-2,542.8	-2,137.3	510.1	397.6	112.50	4.534		
10,500.0	6,847.7	10,076.3	6,849.0	63.2	65.4	90.14	-2,642.8	-2,137.3	510.1	394.0	116.05	4.395		
10,600.0	6,847.3	10,176.3	6,848.5	64.9	66.9	90.14	-2,742.8	-2,137.3	510.1	390.5	119.62	4.264		
10,700.0	6,846.9	10,276.3	6,848.1	66.6	68.4	90.13	-2,842.8	-2,137.3	510.1	386.9	123.21	4.140		
10,800.0	6,846.5	10,376.3	6,847.7	68.4	70.0	90.13	-2,942.8	-2,137.3	510.1	383.3	126.81	4.022		
10,900.0	6,846.2	10,476.3	6,847.3	70.1	71.6	90.13	-3,042.8	-2,137.3	510.1	379.7	130.42	3.911		
11,000.0	6,845.8	10,576.3	6,846.9	71.8	73.1	90.12	-3,142.8	-2,137.3	510.1	376.0	134.05	3.805		
11,100.0	6,845.4	10,676.3	6,846.5	73.6	74.8	90.12	-3,242.8	-2,137.3	510.1	372.4	137.69	3.705		
11,200.0	6,845.0	10,776.3	6,846.0	75.4	76.4	90.12	-3,342.8	-2,137.3	510.1	368.7	141.34	3.609		
11,300.0	6,844.6	10,876.3	6,845.6	77.1	78.0	90.12	-3,442.8	-2,137.3	510.1	365.1	145.00	3.518		
11,400.0	6,844.2	10,976.3	6,845.2	78.9	79.7	90.11	-3,542.8	-2,137.3	510.1	361.4	148.67	3.431		
11,500.0	6,843.8	11,076.3	6,844.8	80.7	81.4	90.11	-3,642.8	-2,137.3	510.1	357.7	152.35	3.348		
11,600.0	6,843.4	11,176.3	6,844.4	82.5	83.0	90.11	-3,742.8	-2,137.3	510.1	354.1	156.03	3.269		
11,700.0	6,843.0	11,276.3	6,843.9	84.2	84.7	90.10	-3,842.8	-2,137.3	510.1	350.4	159.72	3.194		
11,800.0	6,842.6	11,376.3	6,843.5	86.0	86.4	90.10	-3,942.8	-2,137.3	510.1	346.7	163.42	3.121		
11,900.0	6,842.2	11,476.3	6,843.1	87.8	88.1	90.10	-4,042.8	-2,137.3	510.1	343.0	167.13	3.052		
12,000.0	6,841.9	11,576.3	6,842.7	89.6	89.9	90.10	-4,142.8	-2,137.3	510.1	339.2	170.84	2.986		
12,100.0	6,841.5	11,676.3	6,842.3	91.5	91.6	90.09	-4,242.8	-2,137.3	510.1	335.5	174.56	2.922		
12,200.0	6,841.1	11,776.3	6,841.9	93.3	93.3	90.09	-4,342.8	-2,137.3	510.1	331.8	178.28	2.861		
12,300.0	6,840.7	11,876.3	6,841.4	95.1	95.1	90.09	-4,442.8	-2,137.3	510.1	328.1	182.01	2.803		
12,400.0	6,840.3	11,976.3	6,841.0	96.9	96.8	90.08	-4,542.8	-2,137.3	510.1	324.3	185.74	2.746		
12,500.0	6,839.9	12,076.3	6,840.6	98.7	98.6	90.08	-4,642.8	-2,137.3	510.1	320.6	189.48	2.692		
12,600.0	6,839.5	12,176.3	6,840.2	100.6	100.4	90.08	-4,742.8	-2,137.3	510.1	316.9	193.22	2.640		
12,700.0	6,839.1	12,276.3	6,839.8	102.4	102.1	90.07	-4,842.8	-2,137.3	510.1	313.1	196.96	2.590		
12,800.0	6,838.7	12,376.3	6,839.4	104.2	103.9	90.07	-4,942.8	-2,137.3	510.1	309.4	200.71	2.541		
12,900.0	6,838.3	12,476.3	6,838.9	106.1	105.7	90.07	-5,042.7	-2,137.3	510.1	305.6	204.46	2.495		
13,000.0	6,837.9	12,576.3	6,838.5	107.9	107.5	90.07	-5,142.7	-2,137.3	510.1	301.9	208.22	2.450		
13,100.0	6,837.5	12,676.3	6,838.1	109.8	109.3	90.06	-5,242.7	-2,137.3	510.1	298.1	211.98	2.406		
13,200.0	6,837.2	12,776.3	6,837.7	111.6	111.1	90.06	-5,342.7	-2,137.3	510.1	294.3	215.74	2.364		
13,300.0	6,836.8	12,876.3	6,837.3	113.4	112.9	90.06	-5,442.7	-2,137.3	510.1	290.6	219.50	2.324		
13,400.0	6,836.4	12,976.3	6,836.9	115.3	114.7	90.05	-5,542.7	-2,137.3	510.1	286.8	223.27	2.285		
13,500.0	6,836.0	13,076.3	6,836.4	117.1	116.5	90.05	-5,642.7	-2,137.3	510.1	283.0	227.04	2.247		

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (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		
13,600.0	6,835.6	13,176.3	6,836.0	119.0	118.3	90.05	-5,742.7	-2,137.3	510.1	279.3	230.81	2.210		
13,700.0	6,835.2	13,276.3	6,835.6	120.9	120.1	90.05	-5,842.7	-2,137.3	510.1	275.5	234.58	2.174		
13,800.0	6,834.8	13,376.3	6,835.2	122.7	122.0	90.04	-5,942.7	-2,137.3	510.1	271.7	238.36	2.140		
13,900.0	6,834.4	13,476.3	6,834.8	124.6	123.8	90.04	-6,042.7	-2,137.3	510.1	268.0	242.13	2.107		
14,000.0	6,834.0	13,576.3	6,834.4	126.4	125.6	90.04	-6,142.7	-2,137.3	510.1	264.2	245.91	2.074		
14,100.0	6,833.6	13,676.3	6,833.9	128.3	127.4	90.03	-6,242.7	-2,137.3	510.1	260.4	249.70	2.043		
14,200.0	6,833.2	13,776.3	6,833.5	130.2	129.3	90.03	-6,342.7	-2,137.3	510.1	256.6	253.48	2.012		
14,300.0	6,832.9	13,876.3	6,833.1	132.0	131.1	90.03	-6,442.7	-2,137.3	510.1	252.8	257.26	1.983		
14,400.0	6,832.5	13,976.3	6,832.7	133.9	133.0	90.02	-6,542.7	-2,137.3	510.1	249.0	261.05	1.954		
14,500.0	6,832.1	14,076.3	6,832.3	135.8	134.8	90.02	-6,642.7	-2,137.3	510.1	245.2	264.84	1.926		
14,600.0	6,831.7	14,176.3	6,831.8	137.6	136.6	90.02	-6,742.7	-2,137.3	510.1	241.5	268.63	1.899		
14,700.0	6,831.3	14,276.3	6,831.4	139.5	138.5	90.02	-6,842.7	-2,137.3	510.1	237.7	272.42	1.872		
14,800.0	6,830.9	14,376.3	6,831.0	141.4	140.3	90.01	-6,942.7	-2,137.3	510.1	233.9	276.21	1.847		
14,900.0	6,830.5	14,476.3	6,830.6	143.3	142.2	90.01	-7,042.7	-2,137.3	510.1	230.1	280.01	1.822		
15,000.0	6,830.1	14,576.3	6,830.2	145.1	144.0	90.01	-7,142.7	-2,137.3	510.1	226.3	283.80	1.797		
15,100.0	6,829.7	14,676.3	6,829.8	147.0	145.9	90.00	-7,242.7	-2,137.3	510.1	222.5	287.60	1.774		
15,200.0	6,829.3	14,776.3	6,829.3	148.9	147.7	90.00	-7,342.7	-2,137.3	510.1	218.7	291.40	1.750		
15,250.1	6,829.1	14,826.3	6,829.1	149.8	148.7	90.00	-7,392.8	-2,137.3	510.1	216.8	293.30	1.739		
15,284.8	6,829.0	14,858.5	6,829.0	150.5	149.3	90.00	-7,424.9	-2,137.3	510.1	215.5	294.57	1.732 SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference	Offset		Semi Major Axis		Distance		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	90.67	-0.3	29.8	29.8				
100.0	100.0	99.0	99.0	0.1	0.1	90.67	-0.3	29.8	29.8	29.6	0.22	133.255	
200.0	200.0	199.0	199.0	0.3	0.3	90.67	-0.3	29.8	29.8	29.1	0.67	44.344	
300.0	300.0	299.0	299.0	0.6	0.6	90.67	-0.3	29.8	29.8	28.7	1.12	26.571	
400.0	400.0	399.0	399.0	0.8	0.8	90.67	-0.3	29.8	29.8	28.2	1.57	18.968	
500.0	500.0	499.0	499.0	1.0	1.0	90.67	-0.3	29.8	29.8	27.8	2.02	14.749	
600.0	600.0	599.0	599.0	1.2	1.2	90.67	-0.3	29.8	29.8	27.3	2.47	12.065 CC, ES	
700.0	700.0	699.0	699.0	1.5	1.5	146.17	-0.3	29.8	30.9	28.0	2.92	10.591	
800.0	799.9	798.9	798.9	1.7	1.7	149.80	-0.3	29.8	34.2	30.9	3.36	10.183	
900.0	899.7	898.7	898.7	1.9	1.9	154.48	-0.3	29.8	40.0	36.2	3.81	10.508	
1,000.0	999.3	998.3	998.3	2.1	2.1	159.10	-0.3	29.8	48.4	44.2	4.26	11.379	
1,100.0	1,098.6	1,098.9	1,098.8	2.4	2.4	162.46	0.7	29.0	58.5	53.8	4.70	12.441	
1,200.0	1,197.5	1,199.7	1,199.6	2.7	2.6	164.28	3.7	26.5	69.0	63.8	5.14	13.405	
1,300.0	1,296.1	1,300.8	1,300.5	3.0	2.8	165.13	8.9	22.4	79.7	74.1	5.59	14.258	
1,400.0	1,394.2	1,402.2	1,401.4	3.4	3.0	165.34	16.2	16.6	90.7	84.7	6.05	15.006	
1,500.0	1,491.7	1,503.8	1,502.3	3.8	3.3	165.12	25.6	9.1	102.0	95.5	6.51	15.657	
1,600.0	1,588.6	1,605.6	1,603.0	4.2	3.6	164.59	37.1	-0.1	113.4	106.4	7.00	16.214	
1,700.0	1,684.9	1,707.6	1,703.6	4.7	3.9	163.84	50.7	-11.0	125.1	117.6	7.50	16.680	
1,800.0	1,780.4	1,809.9	1,803.8	5.3	4.2	162.92	66.4	-23.6	137.1	129.1	8.04	17.051	
1,900.0	1,875.0	1,912.3	1,903.7	5.9	4.6	161.89	84.3	-37.9	149.3	140.7	8.62	17.327	
1,915.9	1,890.0	1,928.6	1,919.5	6.0	4.7	161.71	87.4	-40.4	151.3	142.6	8.72	17.360	
2,000.0	1,969.2	2,015.1	2,003.2	6.5	5.0	160.70	104.4	-54.0	161.0	151.7	9.27	17.355	
2,100.0	2,063.3	2,116.7	2,101.0	7.2	5.5	159.21	126.1	-71.3	170.7	160.7	10.00	17.070	
2,200.0	2,157.4	2,216.2	2,196.5	7.8	6.0	157.81	147.7	-88.6	180.0	169.3	10.76	16.733	
2,300.0	2,251.6	2,315.7	2,292.0	8.5	6.5	156.55	169.4	-106.0	189.5	178.0	11.56	16.399	
2,400.0	2,345.7	2,415.1	2,387.5	9.2	7.0	155.42	191.0	-123.3	199.1	186.7	12.39	16.075	
2,500.0	2,439.8	2,514.6	2,483.1	9.9	7.5	154.38	212.6	-140.6	208.7	195.5	13.24	15.766	
2,600.0	2,533.9	2,614.1	2,578.6	10.5	8.1	153.44	234.3	-157.9	218.4	204.3	14.12	15.473	
2,700.0	2,628.1	2,713.5	2,674.1	11.2	8.6	152.58	255.9	-175.2	228.2	213.2	15.02	15.197	
2,800.0	2,722.2	2,813.0	2,769.7	11.9	9.1	151.79	277.5	-192.5	238.0	222.1	15.93	14.939	
2,900.0	2,816.3	2,912.5	2,865.2	12.6	9.7	151.06	299.2	-209.8	247.8	231.0	16.86	14.698	
3,000.0	2,910.4	3,011.9	2,960.7	13.3	10.2	150.39	320.8	-227.1	257.7	239.9	17.81	14.474	
3,100.0	3,004.6	3,111.4	3,056.2	14.0	10.8	149.76	342.5	-244.4	267.6	248.9	18.76	14.265	
3,200.0	3,098.7	3,210.9	3,151.8	14.7	11.3	149.18	364.1	-261.7	277.6	257.9	19.73	14.070	
3,300.0	3,192.8	3,310.3	3,247.3	15.4	11.9	148.65	385.7	-279.0	287.5	266.8	20.70	13.889	
3,400.0	3,286.9	3,409.8	3,342.8	16.1	12.4	148.14	407.4	-296.4	297.5	275.9	21.69	13.720	
3,500.0	3,381.1	3,509.3	3,438.4	16.8	13.0	147.67	429.0	-313.7	307.6	284.9	22.68	13.562	
3,600.0	3,475.2	3,608.7	3,533.9	17.5	13.6	147.23	450.6	-331.0	317.6	293.9	23.67	13.415	
3,700.0	3,569.3	3,708.2	3,629.4	18.2	14.1	146.82	472.3	-348.3	327.6	303.0	24.68	13.277	
3,800.0	3,663.4	3,807.7	3,725.0	18.9	14.7	146.43	493.9	-365.6	337.7	312.0	25.68	13.148	
3,900.0	3,757.5	3,907.1	3,820.5	19.6	15.3	146.07	515.6	-382.9	347.8	321.1	26.70	13.027	
4,000.0	3,851.7	4,006.6	3,916.0	20.3	15.8	145.72	537.2	-400.2	357.9	330.2	27.71	12.913	
4,100.0	3,945.8	4,106.1	4,011.5	21.0	16.4	145.39	558.8	-417.5	368.0	339.2	28.73	12.806	
4,200.0	4,039.9	4,205.5	4,107.1	21.7	17.0	145.08	580.5	-434.8	378.1	348.3	29.76	12.706	
4,300.0	4,134.0	4,305.0	4,202.6	22.4	17.5	144.79	602.1	-452.1	388.2	357.4	30.78	12.611	
4,400.0	4,228.2	4,404.5	4,298.1	23.1	18.1	144.51	623.8	-469.5	398.4	366.5	31.81	12.521	
4,500.0	4,322.3	4,503.9	4,393.7	23.9	18.7	144.25	645.4	-486.8	408.5	375.7	32.85	12.436	
4,600.0	4,416.4	4,603.4	4,489.2	24.6	19.2	144.00	667.0	-504.1	418.7	384.8	33.88	12.356	
4,700.0	4,510.5	4,702.9	4,584.7	25.3	19.8	143.76	688.7	-521.4	428.8	393.9	34.92	12.280	
4,800.0	4,604.7	4,802.3	4,680.2	26.0	20.4	143.53	710.3	-538.7	439.0	403.0	35.96	12.208	
4,900.0	4,698.8	4,901.8	4,775.8	26.7	21.0	143.31	731.9	-556.0	449.2	412.2	37.00	12.140	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14M-343 - Wellbore #1 - Plan #2 (3-02-16)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference				Offset			Semi Major Axis			Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.0	4,792.9	5,001.3	4,871.3	27.4	21.5	143.10	753.6	-573.3		459.3	421.3	38.04	12.075	
5,100.0	4,887.0	5,100.7	4,966.8	28.1	22.1	142.90	775.2	-590.6		469.5	430.4	39.09	12.013	
5,200.0	4,981.2	5,200.2	5,062.4	28.8	22.7	142.71	796.9	-607.9		479.7	439.6	40.13	11.954	
5,300.0	5,075.3	5,299.7	5,157.9	29.5	23.2	142.53	818.5	-625.2		489.9	448.7	41.18	11.897	
5,400.0	5,169.4	5,399.1	5,253.4	30.2	23.8	142.36	840.1	-642.5		500.1	457.9	42.23	11.843	
5,500.0	5,263.5	5,498.6	5,349.0	30.9	24.4	142.19	861.8	-659.9		510.3	467.0	43.28	11.792	
5,600.0	5,357.7	5,598.1	5,444.5	31.6	25.0	142.02	883.4	-677.2		520.5	476.2	44.33	11.743	
5,700.0	5,451.8	5,697.6	5,540.0	32.3	25.5	141.87	905.0	-694.5		530.7	485.4	45.38	11.696	
5,800.0	5,545.9	5,797.0	5,635.5	33.0	26.1	141.72	926.7	-711.8		541.0	494.5	46.43	11.651	
5,900.0	5,640.0	5,896.5	5,731.1	33.8	26.7	141.57	948.3	-729.1		551.2	503.7	47.48	11.607	
6,000.0	5,734.2	5,996.0	5,826.6	34.5	27.3	141.44	970.0	-746.4		561.4	512.9	48.54	11.566	
6,100.0	5,828.3	6,095.4	5,922.1	35.2	27.8	141.30	991.6	-763.7		571.6	522.0	49.59	11.526	
6,200.0	5,922.4	6,197.9	6,021.1	35.9	28.3	141.18	1,010.8	-781.6		581.7	531.3	50.43	11.535	
6,261.7	5,980.5	6,261.2	6,083.1	36.3	28.5	142.21	1,016.3	-792.9		587.6	537.1	50.52	11.630	
6,300.0	6,016.7	6,300.0	6,121.3	36.6	28.6	150.28	1,017.1	-799.8		591.3	541.0	50.30	11.754	
6,350.0	6,064.4	6,350.1	6,170.6	36.8	28.7	162.45	1,015.2	-808.8		596.2	546.3	49.93	11.942	
6,400.0	6,112.3	6,399.7	6,219.1	37.1	28.8	176.02	1,010.1	-817.6		601.3	551.8	49.48	12.152	
6,450.0	6,160.3	6,448.9	6,266.8	37.3	28.8	-170.08	1,001.9	-826.2		606.5	557.5	48.98	12.380	
6,500.0	6,208.2	6,497.5	6,313.4	37.4	28.8	-157.09	990.7	-834.7		611.7	563.3	48.45	12.626	
6,550.0	6,255.7	6,545.8	6,358.8	37.6	28.8	-145.82	976.7	-843.0		617.0	569.1	47.89	12.884	
6,600.0	6,302.6	6,593.6	6,402.8	37.7	28.8	-136.48	959.9	-851.0		622.3	575.0	47.32	13.152	
6,650.0	6,348.8	6,641.0	6,445.4	37.8	28.7	-128.88	940.6	-858.7		627.6	580.9	46.74	13.428	
6,700.0	6,394.0	6,688.0	6,486.4	37.8	28.6	-122.69	918.7	-866.2		632.9	586.7	46.17	13.707	
6,750.0	6,438.1	6,734.7	6,525.7	37.9	28.4	-117.60	894.6	-873.3		638.1	592.5	45.62	13.988	
6,800.0	6,480.8	6,781.0	6,563.2	37.9	28.3	-113.38	868.3	-880.2		643.2	598.1	45.09	14.265	
6,850.0	6,522.0	6,827.1	6,598.8	37.9	28.1	-109.84	839.9	-886.7		648.1	603.5	44.58	14.538	
6,900.0	6,561.5	6,872.8	6,632.5	37.8	28.0	-106.82	809.6	-892.8		652.9	608.8	44.11	14.802	
6,950.0	6,599.2	6,918.3	6,664.2	37.8	27.8	-104.24	777.4	-898.6		657.6	613.9	43.68	15.055	
7,000.0	6,634.8	6,963.5	6,693.7	37.7	27.6	-102.01	743.6	-904.0		662.0	618.7	43.28	15.294	
7,050.0	6,668.2	7,008.5	6,721.1	37.6	27.4	-100.08	708.3	-909.0		666.1	623.2	42.93	15.515	
7,100.0	6,699.3	7,053.3	6,746.3	37.5	27.2	-98.40	671.6	-913.6		670.0	627.4	42.63	15.717	
7,150.0	6,728.0	7,100.0	6,770.3	37.4	27.0	-96.93	631.7	-918.0		673.7	631.3	42.37	15.901	
7,200.0	6,754.1	7,142.2	6,789.9	37.2	26.7	-95.68	594.5	-921.6		677.0	634.8	42.18	16.050	
7,250.0	6,777.4	7,186.5	6,808.2	37.1	26.5	-94.59	554.4	-924.9		680.0	638.0	42.04	16.176	
7,300.0	6,798.0	7,230.6	6,824.1	37.0	26.3	-93.66	513.3	-927.9		682.7	640.7	41.95	16.272	
7,350.0	6,815.7	7,274.6	6,837.7	36.8	26.1	-92.87	471.6	-930.4		685.0	643.1	41.93	16.338	
7,400.0	6,830.5	7,318.4	6,848.8	36.6	25.9	-92.23	429.2	-932.4		687.0	645.0	41.96	16.372	
7,450.0	6,842.2	7,362.2	6,857.5	36.5	25.7	-91.72	386.3	-934.1		688.5	646.5	42.05	16.375	
7,500.0	6,850.9	7,405.9	6,863.8	36.3	25.4	-91.33	343.1	-935.3		689.7	647.5	42.20	16.345	
7,550.0	6,856.5	7,450.0	6,867.7	36.2	25.2	-91.07	299.2	-936.0		690.5	648.1	42.40	16.286	
7,600.0	6,858.9	7,493.2	6,869.0	36.0	25.0	-90.93	256.1	-936.3		690.9	648.3	42.66	16.195	
7,616.8	6,859.0	7,508.9	6,869.0	36.0	25.0	-90.91	240.3	-936.3		691.0	648.2	42.77	16.157	
7,700.0	6,858.7	7,592.1	6,868.5	35.7	24.6	-90.89	157.1	-936.3		691.0	648.0	42.94	16.092	
7,800.0	6,858.3	7,692.1	6,867.9	35.5	24.3	-90.88	57.1	-936.3		691.0	647.6	43.40	15.919	
7,900.0	6,857.9	7,792.1	6,867.3	35.3	24.0	-90.86	-42.9	-936.3		691.0	646.8	44.20	15.633	
8,000.0	6,857.5	7,892.1	6,866.7	35.2	23.8	-90.85	-142.8	-936.3		691.0	645.7	45.31	15.251	
8,100.0	6,857.1	7,992.1	6,866.1	35.2	23.9	-90.83	-242.8	-936.3		691.0	644.3	46.70	14.795	
8,200.0	6,856.7	8,092.1	6,865.5	35.3	24.6	-90.81	-342.8	-936.3		691.0	642.6	48.36	14.287	
8,300.0	6,856.3	8,192.1	6,864.9	35.5	25.7	-90.80	-442.8	-936.3		691.0	640.7	50.26	13.747	
8,400.0	6,855.9	8,292.1	6,864.4	35.8	26.8	-90.78	-542.8	-936.3		691.0	638.6	52.38	13.192	
8,500.0	6,855.5	8,392.1	6,863.8	36.2	28.1	-90.77	-642.8	-936.3		691.0	636.3	54.68	12.637	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14M-343 - Wellbore #1 - Plan #2 (3-02-16)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,600.0	6,855.2	8,492.1	6,863.2	36.8	29.4	-90.75	-742.8	-936.3	691.0	633.8	57.14	12.091	
8,700.0	6,854.8	8,592.1	6,862.6	37.6	30.8	-90.73	-842.8	-936.3	691.0	631.2	59.76	11.563	
8,800.0	6,854.4	8,692.1	6,862.0	38.5	32.2	-90.72	-942.8	-936.3	691.0	628.5	62.49	11.056	
8,900.0	6,854.0	8,792.1	6,861.4	39.5	33.7	-90.70	-1,042.8	-936.3	690.9	625.6	65.34	10.574	
9,000.0	6,853.6	8,892.1	6,860.8	40.6	35.2	-90.68	-1,142.8	-936.3	690.9	622.7	68.29	10.118	
9,100.0	6,853.2	8,992.1	6,860.3	41.8	36.8	-90.67	-1,242.8	-936.3	690.9	619.6	71.32	9.688	
9,200.0	6,852.8	9,092.1	6,859.7	43.0	38.3	-90.65	-1,342.8	-936.3	690.9	616.5	74.42	9.284	
9,300.0	6,852.4	9,192.1	6,859.1	44.4	39.9	-90.64	-1,442.8	-936.3	690.9	613.3	77.59	8.905	
9,400.0	6,852.0	9,292.1	6,858.5	45.8	41.5	-90.62	-1,542.8	-936.3	690.9	610.1	80.82	8.549	
9,500.0	6,851.6	9,392.1	6,857.9	47.2	43.2	-90.60	-1,642.8	-936.3	690.9	606.8	84.10	8.215	
9,600.0	6,851.2	9,492.1	6,857.3	48.7	44.9	-90.59	-1,742.8	-936.3	690.9	603.5	87.43	7.903	
9,700.0	6,850.8	9,592.1	6,856.7	50.2	46.5	-90.57	-1,842.8	-936.3	690.9	600.1	90.79	7.610	
9,800.0	6,850.5	9,692.1	6,856.2	51.8	48.2	-90.56	-1,942.8	-936.3	690.9	596.7	94.19	7.335	
9,900.0	6,850.1	9,792.1	6,855.6	53.4	49.9	-90.54	-2,042.8	-936.3	690.9	593.3	97.63	7.077	
10,000.0	6,849.7	9,892.1	6,855.0	55.0	51.7	-90.52	-2,142.8	-936.3	690.9	589.8	101.09	6.835	
10,100.0	6,849.3	9,992.1	6,854.4	56.6	53.4	-90.51	-2,242.8	-936.3	690.9	586.3	104.58	6.607	
10,200.0	6,848.9	10,092.1	6,853.8	58.2	55.1	-90.49	-2,342.8	-936.3	690.9	582.8	108.09	6.392	
10,300.0	6,848.5	10,192.1	6,853.2	59.9	56.9	-90.47	-2,442.8	-936.3	690.9	579.3	111.63	6.189	
10,400.0	6,848.1	10,292.1	6,852.6	61.5	58.7	-90.46	-2,542.8	-936.3	690.9	575.7	115.18	5.998	
10,500.0	6,847.7	10,392.1	6,852.1	63.2	60.4	-90.44	-2,642.8	-936.3	690.9	572.2	118.76	5.818	
10,600.0	6,847.3	10,492.1	6,851.5	64.9	62.2	-90.43	-2,742.8	-936.3	690.9	568.6	122.34	5.647	
10,700.0	6,846.9	10,592.1	6,850.9	66.6	64.0	-90.41	-2,842.8	-936.3	690.9	565.0	125.95	5.486	
10,800.0	6,846.5	10,692.1	6,850.3	68.4	65.8	-90.39	-2,942.8	-936.3	690.9	561.3	129.56	5.333	
10,900.0	6,846.2	10,792.1	6,849.7	70.1	67.6	-90.38	-3,042.8	-936.3	690.9	557.7	133.19	5.187	
11,000.0	6,845.8	10,892.1	6,849.1	71.8	69.4	-90.36	-3,142.8	-936.3	690.9	554.1	136.83	5.049	
11,100.0	6,845.4	10,992.1	6,848.5	73.6	71.2	-90.35	-3,242.8	-936.3	690.9	550.4	140.48	4.918	
11,200.0	6,845.0	11,092.1	6,848.0	75.4	73.1	-90.33	-3,342.8	-936.3	690.9	546.8	144.14	4.793	
11,300.0	6,844.6	11,192.1	6,847.4	77.1	74.9	-90.31	-3,442.8	-936.3	690.9	543.1	147.81	4.674	
11,400.0	6,844.2	11,292.1	6,846.8	78.9	76.7	-90.30	-3,542.8	-936.3	690.9	539.4	151.49	4.561	
11,500.0	6,843.8	11,392.1	6,846.2	80.7	78.5	-90.28	-3,642.8	-936.3	690.9	535.7	155.18	4.452	
11,600.0	6,843.4	11,492.1	6,845.6	82.5	80.4	-90.27	-3,742.8	-936.3	690.9	532.0	158.87	4.349	
11,700.0	6,843.0	11,592.1	6,845.0	84.2	82.2	-90.25	-3,842.8	-936.3	690.9	528.3	162.57	4.250	
11,800.0	6,842.6	11,692.1	6,844.4	86.0	84.1	-90.23	-3,942.8	-936.3	690.9	524.6	166.28	4.155	
11,900.0	6,842.2	11,792.1	6,843.9	87.8	85.9	-90.22	-4,042.8	-936.3	690.9	520.9	169.99	4.064	
12,000.0	6,841.9	11,892.1	6,843.3	89.6	87.7	-90.20	-4,142.8	-936.3	690.9	517.2	173.71	3.977	
12,100.0	6,841.5	11,992.1	6,842.7	91.5	89.6	-90.18	-4,242.8	-936.3	690.9	513.5	177.43	3.894	
12,200.0	6,841.1	12,092.1	6,842.1	93.3	91.5	-90.17	-4,342.8	-936.3	690.9	509.7	181.16	3.814	
12,300.0	6,840.7	12,192.1	6,841.5	95.1	93.3	-90.15	-4,442.8	-936.3	690.9	506.0	184.89	3.737	
12,400.0	6,840.3	12,292.1	6,840.9	96.9	95.2	-90.14	-4,542.8	-936.3	690.9	502.3	188.62	3.663	
12,500.0	6,839.9	12,392.1	6,840.3	98.7	97.0	-90.12	-4,642.8	-936.3	690.9	498.5	192.36	3.592	
12,600.0	6,839.5	12,492.1	6,839.8	100.6	98.9	-90.10	-4,742.8	-936.3	690.9	494.8	196.11	3.523	
12,700.0	6,839.1	12,592.1	6,839.2	102.4	100.8	-90.09	-4,842.8	-936.3	690.9	491.0	199.86	3.457	
12,800.0	6,838.7	12,692.1	6,838.6	104.2	102.6	-90.07	-4,942.8	-936.3	690.9	487.3	203.61	3.393	
12,900.0	6,838.3	12,792.1	6,838.0	106.1	104.5	-90.06	-5,042.8	-936.3	690.9	483.5	207.36	3.332	
13,000.0	6,837.9	12,892.1	6,837.4	107.9	106.4	-90.04	-5,142.8	-936.3	690.9	479.8	211.12	3.273	
13,100.0	6,837.5	12,992.1	6,836.8	109.8	108.2	-90.02	-5,242.8	-936.3	690.9	476.0	214.88	3.215	
13,200.0	6,837.2	13,092.1	6,836.2	111.6	110.1	-90.01	-5,342.7	-936.3	690.9	472.2	218.64	3.160	
13,300.0	6,836.8	13,192.1	6,835.7	113.4	112.0	-89.99	-5,442.7	-936.3	690.9	468.5	222.41	3.106	
13,400.0	6,836.4	13,292.1	6,835.1	115.3	113.9	-89.97	-5,542.7	-936.3	690.9	464.7	226.18	3.055	
13,478.5	6,836.1	13,370.6	6,834.6	116.8	115.3	-89.96	-5,621.2	-936.3	690.9	461.8	229.13	3.015	
13,500.0	6,836.0	13,392.1	6,834.5	117.1	115.8	-89.96	-5,642.7	-936.3	690.9	460.9	229.95	3.005	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Clark 5N65W14EJ Pad Sec.14-T5N-R65W - Clark 14M-343 - Wellbore #1 - Plan #2 (3-02-16)													
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	
13,600.0	6,835.6	13,492.1	6,833.9	119.0	117.6	-89.94	-5,742.7	-936.3	690.9	457.2	233.72	2.956	
13,700.0	6,835.2	13,592.1	6,833.3	120.9	119.5	-89.93	-5,842.7	-936.3	690.9	453.4	237.49	2.909	
13,800.0	6,834.8	13,692.1	6,832.7	122.7	121.4	-89.91	-5,942.7	-936.3	690.9	449.6	241.27	2.864	
13,900.0	6,834.4	13,792.1	6,832.1	124.6	123.3	-89.89	-6,042.7	-936.3	690.9	445.8	245.05	2.819	
14,000.0	6,834.0	13,892.1	6,831.5	126.4	125.2	-89.88	-6,142.7	-936.3	690.9	442.1	248.83	2.777	
14,100.0	6,833.6	13,992.1	6,831.0	128.3	127.0	-89.86	-6,242.7	-936.3	690.9	438.3	252.61	2.735	
14,200.0	6,833.2	14,092.1	6,830.4	130.2	128.9	-89.85	-6,342.7	-936.3	690.9	434.5	256.39	2.695	
14,300.0	6,832.9	14,192.1	6,829.8	132.0	130.8	-89.83	-6,442.7	-936.3	690.9	430.7	260.18	2.655	
14,400.0	6,832.5	14,292.1	6,829.2	133.9	132.7	-89.81	-6,542.7	-936.3	690.9	426.9	263.97	2.617	
14,500.0	6,832.1	14,392.1	6,828.6	135.8	134.6	-89.80	-6,642.7	-936.3	690.9	423.1	267.75	2.580	
14,600.0	6,831.7	14,492.1	6,828.0	137.6	136.5	-89.78	-6,742.7	-936.3	690.9	419.4	271.54	2.544	
14,700.0	6,831.3	14,592.1	6,827.4	139.5	138.4	-89.76	-6,842.7	-936.3	690.9	415.6	275.34	2.509	
14,800.0	6,830.9	14,692.1	6,826.9	141.4	140.3	-89.75	-6,942.7	-936.3	690.9	411.8	279.13	2.475	
14,900.0	6,830.5	14,792.1	6,826.3	143.3	142.2	-89.73	-7,042.7	-936.3	690.9	408.0	282.92	2.442	
15,000.0	6,830.1	14,892.1	6,825.7	145.1	144.1	-89.72	-7,142.7	-936.3	690.9	404.2	286.72	2.410	
15,100.0	6,829.7	14,992.1	6,825.1	147.0	145.9	-89.70	-7,242.7	-936.3	690.9	400.4	290.51	2.378	
15,200.0	6,829.3	15,092.1	6,824.5	148.9	147.8	-89.68	-7,342.7	-936.3	690.9	396.6	294.31	2.348	
15,284.8	6,829.0	15,176.9	6,824.0	150.5	149.5	-89.67	-7,427.5	-936.3	690.9	393.4	297.53	2.322 SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 7080- Doll Pad Sec.23-T5N-R65W - Doll 23-1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
14,100.0	6,833.6	6,859.6	6,859.6	128.3	137.2	-90.23	-6,793.6	-1,081.2	775.7	512.2	263.50	2.944	
14,200.0	6,833.2	6,859.2	6,859.2	130.2	137.2	-90.19	-6,793.6	-1,081.2	708.2	442.8	265.38	2.668	
14,300.0	6,832.9	6,858.9	6,858.9	132.0	137.2	-90.14	-6,793.6	-1,081.2	649.1	381.8	267.26	2.429	
14,400.0	6,832.5	6,858.5	6,858.5	133.9	137.2	-90.10	-6,793.6	-1,081.2	600.9	331.8	269.14	2.233	
14,500.0	6,832.1	6,858.1	6,858.1	135.8	137.2	-90.06	-6,793.6	-1,081.2	566.5	295.5	271.02	2.090	
14,600.0	6,831.7	6,857.7	6,857.7	137.6	137.2	-90.02	-6,793.6	-1,081.2	548.4	275.5	272.91	2.010	
14,650.9	6,831.5	6,857.5	6,857.5	138.6	137.1	-90.00	-6,793.6	-1,081.2	546.1	272.2	273.87	1.994 CC, ES, SF	
14,700.0	6,831.3	6,857.3	6,857.3	139.5	137.1	-89.98	-6,793.6	-1,081.2	548.3	273.5	274.79	1.995	
14,800.0	6,830.9	6,856.9	6,856.9	141.4	137.1	-89.94	-6,793.6	-1,081.2	566.0	289.4	276.67	2.046	
14,900.0	6,830.5	6,856.5	6,856.5	143.3	137.1	-89.90	-6,793.6	-1,081.2	600.2	321.6	278.56	2.155	
15,000.0	6,830.1	6,856.1	6,856.1	145.1	137.1	-89.86	-6,793.6	-1,081.2	648.1	367.7	280.44	2.311	
15,100.0	6,829.7	6,855.7	6,855.7	147.0	137.1	-89.82	-6,793.6	-1,081.2	707.0	424.7	282.33	2.504	
15,200.0	6,829.3	6,855.3	6,855.3	148.9	137.1	-89.77	-6,793.6	-1,081.2	774.4	490.2	284.22	2.725	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Sec. 23-T5N-R65W - Myers 14-21 (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 (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		
2,700.0	2,628.1	2,606.2	2,606.0	11.2	4.8	-80.43	-270.0	-968.9	798.8	782.8	15.94	50.115		
2,800.0	2,722.2	2,698.4	2,698.2	11.9	5.0	-82.72	-271.7	-969.0	795.0	778.2	16.79	47.360		
2,900.0	2,816.3	2,793.0	2,792.7	12.6	5.1	-85.08	-273.4	-969.2	792.8	775.1	17.65	44.923		
2,993.6	2,904.4	2,879.8	2,879.5	13.3	5.2	-87.25	-275.0	-969.4	792.0	773.6	18.45	42.926		
3,000.0	2,910.4	2,885.8	2,885.5	13.3	5.2	-87.40	-275.1	-969.4	792.0	773.5	18.51	42.798		
3,100.0	3,004.6	2,980.1	2,979.8	14.0	5.4	-89.77	-276.9	-969.7	792.9	773.5	19.36	40.947		
3,200.0	3,098.7	3,075.4	3,075.1	14.7	5.5	-92.15	-278.6	-969.7	795.1	774.9	20.21	39.338		
3,300.0	3,192.8	3,171.9	3,171.6	15.4	5.7	-94.54	-280.0	-969.8	798.6	777.6	21.05	37.936		
7,800.0	6,858.3	6,878.1	6,876.4	35.5	12.3	-92.72	-296.1	-963.8	752.2	717.1	35.07	21.452		
7,900.0	6,857.9	6,875.0	6,873.3	35.3	12.3	-92.45	-296.2	-963.7	710.8	675.3	35.41	20.072		
8,000.0	6,857.5	6,871.9	6,870.2	35.2	12.3	-92.18	-296.2	-963.6	681.6	645.7	35.90	18.984		
8,100.0	6,857.1	6,868.8	6,867.1	35.2	12.3	-91.91	-296.3	-963.5	666.2	629.7	36.53	18.236		
8,153.5	6,856.9	6,867.1	6,865.4	35.2	12.3	-91.77	-296.4	-963.5	664.1	627.1	36.94	17.977	CC, ES	
8,200.0	6,856.7	6,865.7	6,864.0	35.3	12.3	-91.65	-296.4	-963.4	665.7	628.4	37.29	17.851		
8,300.0	6,856.3	6,862.6	6,860.9	35.5	12.3	-91.38	-296.5	-963.3	680.0	641.8	38.17	17.817	SF	
8,400.0	6,855.9	6,859.5	6,857.8	35.8	12.3	-91.11	-296.6	-963.2	708.3	669.1	39.15	18.093		
8,500.0	6,855.5	6,856.4	6,854.7	36.2	12.3	-90.84	-296.7	-963.1	748.9	708.7	40.22	18.620		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Sec. 23-T5N-R65W - Roth 1 (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 (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		
8,700.0	6,854.8	6,889.8	6,889.2	37.6	13.6	-94.73	-1,356.4	-1,054.5	770.6	726.2	44.41	17.351		
8,800.0	6,854.4	6,883.4	6,882.8	38.5	13.6	-94.09	-1,356.8	-1,054.3	707.9	662.2	45.69	15.494		
8,900.0	6,854.0	6,877.1	6,876.5	39.5	13.6	-93.47	-1,357.1	-1,054.1	654.5	607.4	47.02	13.920		
9,000.0	6,853.6	6,870.9	6,870.3	40.6	13.6	-92.85	-1,357.4	-1,053.9	612.7	564.3	48.40	12.661		
9,100.0	6,853.2	6,864.9	6,864.2	41.8	13.6	-92.25	-1,357.6	-1,053.7	585.3	535.4	49.82	11.748		
9,200.0	6,852.8	6,858.9	6,858.3	43.0	13.6	-91.65	-1,357.9	-1,053.6	574.1	522.8	51.28	11.195		
9,215.1	6,852.7	6,858.0	6,857.4	43.2	13.6	-91.56	-1,358.0	-1,053.6	573.9	522.4	51.51	11.142 CC, ES		
9,300.0	6,852.4	6,853.0	6,852.4	44.4	13.6	-91.07	-1,358.2	-1,053.4	580.1	527.3	52.78	10.992 SF		
9,400.0	6,852.0	6,847.3	6,846.7	45.8	13.6	-90.49	-1,358.5	-1,053.3	602.8	548.5	54.30	11.102		
9,500.0	6,851.6	6,841.6	6,841.0	47.2	13.6	-89.92	-1,358.7	-1,053.1	640.5	584.6	55.85	11.468		
9,600.0	6,851.2	6,836.0	6,835.4	48.7	13.6	-89.37	-1,359.0	-1,053.0	690.7	633.2	57.42	12.028		
9,700.0	6,850.8	6,830.5	6,829.9	50.2	13.6	-88.82	-1,359.2	-1,052.9	750.8	691.8	59.02	12.723		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Sec. 23-T5N-R65W - Serena 1-14 (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 (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	
10,200.0	6,848.9	6,797.1	6,794.7	58.2	13.4	-85.63	-2,820.5	-1,033.3	763.7	696.7	66.97	11.403	
10,300.0	6,848.5	6,797.3	6,794.9	59.9	13.4	-85.65	-2,820.5	-1,033.3	705.4	636.7	68.73	10.263	
10,400.0	6,848.1	6,797.5	6,795.1	61.5	13.4	-85.67	-2,820.5	-1,033.3	657.3	586.8	70.50	9.323	
10,500.0	6,847.7	6,797.7	6,795.3	63.2	13.4	-85.69	-2,820.5	-1,033.3	621.6	549.4	72.28	8.600	
10,600.0	6,847.3	6,797.9	6,795.5	64.9	13.4	-85.71	-2,820.5	-1,033.2	600.7	526.6	74.07	8.110	
10,677.9	6,847.0	6,798.1	6,795.6	66.3	13.4	-85.73	-2,820.5	-1,033.2	595.6	520.2	75.47	7.892 CC, ES	
10,700.0	6,846.9	6,798.1	6,795.7	66.6	13.4	-85.73	-2,820.5	-1,033.2	596.0	520.2	75.87	7.856	
10,800.0	6,846.5	6,798.3	6,795.9	68.4	13.4	-85.75	-2,820.5	-1,033.2	608.0	530.3	77.67	7.828 SF	
10,900.0	6,846.2	6,798.5	6,796.1	70.1	13.4	-85.77	-2,820.5	-1,033.2	635.7	556.2	79.48	7.998	
11,000.0	6,845.8	6,798.7	6,796.3	71.8	13.4	-85.79	-2,820.5	-1,033.2	677.1	595.8	81.30	8.329	
11,100.0	6,845.4	6,798.9	6,796.5	73.6	13.4	-85.81	-2,820.5	-1,033.2	730.0	646.9	83.12	8.782	
11,200.0	6,845.0	6,799.1	6,796.7	75.4	13.4	-85.83	-2,820.5	-1,033.2	792.0	707.1	84.95	9.324	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Sec. 23-T5N-R65W - Vetting 24-14 (P&A) - 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 (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	
11,700.0	6,843.0	6,821.2	6,820.5	84.2	11.9	-88.73	-4,409.6	-1,118.6	761.7	668.7	93.04	8.187	
11,800.0	6,842.6	6,822.5	6,821.8	86.0	11.9	-88.87	-4,409.6	-1,118.6	690.5	595.6	94.91	7.276	
11,900.0	6,842.2	6,823.7	6,823.0	87.8	11.9	-89.01	-4,409.7	-1,118.5	627.3	530.5	96.78	6.481	
12,000.0	6,841.9	6,824.9	6,824.2	89.6	11.9	-89.15	-4,409.7	-1,118.5	574.5	475.9	98.66	5.823	
12,100.0	6,841.5	6,826.2	6,825.5	91.5	11.9	-89.29	-4,409.7	-1,118.5	535.4	434.9	100.54	5.326	
12,200.0	6,841.1	6,827.4	6,826.7	93.3	11.9	-89.43	-4,409.7	-1,118.5	513.1	410.7	102.41	5.010	
12,267.0	6,840.8	6,828.3	6,827.6	94.5	11.9	-89.52	-4,409.7	-1,118.5	508.7	405.0	103.67	4.907 CC, ES	
12,300.0	6,840.7	6,828.7	6,828.0	95.1	11.9	-89.57	-4,409.7	-1,118.5	509.8	405.5	104.30	4.888 SF	
12,400.0	6,840.3	6,829.9	6,829.2	96.9	11.9	-89.71	-4,409.8	-1,118.5	525.8	419.6	106.18	4.952	
12,500.0	6,839.9	6,831.2	6,830.4	98.7	11.9	-89.85	-4,409.8	-1,118.5	559.5	451.5	108.06	5.178	
12,600.0	6,839.5	6,832.4	6,831.7	100.6	11.9	-89.99	-4,409.8	-1,118.5	608.0	498.1	109.95	5.530	
12,700.0	6,839.1	6,833.6	6,832.9	102.4	11.9	-90.13	-4,409.8	-1,118.5	668.0	556.2	111.83	5.973	
12,800.0	6,838.7	6,834.9	6,834.2	104.2	11.9	-90.27	-4,409.8	-1,118.4	736.8	623.1	113.72	6.479	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.14-T5N-R65W - Caesar 4-11 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7068-UNKNOWN												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	
3,700.0	3,569.3	3,555.3	3,555.3	18.2	71.1	19.12	1,116.7	-1,129.5	781.3	702.7	78.61	9.939	
3,800.0	3,663.4	3,649.4	3,649.4	18.9	73.0	19.96	1,116.7	-1,129.5	749.3	668.3	80.93	9.259	
3,900.0	3,757.5	3,743.5	3,743.5	19.6	74.9	20.87	1,116.7	-1,129.5	717.4	634.1	83.27	8.615	
4,000.0	3,851.7	3,837.7	3,837.7	20.3	76.8	21.87	1,116.7	-1,129.5	685.7	600.0	85.65	8.006	
4,100.0	3,945.8	3,931.8	3,931.8	21.0	78.6	22.96	1,116.7	-1,129.5	654.2	566.1	88.07	7.428	
4,200.0	4,039.9	4,025.9	4,025.9	21.7	80.5	24.16	1,116.7	-1,129.5	623.0	532.4	90.54	6.880	
4,300.0	4,134.0	4,120.0	4,120.0	22.4	82.4	25.49	1,116.7	-1,129.5	592.0	498.9	93.07	6.361	
4,400.0	4,228.2	4,214.2	4,214.2	23.1	84.3	26.95	1,116.7	-1,129.5	561.4	465.7	95.65	5.869	
4,500.0	4,322.3	4,308.3	4,308.3	23.9	86.2	28.58	1,116.7	-1,129.5	531.1	432.8	98.32	5.402	
4,600.0	4,416.4	4,402.4	4,402.4	24.6	88.0	30.40	1,116.7	-1,129.5	501.3	400.2	101.07	4.960	
4,700.0	4,510.5	4,496.5	4,496.5	25.3	89.9	32.44	1,116.7	-1,129.5	472.0	368.1	103.93	4.541	
4,800.0	4,604.7	4,590.7	4,590.7	26.0	91.8	34.74	1,116.7	-1,129.5	443.4	336.4	106.91	4.147	
4,900.0	4,698.8	4,684.8	4,684.8	26.7	93.7	37.34	1,116.7	-1,129.5	415.5	305.4	110.04	3.776	
5,000.0	4,792.9	4,778.9	4,778.9	27.4	95.6	40.29	1,116.7	-1,129.5	388.6	275.2	113.32	3.429	
5,100.0	4,887.0	4,873.0	4,873.0	28.1	97.5	43.64	1,116.7	-1,129.5	362.8	246.0	116.77	3.107	
5,200.0	4,981.2	4,967.2	4,967.2	28.8	99.3	47.47	1,116.7	-1,129.5	338.4	218.0	120.41	2.810	
5,300.0	5,075.3	5,061.3	5,061.3	29.5	101.2	51.83	1,116.7	-1,129.5	315.7	191.5	124.23	2.542	
5,400.0	5,169.4	5,155.4	5,155.4	30.2	103.1	56.78	1,116.7	-1,129.5	295.2	167.0	128.19	2.303	
5,500.0	5,263.5	5,249.5	5,249.5	30.9	105.0	62.35	1,116.7	-1,129.5	277.3	145.1	132.23	2.097	
5,600.0	5,357.7	5,343.7	5,343.7	31.6	106.9	68.56	1,116.7	-1,129.5	262.6	126.3	136.23	1.927	
5,700.0	5,451.8	5,437.8	5,437.8	32.3	108.8	75.35	1,116.7	-1,129.5	251.5	111.5	140.03	1.796	
5,800.0	5,545.9	5,531.9	5,531.9	33.0	110.6	82.58	1,116.7	-1,129.5	244.6	101.2	143.43	1.706	
5,899.3	5,639.4	5,625.4	5,625.4	33.8	112.5	90.00	1,116.7	-1,129.5	242.3	96.1	146.25	1.657 CC	
5,900.0	5,640.0	5,626.0	5,626.0	33.8	112.5	90.05	1,116.7	-1,129.5	242.3	96.1	146.27	1.657 ES	
6,000.0	5,734.2	5,720.2	5,720.2	34.5	114.4	97.52	1,116.7	-1,129.5	244.7	96.2	148.47	1.648 SF	
6,100.0	5,828.3	5,814.3	5,814.3	35.2	116.3	104.75	1,116.7	-1,129.5	251.6	101.6	150.04	1.677	
6,200.0	5,922.4	5,908.4	5,908.4	35.9	118.2	111.53	1,116.7	-1,129.5	262.8	111.6	151.10	1.739	
6,261.7	5,980.5	5,966.5	5,966.5	36.3	119.3	115.42	1,116.7	-1,129.5	271.5	119.9	151.58	1.791	
6,300.0	6,016.7	6,002.7	6,002.7	36.6	120.1	125.20	1,116.7	-1,129.5	278.0	126.8	151.23	1.838	
6,350.0	6,064.4	6,050.4	6,050.4	36.8	121.0	139.15	1,116.7	-1,129.5	288.3	137.6	150.68	1.913	
6,400.0	6,112.3	6,098.3	6,098.3	37.1	122.0	153.95	1,116.7	-1,129.5	300.3	150.1	150.16	2.000	
6,450.0	6,160.3	6,146.3	6,146.3	37.3	122.9	168.55	1,116.7	-1,129.5	313.6	163.8	149.75	2.094	
6,500.0	6,208.2	6,194.2	6,194.2	37.4	123.9	-178.27	1,116.7	-1,129.5	328.0	178.6	149.44	2.195	
6,550.0	6,255.7	6,241.7	6,241.7	37.6	124.8	-167.26	1,116.7	-1,129.5	343.5	194.3	149.19	2.302	
6,600.0	6,302.6	6,288.6	6,288.6	37.7	125.8	-158.53	1,116.7	-1,129.5	360.0	211.1	148.95	2.417	
6,650.0	6,348.8	6,334.8	6,334.8	37.8	126.7	-151.83	1,116.7	-1,129.5	377.6	228.9	148.65	2.540	
6,700.0	6,394.0	6,380.0	6,380.0	37.8	127.6	-146.74	1,116.7	-1,129.5	396.3	248.1	148.24	2.674	
6,750.0	6,438.1	6,424.1	6,424.1	37.9	128.5	-142.88	1,116.7	-1,129.5	416.4	268.7	147.67	2.820	
6,800.0	6,480.8	6,466.8	6,466.8	37.9	129.3	-139.92	1,116.7	-1,129.5	437.8	290.9	146.93	2.980	
6,850.0	6,522.0	6,508.0	6,508.0	37.9	130.2	-137.60	1,116.7	-1,129.5	460.7	314.7	146.02	3.155	
6,900.0	6,561.5	6,547.5	6,547.5	37.8	131.0	-135.71	1,116.7	-1,129.5	485.3	340.3	144.96	3.348	
6,950.0	6,599.2	6,585.2	6,585.2	37.8	131.7	-134.08	1,116.7	-1,129.5	511.5	367.7	143.82	3.557	
7,000.0	6,634.8	6,620.8	6,620.8	37.7	132.4	-132.57	1,116.7	-1,129.5	539.5	396.8	142.69	3.781	
7,050.0	6,668.2	6,654.2	6,654.2	37.6	133.1	-131.07	1,116.7	-1,129.5	569.3	427.6	141.69	4.018	
7,100.0	6,699.3	6,685.3	6,685.3	37.5	133.7	-129.47	1,116.7	-1,129.5	600.8	459.8	140.98	4.262	
7,150.0	6,728.0	6,714.0	6,714.0	37.4	134.3	-127.68	1,116.7	-1,129.5	634.1	493.4	140.69	4.507	
7,200.0	6,754.1	6,740.1	6,740.1	37.2	134.8	-125.63	1,116.7	-1,129.5	669.0	528.0	140.99	4.745	
7,250.0	6,777.4	6,763.4	6,763.4	37.1	135.3	-123.23	1,116.7	-1,129.5	705.6	563.5	142.01	4.968	
7,300.0	6,798.0	6,784.0	6,784.0	37.0	135.7	-120.39	1,116.7	-1,129.5	743.5	599.7	143.81	5.170	
7,350.0	6,815.7	6,801.7	6,801.7	36.8	136.0	-117.06	1,116.7	-1,129.5	782.8	636.5	146.36	5.349	

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 Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 7124-UNKNOWN												Offset Well Error:	0.0 ft
Existing Wells Sec.14-T5N-R65W - Oster-PM F 11-13 (Exist) - Wellbore #1 - Wellbore #1													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
6,700.0	6,394.0	6,383.0	6,383.0	37.8	127.7	73.03	1,182.3	-2,256.6	798.7	652.0	146.67	5.446	
6,750.0	6,438.1	6,427.1	6,427.1	37.9	128.5	79.09	1,182.3	-2,256.6	792.4	644.6	147.75	5.363	
6,800.0	6,480.8	6,469.8	6,469.8	37.9	129.4	84.32	1,182.3	-2,256.6	788.1	639.4	148.66	5.301	
6,850.0	6,522.0	6,511.0	6,511.0	37.9	130.2	88.85	1,182.3	-2,256.6	786.1	636.8	149.34	5.264	
6,863.9	6,533.2	6,522.2	6,522.2	37.8	130.4	90.00	1,182.3	-2,256.6	786.0	636.5	149.48	5.258 CC, ES	
6,900.0	6,561.5	6,550.5	6,550.5	37.8	131.0	92.78	1,182.3	-2,256.6	786.7	637.0	149.76	5.253 SF	
6,950.0	6,599.2	6,588.2	6,588.2	37.8	131.8	96.18	1,182.3	-2,256.6	790.2	640.3	149.91	5.271	
7,000.0	6,634.8	6,623.8	6,623.8	37.7	132.5	99.08	1,182.3	-2,256.6	796.7	646.9	149.82	5.318	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 555- Vetting Pad Sec.23-T5N-R65W - Vetting 2 (Exist) - Vetting #2 - Vetting #2													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
12,800.0	6,838.7	6,901.5	6,837.5	104.2	17.9	-88.57	-5,471.8	-1,101.0	746.3	628.0	118.34	6.307		
12,900.0	6,838.3	6,902.3	6,838.2	106.1	17.9	-88.65	-5,471.8	-1,101.0	679.1	558.9	120.22	5.649		
13,000.0	6,837.9	6,903.0	6,839.0	107.9	17.9	-88.73	-5,471.8	-1,101.0	620.7	498.6	122.11	5.084		
13,100.0	6,837.5	6,903.7	6,839.7	109.8	17.9	-88.81	-5,471.8	-1,101.0	574.0	450.0	124.00	4.629		
13,200.0	6,837.2	6,904.5	6,840.4	111.6	17.9	-88.89	-5,471.8	-1,101.0	541.9	416.1	125.89	4.305		
13,300.0	6,836.8	6,905.2	6,841.2	113.4	17.9	-88.97	-5,471.8	-1,100.9	527.1	399.4	127.78	4.125		
13,329.1	6,836.7	6,905.4	6,841.4	114.0	17.9	-88.99	-5,471.8	-1,100.9	526.3	398.0	128.33	4.101 CC, ES		
13,400.0	6,836.4	6,906.0	6,841.9	115.3	17.9	-89.05	-5,471.8	-1,100.9	531.1	401.4	129.67	4.096 SF		
13,500.0	6,836.0	6,906.7	6,842.7	117.1	17.9	-89.13	-5,471.8	-1,100.9	553.4	421.8	131.57	4.206		
13,600.0	6,835.6	6,907.5	6,843.4	119.0	17.9	-89.21	-5,471.8	-1,100.9	592.0	458.5	133.46	4.436		
13,700.0	6,835.2	6,908.2	6,844.2	120.9	17.9	-89.29	-5,471.8	-1,100.9	643.9	508.5	135.36	4.757		
13,800.0	6,834.8	6,909.0	6,844.9	122.7	17.9	-89.38	-5,471.8	-1,100.9	706.2	569.0	137.25	5.146		
13,900.0	6,834.4	6,909.7	6,845.7	124.6	17.9	-89.46	-5,471.8	-1,100.9	776.5	637.4	139.15	5.580		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4629.0ft (Original Well Elev)

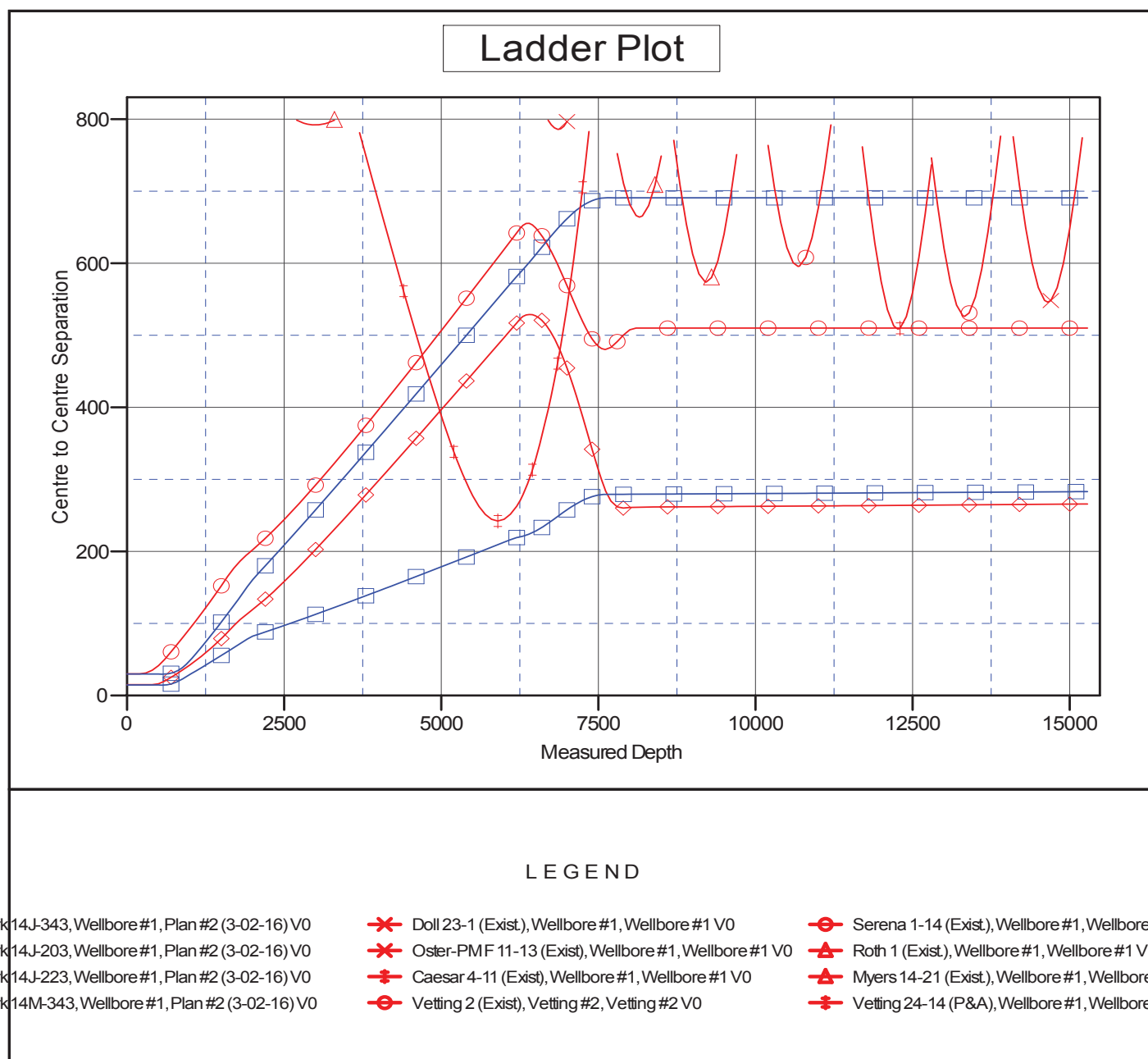
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Clark 14J-303

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.56°



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Clark 14J-303
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4629.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4629.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Clark 14J-303	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 #2 (3-02-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4629.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Clark 14J-303

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.56°

