

PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Loloff Farms 26H-232**

Surface Location: Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4678.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1376854.30 3271570.21 40.363770 -104.525420
RKB - 23' WELL @ 4701.0ft (RKB - 23')

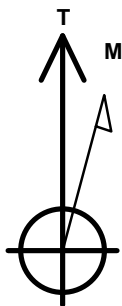
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 236'FSL, 260'FWL, Sec. 26	1.0	0.0	0.0	Point
Spacing Unit Buffer - 460' (26H-232)	1.0	559.4	5175.3	Rectangle
BHL 790'FSL, 500'FEL, SEC.25	6566.0	559.4	9789.5	Point

ANNOTATIONS

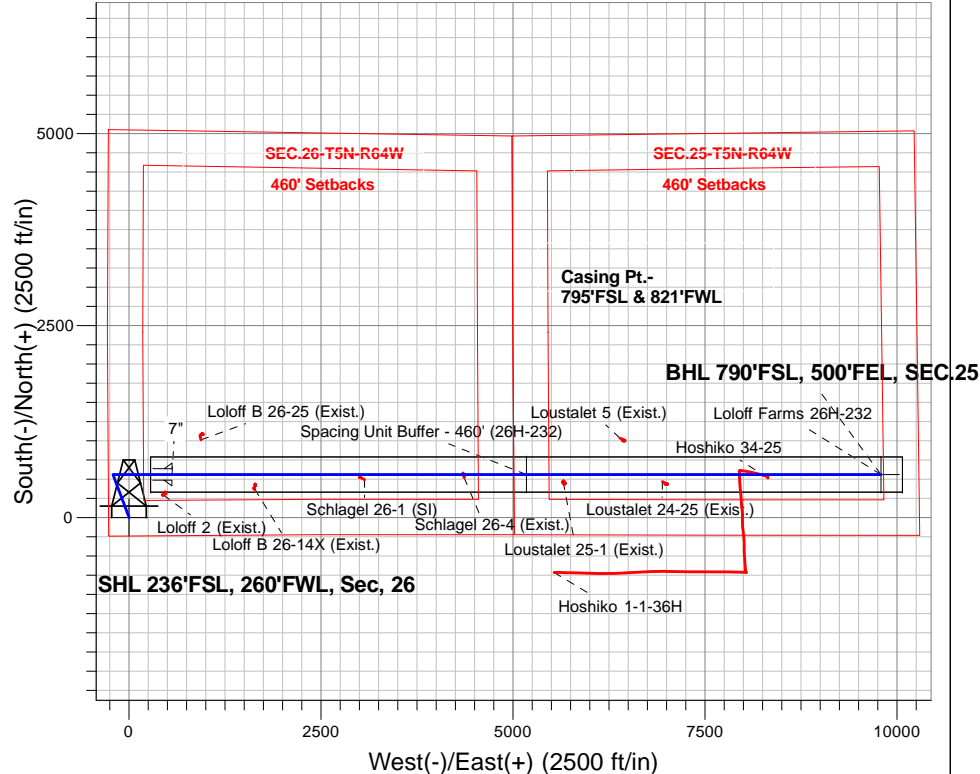
TVD	MD	Annotation
1000.0	1000.0	KOP - Start Build 1.00
5058.9	5100.8	Start Drop -2.00
5500.0	5543.6	Start 387.5 hold at 5543.6 MD
5887.5	5931.1	Start Build 7.50
6651.4	7138.1	Start 9228.9 hold at 7138.1 MD
6566.0	16367.0	TD at 16367.0

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
Loloff Farms 26H-232
Extension Plan #1 (1-29-16)
8:21, February 02 2016



Azimuths to True North
Magnetic North: 8.11°

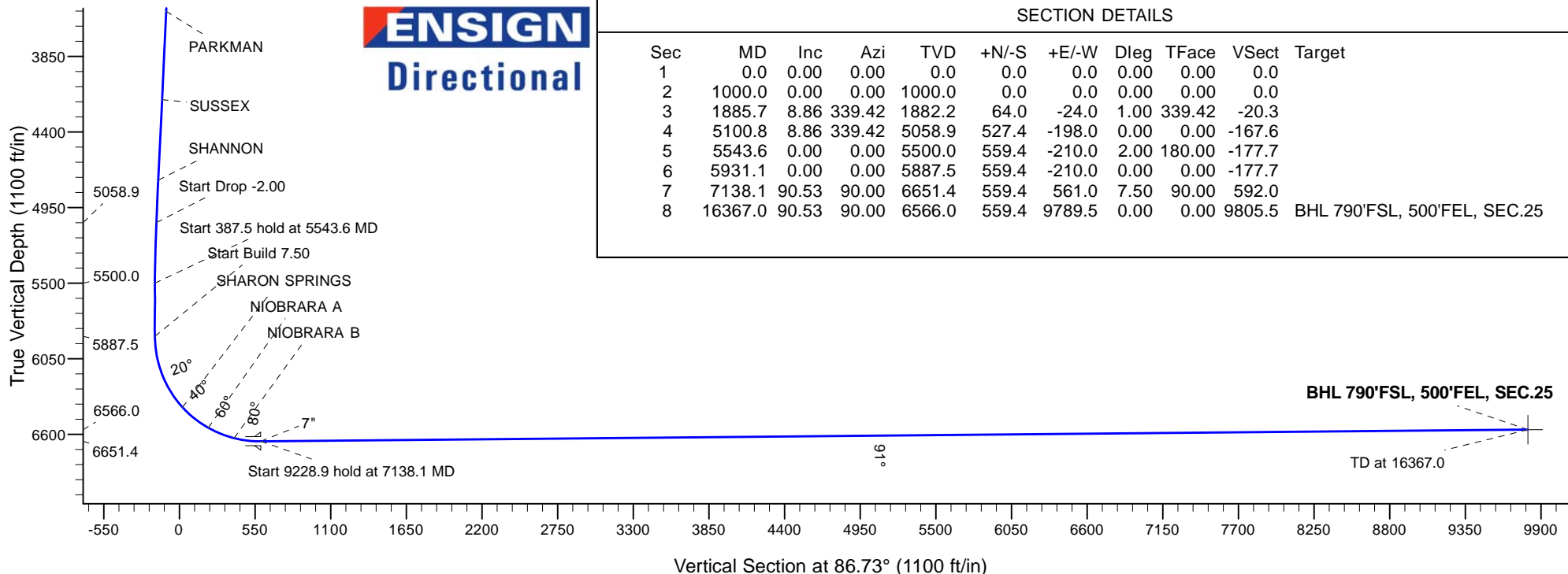
Magnetic Field
Strength: 52649.7snT
Dip Angle: 66.90°
Date: 2/2/2016
Model: IGRF2010



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1885.7	8.86	339.42	1882.2	64.0	-24.0	1.00	339.42	-20.3	
4	5100.8	8.86	339.42	5058.9	527.4	-198.0	0.00	0.00	-167.6	
5	5543.6	0.00	0.00	5500.0	559.4	-210.0	2.00	180.00	-177.7	
6	5931.1	0.00	0.00	5887.5	559.4	-210.0	0.00	0.00	-177.7	
7	7138.1	90.53	90.00	6651.4	559.4	561.0	7.50	90.00	592.0	
8	16367.0	90.53	90.00	6566.0	559.4	9789.5	0.00	0.00	9805.5	BHL 790'FSL, 500'FEL, SEC.25

ENSIGN
Directional





PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.26-T5N-R64W

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W

Loloff Farms 26H-232

Wellbore #1

Plan: Extension Plan #1 (1-29-16)

Standard Planning Report

02 February, 2016

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

Project	SEC.26-T5N-R64W, Weld County, CO		
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	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W				
Site Position:		Northing:	1,376,850.35 usft	Latitude:	40.363760
From:	Lat/Long	Easting:	3,271,539.61 usft	Longitude:	-104.525530
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.63

Well	Loloff Farms 26H-232					
Well Position	+N/-S	3.6 ft	Northing:	1,376,854.30 usft	Latitude:	40.363770
	+E/-W	30.7 ft	Easting:	3,271,570.22 usft	Longitude:	-104.525420
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,678.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/2/2016	8.11	66.90	52,650

Design	Extension Plan #1 (1-29-16)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	86.73

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,885.7	8.86	339.42	1,882.2	64.0	-24.0	1.00	1.00	0.00	339.42	
5,100.8	8.86	339.42	5,058.9	527.4	-198.0	0.00	0.00	0.00	0.00	
5,543.6	0.00	0.00	5,500.0	559.4	-210.0	2.00	-2.00	0.00	180.00	
5,931.1	0.00	0.00	5,887.5	559.4	-210.0	0.00	0.00	0.00	0.00	
7,138.1	90.53	90.00	6,651.4	559.4	561.0	7.50	7.50	0.00	90.00	
16,367.0	90.53	90.00	6,566.0	559.4	9,789.5	0.00	0.00	0.00	0.00	BHL 790°FSL, 500°FEE

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

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 236°FSL, 260°FWL, Sec. 26 - Spacing Unit Buffer - 460' (26H-232)									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.00									
1,100.0	1.00	339.42	1,100.0	0.8	-0.3	-0.3	1.00	1.00	0.00
1,200.0	2.00	339.42	1,200.0	3.3	-1.2	-1.0	1.00	1.00	0.00
1,300.0	3.00	339.42	1,299.9	7.4	-2.8	-2.3	1.00	1.00	0.00
1,400.0	4.00	339.42	1,399.7	13.1	-4.9	-4.2	1.00	1.00	0.00
1,500.0	5.00	339.42	1,499.4	20.4	-7.7	-6.5	1.00	1.00	0.00
1,600.0	6.00	339.42	1,598.9	29.4	-11.0	-9.3	1.00	1.00	0.00
1,700.0	7.00	339.42	1,698.3	40.0	-15.0	-12.7	1.00	1.00	0.00
1,800.0	8.00	339.42	1,797.4	52.2	-19.6	-16.6	1.00	1.00	0.00
1,885.7	8.86	339.42	1,882.2	64.0	-24.0	-20.3	1.00	1.00	0.00
1,900.0	8.86	339.42	1,896.3	66.0	-24.8	-21.0	0.00	0.00	0.00
2,000.0	8.86	339.42	1,995.1	80.4	-30.2	-25.6	0.00	0.00	0.00
2,100.0	8.86	339.42	2,093.9	94.9	-35.6	-30.1	0.00	0.00	0.00
2,200.0	8.86	339.42	2,192.7	109.3	-41.0	-34.7	0.00	0.00	0.00
2,300.0	8.86	339.42	2,291.5	123.7	-46.4	-39.3	0.00	0.00	0.00
2,400.0	8.86	339.42	2,390.3	138.1	-51.8	-43.9	0.00	0.00	0.00
2,500.0	8.86	339.42	2,489.2	152.5	-57.3	-48.5	0.00	0.00	0.00
2,600.0	8.86	339.42	2,588.0	166.9	-62.7	-53.0	0.00	0.00	0.00
2,700.0	8.86	339.42	2,686.8	181.3	-68.1	-57.6	0.00	0.00	0.00
2,800.0	8.86	339.42	2,785.6	195.8	-73.5	-62.2	0.00	0.00	0.00
2,900.0	8.86	339.42	2,884.4	210.2	-78.9	-66.8	0.00	0.00	0.00
3,000.0	8.86	339.42	2,983.2	224.6	-84.3	-71.4	0.00	0.00	0.00
3,100.0	8.86	339.42	3,082.0	239.0	-89.7	-75.9	0.00	0.00	0.00
3,200.0	8.86	339.42	3,180.8	253.4	-95.1	-80.5	0.00	0.00	0.00
3,300.0	8.86	339.42	3,279.6	267.8	-100.5	-85.1	0.00	0.00	0.00
3,400.0	8.86	339.42	3,378.4	282.3	-106.0	-89.7	0.00	0.00	0.00
3,500.0	8.86	339.42	3,477.2	296.7	-111.4	-94.3	0.00	0.00	0.00
3,546.3	8.86	339.42	3,523.0	303.3	-113.9	-96.4	0.00	0.00	0.00
PARKMAN									
3,600.0	8.86	339.42	3,576.0	311.1	-116.8	-98.8	0.00	0.00	0.00
3,700.0	8.86	339.42	3,674.8	325.5	-122.2	-103.4	0.00	0.00	0.00
3,800.0	8.86	339.42	3,773.6	339.9	-127.6	-108.0	0.00	0.00	0.00
3,900.0	8.86	339.42	3,872.5	354.3	-133.0	-112.6	0.00	0.00	0.00
4,000.0	8.86	339.42	3,971.3	368.7	-138.4	-117.2	0.00	0.00	0.00
4,100.0	8.86	339.42	4,070.1	383.2	-143.8	-121.7	0.00	0.00	0.00
4,197.1	8.86	339.42	4,166.0	397.2	-149.1	-126.2	0.00	0.00	0.00
SUSSEX									
4,200.0	8.86	339.42	4,168.9	397.6	-149.2	-126.3	0.00	0.00	0.00
4,300.0	8.86	339.42	4,267.7	412.0	-154.7	-130.9	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.0	8.86	339.42	4,366.5	426.4	-160.1	-135.5	0.00	0.00	0.00
4,500.0	8.86	339.42	4,465.3	440.8	-165.5	-140.1	0.00	0.00	0.00
4,600.0	8.86	339.42	4,564.1	455.2	-170.9	-144.6	0.00	0.00	0.00
4,700.0	8.86	339.42	4,662.9	469.6	-176.3	-149.2	0.00	0.00	0.00
4,788.1	8.86	339.42	4,750.0	482.4	-181.1	-153.3	0.00	0.00	0.00
SHANNON									
4,800.0	8.86	339.42	4,761.7	484.1	-181.7	-153.8	0.00	0.00	0.00
4,900.0	8.86	339.42	4,860.5	498.5	-187.1	-158.4	0.00	0.00	0.00
5,000.0	8.86	339.42	4,959.3	512.9	-192.5	-163.0	0.00	0.00	0.00
5,100.0	8.86	339.42	5,058.1	527.3	-198.0	-167.5	0.00	0.00	0.00
5,100.8	8.86	339.42	5,058.9	527.4	-198.0	-167.6	0.00	0.00	0.00
Start Drop -2.00									
5,200.0	6.87	339.42	5,157.2	540.1	-202.8	-171.6	2.00	-2.00	0.00
5,300.0	4.87	339.42	5,256.7	549.7	-206.4	-174.7	2.00	-2.00	0.00
5,400.0	2.87	339.42	5,356.4	556.0	-208.7	-176.7	2.00	-2.00	0.00
5,500.0	0.87	339.42	5,456.4	559.1	-209.9	-177.6	2.00	-2.00	0.00
5,543.6	0.00	339.42	5,500.0	559.4	-210.0	-177.7	2.00	-2.00	0.00
Start 387.5 hold at 5543.6 MD									
5,600.0	0.00	0.00	5,556.4	559.4	-210.0	-177.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,656.4	559.4	-210.0	-177.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,756.4	559.4	-210.0	-177.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,856.4	559.4	-210.0	-177.7	0.00	0.00	0.00
5,931.1	0.00	0.00	5,887.5	559.4	-210.0	-177.7	0.00	0.00	0.00
Start Build 7.50									
6,000.0	5.17	90.00	5,956.3	559.4	-206.9	-174.6	7.50	7.50	0.00
6,100.0	12.67	90.00	6,055.0	559.4	-191.4	-159.2	7.50	7.50	0.00
6,200.0	20.17	90.00	6,150.9	559.4	-163.2	-131.0	7.50	7.50	0.00
6,300.0	27.67	90.00	6,242.2	559.4	-122.6	-90.5	7.50	7.50	0.00
6,400.0	35.17	90.00	6,327.5	559.4	-70.5	-38.5	7.50	7.50	0.00
6,497.0	42.44	90.00	6,403.0	559.4	-9.8	22.1	7.50	7.50	0.00
SHARON SPRINGS									
6,500.0	42.67	90.00	6,405.2	559.4	-7.8	24.2	7.50	7.50	0.00
6,600.0	50.17	90.00	6,474.1	559.4	64.6	96.4	7.50	7.50	0.00
6,700.0	57.67	90.00	6,533.0	559.4	145.4	177.1	7.50	7.50	0.00
6,739.1	60.60	90.00	6,553.0	559.4	178.9	210.5	7.50	7.50	0.00
NIOBRARA A									
6,800.0	65.17	90.00	6,580.8	559.4	233.1	264.7	7.50	7.50	0.00
6,900.0	72.67	90.00	6,616.7	559.4	326.4	357.7	7.50	7.50	0.00
6,941.5	75.78	90.00	6,628.0	559.4	366.3	397.6	7.50	7.50	0.00
NIOBRARA B									
7,000.0	80.17	90.00	6,640.2	559.4	423.5	454.7	7.50	7.50	0.00
7,100.0	87.67	90.00	6,650.8	559.4	522.9	553.9	7.50	7.50	0.00
7,138.1	90.53	90.00	6,651.4	559.4	561.0	592.0	7.50	7.50	0.00
Start 9228.9 hold at 7138.1 MD - 7"									
7,200.0	90.53	90.00	6,650.8	559.4	622.9	653.8	0.01	0.01	0.00
7,300.0	90.53	90.00	6,649.9	559.4	722.9	753.6	0.00	0.00	0.00
7,400.0	90.53	90.00	6,648.9	559.4	822.9	853.4	0.00	0.00	0.00
7,500.0	90.53	90.00	6,648.0	559.4	922.8	953.3	0.00	0.00	0.00
7,600.0	90.53	90.00	6,647.1	559.4	1,022.8	1,053.1	0.00	0.00	0.00
7,700.0	90.53	90.00	6,646.2	559.4	1,122.8	1,152.9	0.00	0.00	0.00
7,800.0	90.53	90.00	6,645.2	559.4	1,222.8	1,252.8	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.0	90.53	90.00	6,644.3	559.4	1,322.8	1,352.6	0.00	0.00	0.00
8,000.0	90.53	90.00	6,643.4	559.4	1,422.8	1,452.4	0.00	0.00	0.00
8,100.0	90.53	90.00	6,642.5	559.4	1,522.8	1,552.3	0.00	0.00	0.00
8,200.0	90.53	90.00	6,641.5	559.4	1,622.8	1,652.1	0.00	0.00	0.00
8,300.0	90.53	90.00	6,640.6	559.4	1,722.8	1,751.9	0.00	0.00	0.00
8,400.0	90.53	90.00	6,639.7	559.4	1,822.8	1,851.8	0.00	0.00	0.00
8,500.0	90.53	90.00	6,638.8	559.4	1,922.8	1,951.6	0.00	0.00	0.00
8,600.0	90.53	90.00	6,637.8	559.4	2,022.8	2,051.4	0.00	0.00	0.00
8,700.0	90.53	90.00	6,636.9	559.4	2,122.8	2,151.2	0.00	0.00	0.00
8,800.0	90.53	90.00	6,636.0	559.4	2,222.8	2,251.1	0.00	0.00	0.00
8,900.0	90.53	90.00	6,635.1	559.4	2,322.8	2,350.9	0.00	0.00	0.00
9,000.0	90.53	90.00	6,634.1	559.4	2,422.8	2,450.7	0.00	0.00	0.00
9,100.0	90.53	90.00	6,633.2	559.4	2,522.8	2,550.6	0.00	0.00	0.00
9,200.0	90.53	90.00	6,632.3	559.4	2,622.8	2,650.4	0.00	0.00	0.00
9,300.0	90.53	90.00	6,631.4	559.4	2,722.8	2,750.2	0.00	0.00	0.00
9,400.0	90.53	90.00	6,630.4	559.4	2,822.8	2,850.1	0.00	0.00	0.00
9,500.0	90.53	90.00	6,629.5	559.4	2,922.8	2,949.9	0.00	0.00	0.00
9,600.0	90.53	90.00	6,628.6	559.4	3,022.8	3,049.7	0.00	0.00	0.00
9,700.0	90.53	90.00	6,627.7	559.4	3,122.8	3,149.6	0.00	0.00	0.00
9,800.0	90.53	90.00	6,626.7	559.4	3,222.7	3,249.4	0.00	0.00	0.00
9,900.0	90.53	90.00	6,625.8	559.4	3,322.7	3,349.2	0.00	0.00	0.00
10,000.0	90.53	90.00	6,624.9	559.4	3,422.7	3,449.1	0.00	0.00	0.00
10,100.0	90.53	90.00	6,624.0	559.4	3,522.7	3,548.9	0.00	0.00	0.00
10,200.0	90.53	90.00	6,623.0	559.4	3,622.7	3,648.7	0.00	0.00	0.00
10,300.0	90.53	90.00	6,622.1	559.4	3,722.7	3,748.6	0.00	0.00	0.00
10,400.0	90.53	90.00	6,621.2	559.4	3,822.7	3,848.4	0.00	0.00	0.00
10,500.0	90.53	90.00	6,620.3	559.4	3,922.7	3,948.2	0.00	0.00	0.00
10,600.0	90.53	90.00	6,619.3	559.4	4,022.7	4,048.1	0.00	0.00	0.00
10,700.0	90.53	90.00	6,618.4	559.4	4,122.7	4,147.9	0.00	0.00	0.00
10,800.0	90.53	90.00	6,617.5	559.4	4,222.7	4,247.7	0.00	0.00	0.00
10,900.0	90.53	90.00	6,616.6	559.4	4,322.7	4,347.6	0.00	0.00	0.00
11,000.0	90.53	90.00	6,615.6	559.4	4,422.7	4,447.4	0.00	0.00	0.00
11,100.0	90.53	90.00	6,614.7	559.4	4,522.7	4,547.2	0.00	0.00	0.00
11,200.0	90.53	90.00	6,613.8	559.4	4,622.7	4,647.1	0.00	0.00	0.00
11,300.0	90.53	90.00	6,612.9	559.4	4,722.7	4,746.9	0.00	0.00	0.00
11,400.0	90.53	90.00	6,611.9	559.4	4,822.7	4,846.7	0.00	0.00	0.00
11,500.0	90.53	90.00	6,611.0	559.4	4,922.7	4,946.6	0.00	0.00	0.00
11,600.0	90.53	90.00	6,610.1	559.4	5,022.7	5,046.4	0.00	0.00	0.00
11,700.0	90.53	90.00	6,609.2	559.4	5,122.7	5,146.2	0.00	0.00	0.00
11,800.0	90.53	90.00	6,608.2	559.4	5,222.7	5,246.1	0.00	0.00	0.00
11,900.0	90.53	90.00	6,607.3	559.4	5,322.7	5,345.9	0.00	0.00	0.00
12,000.0	90.53	90.00	6,606.4	559.4	5,422.7	5,445.7	0.00	0.00	0.00
12,100.0	90.53	90.00	6,605.5	559.4	5,522.6	5,545.6	0.00	0.00	0.00
12,200.0	90.53	90.00	6,604.5	559.4	5,622.6	5,645.4	0.00	0.00	0.00
12,300.0	90.53	90.00	6,603.6	559.4	5,722.6	5,745.2	0.00	0.00	0.00
12,400.0	90.53	90.00	6,602.7	559.4	5,822.6	5,845.1	0.00	0.00	0.00
12,500.0	90.53	90.00	6,601.8	559.4	5,922.6	5,944.9	0.00	0.00	0.00
12,600.0	90.53	90.00	6,600.8	559.4	6,022.6	6,044.7	0.00	0.00	0.00
12,700.0	90.53	90.00	6,599.9	559.4	6,122.6	6,144.6	0.00	0.00	0.00
12,800.0	90.53	90.00	6,599.0	559.4	6,222.6	6,244.4	0.00	0.00	0.00
12,900.0	90.53	90.00	6,598.1	559.4	6,322.6	6,344.2	0.00	0.00	0.00
13,000.0	90.53	90.00	6,597.1	559.4	6,422.6	6,444.1	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

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)
13,100.0	90.53	90.00	6,596.2	559.4	6,522.6	6,543.9	0.00	0.00	0.00
13,200.0	90.53	90.00	6,595.3	559.4	6,622.6	6,643.7	0.00	0.00	0.00
13,300.0	90.53	90.00	6,594.4	559.4	6,722.6	6,743.6	0.00	0.00	0.00
13,400.0	90.53	90.00	6,593.4	559.4	6,822.6	6,843.4	0.00	0.00	0.00
13,500.0	90.53	90.00	6,592.5	559.4	6,922.6	6,943.2	0.00	0.00	0.00
13,600.0	90.53	90.00	6,591.6	559.4	7,022.6	7,043.1	0.00	0.00	0.00
13,700.0	90.53	90.00	6,590.7	559.4	7,122.6	7,142.9	0.00	0.00	0.00
13,733.7	90.53	90.00	6,590.4	559.4	7,156.3	7,176.6	0.00	0.00	0.00
BHL 822°FSL & 2142°FWL, Sec.25									
13,800.0	90.53	90.00	6,589.7	559.4	7,222.6	7,242.7	0.00	0.00	0.00
13,900.0	90.53	90.00	6,588.8	559.4	7,322.6	7,342.6	0.00	0.00	0.00
14,000.0	90.53	90.00	6,587.9	559.4	7,422.6	7,442.4	0.00	0.00	0.00
14,100.0	90.53	90.00	6,587.0	559.4	7,522.6	7,542.2	0.00	0.00	0.00
14,200.0	90.53	90.00	6,586.0	559.4	7,622.6	7,642.1	0.00	0.00	0.00
14,300.0	90.53	90.00	6,585.1	559.4	7,722.6	7,741.9	0.00	0.00	0.00
14,400.0	90.53	90.00	6,584.2	559.4	7,822.6	7,841.7	0.00	0.00	0.00
14,500.0	90.53	90.00	6,583.3	559.4	7,922.5	7,941.6	0.00	0.00	0.00
14,600.0	90.53	90.00	6,582.3	559.4	8,022.5	8,041.4	0.00	0.00	0.00
14,700.0	90.53	90.00	6,581.4	559.4	8,122.5	8,141.2	0.00	0.00	0.00
14,800.0	90.53	90.00	6,580.5	559.4	8,222.5	8,241.1	0.00	0.00	0.00
14,900.0	90.53	90.00	6,579.6	559.4	8,322.5	8,340.9	0.00	0.00	0.00
15,000.0	90.53	90.00	6,578.6	559.4	8,422.5	8,440.7	0.00	0.00	0.00
15,100.0	90.53	90.00	6,577.7	559.4	8,522.5	8,540.6	0.00	0.00	0.00
15,200.0	90.53	90.00	6,576.8	559.4	8,622.5	8,640.4	0.00	0.00	0.00
15,300.0	90.53	90.00	6,575.9	559.4	8,722.5	8,740.2	0.00	0.00	0.00
15,400.0	90.53	90.00	6,574.9	559.4	8,822.5	8,840.1	0.00	0.00	0.00
15,500.0	90.53	90.00	6,574.0	559.4	8,922.5	8,939.9	0.00	0.00	0.00
15,600.0	90.53	90.00	6,573.1	559.4	9,022.5	9,039.7	0.00	0.00	0.00
15,700.0	90.53	90.00	6,572.2	559.4	9,122.5	9,139.5	0.00	0.00	0.00
15,800.0	90.53	90.00	6,571.2	559.4	9,222.5	9,239.4	0.00	0.00	0.00
15,900.0	90.53	90.00	6,570.3	559.4	9,322.5	9,339.2	0.00	0.00	0.00
16,000.0	90.53	90.00	6,569.4	559.4	9,422.5	9,439.0	0.00	0.00	0.00
16,100.0	90.53	90.00	6,568.5	559.4	9,522.5	9,538.9	0.00	0.00	0.00
16,200.0	90.53	90.00	6,567.5	559.4	9,622.5	9,638.7	0.00	0.00	0.00
16,300.0	90.53	90.00	6,566.6	559.4	9,722.5	9,738.5	0.00	0.00	0.00
16,367.0	90.53	90.00	6,566.0	559.4	9,789.5	9,805.4	0.00	0.00	0.00
TD at 16367.0 - BHL 790°FSL, 500°FEL, SEC.25									

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-232	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Extension Plan #1 (1-29-16)		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 236'FSL, 260'FWL, - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,376,854.33	3,271,570.22	40.363770	-104.525420
Spacing Unit Buffer - 46' - plan misses target center by 5205.4ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Rectangle (sides W9,789.5 H460.0 D0.0)	0.00	0.00	1.0	559.4	5,175.2	1,377,470.52	3,276,738.78	40.365304	-104.506849
BHL 790'FSL, 500'FEL, : - plan hits target center - Point	0.00	0.00	6,566.0	559.4	9,789.5	1,377,521.18	3,281,352.55	40.365300	-104.490290

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,138.1	6,651.4	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,546.3	3,523.0	PARKMAN		0.00	
4,197.1	4,166.0	SUSSEX		0.00	
4,788.1	4,750.0	SHANNON		0.00	
6,497.0	6,403.0	SHARON SPRINGS		0.00	
6,739.1	6,553.0	NIOBRARA A		0.00	
6,941.5	6,628.0	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	KOP - Start Build 1.00	
5,100.8	5,058.9	64.0	-24.0	Start Drop -2.00	
5,543.6	5,500.0	527.4	-198.0	Start 387.5 hold at 5543.6 MD	
5,931.1	5,887.5	559.4	-210.0	Start Build 7.50	
7,138.1	6,651.4	559.4	-210.0	Start 9228.9 hold at 7138.1 MD	
16,367.0	6,566.0	559.4	561.0	TD at 16367.0	

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.26-T5N-R64W

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W

Loloff Farms 26H-232

Wellbore #1

Extension Plan #1 (1-29-16)

Anticollision Report

02 February, 2016

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Reference	Extension Plan #1 (1-29-16)		
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 2/2/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,367.0	Extension Plan #1 (1-29-16) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Pad Sec.26-T5N-R64W						
Loustalet 24-25 (Exist.) - Wellbore #1 - Wellbore #1	13,569.1	6,487.0	117.6	-91.6	0.562	Level 1, CC, ES, SF
Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1	12,231.2	6,494.1	94.9	-77.7	0.550	Level 1, CC, ES, SF
Loustalet 5 (Exist.) - Wellbore #1 - Wellbore #1	13,017.5	6,458.0	449.8	256.0	2.321	CC, ES, SF
Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1	9,633.7	6,538.6	63.5	-36.5	0.635	Level 1, CC, ES, SF
Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1	10,939.0	6,506.0	38.4	-100.0	0.277	Level 1, CC, ES, SF
Existing Wells Pad Sec.26-T5N-R64W (Grid)						
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,018.6	6,604.2	264.3	232.1	8.211	CC, ES
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,050.0	6,608.8	266.1	233.3	8.112	SF
Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1	8,210.2	6,600.4	188.3	126.7	3.057	CC, ES, SF
Loloff B 26-25 (Exist.) - Wellbore #1 - Wellbore #1	7,509.9	6,615.5	467.3	423.6	10.700	CC, ES
Loloff B 26-25 (Exist.) - Wellbore #1 - Wellbore #1	7,600.0	6,615.8	475.9	430.0	10.373	SF
Hoshiko 34-25 Pad Sec.25-T5N-R64W						
Hoshiko 1-1-36H - Wellbore #1 - Wellbore #1						Out of range
Hoshiko 34-25 - Wellbore #1 - Wellbore #1	14,895.6	6,511.3	42.0	-207.9	0.168	Level 1, CC, ES, SF
Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W						
Loloff Farms 26H-332 - Wellbore #1 - Extension Plan #1	166.3	167.3	30.9	30.3	58.776	CC
Loloff Farms 26H-332 - Wellbore #1 - Extension Plan #1	16,367.0	16,456.1	274.8	-261.2	0.513	Level 1, ES, SF
Loloff Farms 26I-312 - Wellbore #1 - Extension Plan #1 (	1,000.0	1,000.0	30.7	26.4	7.178	CC
Loloff Farms 26I-312 - Wellbore #1 - Extension Plan #1 (	16,367.0	16,413.5	446.3	-100.7	0.816	Level 1, ES, SF
Loloff Farms 26I-402 - Wellbore #1 - Extension Plan #1 (	1,000.0	999.0	58.5	54.3	13.711	CC
Loloff Farms 26I-402 - Wellbore #1 - Extension Plan #1 (	1,100.0	1,099.0	58.8	54.1	12.474	ES
Loloff Farms 26I-402 - Wellbore #1 - Extension Plan #1 (	16,367.0	16,501.1	749.6	210.7	1.391	Level 3, SF

Offset Design	Existing Wells Pad Sec.26-T5N-R64W - Loustalet 24-25 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program:	100-NS-GYRO-MS											Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,800.0	6,599.0	6,570.6	6,568.2	176.7	11.4	128.27	446.3	6,983.4	773.5	621.7	151.84	5.094	
12,900.0	6,598.1	6,559.8	6,557.4	179.5	11.4	124.61	445.7	6,984.5	675.4	514.8	160.60	4.206	

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loustalet 24-25 (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		
13,000.0	6,597.1	6,548.9	6,546.6	182.3	11.4	120.63	445.2	6,985.5	577.8	408.3	169.47	3.409		
13,100.0	6,596.2	6,538.0	6,535.8	185.1	11.4	116.34	444.6	6,986.6	480.9	302.7	178.23	2.698		
13,200.0	6,595.3	6,527.1	6,525.0	187.9	11.3	111.76	444.0	6,987.7	385.3	198.6	186.62	2.064		
13,300.0	6,594.4	6,516.3	6,514.2	190.7	11.3	106.91	443.4	6,988.8	292.2	97.9	194.32	1.504		
13,400.0	6,593.4	6,505.4	6,503.4	193.5	11.3	101.85	442.9	6,989.9	205.1	4.1	201.01	1.020	Level 2	
13,500.0	6,592.5	6,494.5	6,492.5	196.3	11.3	96.65	442.3	6,991.0	136.2	-70.2	206.40	0.660	Level 1	
13,569.1	6,591.9	6,487.0	6,485.1	198.2	11.3	93.02	441.9	6,991.7	117.6	-91.6	209.25	0.562	Level 1, CC, ES, SF	
13,600.0	6,591.6	6,483.7	6,481.7	199.1	11.3	91.39	441.7	6,992.0	121.6	-88.7	210.28	0.578	Level 1	
13,700.0	6,590.7	6,472.8	6,470.9	201.9	11.2	86.16	441.2	6,993.1	175.4	-37.1	212.52	0.826	Level 1	
13,800.0	6,589.7	6,461.9	6,460.1	204.7	11.2	81.04	440.6	6,994.2	258.0	44.8	213.16	1.210	Level 2	
13,900.0	6,588.8	6,451.0	6,449.3	207.5	11.2	76.11	440.0	6,995.3	349.4	137.1	212.31	1.646		
14,000.0	6,587.9	6,440.2	6,438.5	210.3	11.2	71.42	439.4	6,996.4	444.2	234.0	210.20	2.113		
14,100.0	6,587.0	6,429.3	6,427.7	213.1	11.2	67.01	438.9	6,997.4	540.7	333.7	207.07	2.611		
14,200.0	6,586.0	6,418.4	6,416.9	215.9	11.1	62.92	438.3	6,998.5	638.1	434.9	203.21	3.140		
14,300.0	6,585.1	6,407.5	6,406.1	218.7	11.1	59.13	437.7	6,999.6	736.1	537.2	198.86	3.701		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loustalet 25-1 (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							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
11,500.0	6,611.0	6,504.2	6,503.8	140.4	12.0	95.74	464.4	5,653.8	737.3	585.6	151.70	4.860		
11,600.0	6,610.1	6,502.9	6,502.4	143.2	12.0	94.92	464.4	5,653.8	638.3	483.6	154.65	4.127		
11,700.0	6,609.2	6,501.5	6,501.0	146.0	12.0	94.09	464.4	5,653.8	539.6	382.0	157.57	3.424		
11,800.0	6,608.2	6,500.1	6,499.7	148.8	12.0	93.26	464.4	5,653.9	441.5	281.1	160.48	2.751		
11,900.0	6,607.3	6,498.7	6,498.3	151.6	12.0	92.43	464.4	5,653.9	344.5	181.2	163.35	2.109		
12,000.0	6,606.4	6,497.3	6,496.9	154.3	12.0	91.60	464.4	5,653.9	249.9	83.8	166.19	1.504		
12,100.0	6,605.5	6,496.0	6,495.5	157.1	12.0	90.77	464.4	5,653.9	162.0	-7.1	169.01	0.958	Level 1	
12,200.0	6,604.5	6,494.6	6,494.1	159.9	12.0	89.93	464.5	5,653.9	99.9	-71.9	171.79	0.582	Level 1	
12,231.2	6,604.3	6,494.1	6,493.7	160.8	12.0	89.67	464.5	5,653.9	94.9	-77.7	172.66	0.550	Level 1, CC, ES, SF	
12,300.0	6,603.6	6,493.2	6,492.8	162.7	12.0	89.10	464.5	5,653.9	117.2	-57.3	174.55	0.671	Level 1	
12,400.0	6,602.7	6,491.8	6,491.4	165.5	11.9	88.26	464.5	5,653.9	193.6	16.3	177.26	1.092	Level 2	
12,500.0	6,601.8	6,490.4	6,490.0	168.3	11.9	87.43	464.5	5,653.9	285.0	105.1	179.94	1.584		
12,600.0	6,600.8	6,489.1	6,488.6	171.1	11.9	86.60	464.5	5,653.9	380.7	198.2	182.58	2.085		
12,700.0	6,599.9	6,487.7	6,487.2	173.9	11.9	85.77	464.5	5,653.9	478.2	293.0	185.18	2.582		
12,800.0	6,599.0	6,486.3	6,485.9	176.7	11.9	84.94	464.5	5,653.9	576.6	388.8	187.74	3.071		
12,900.0	6,598.1	6,484.9	6,484.5	179.5	11.9	84.11	464.5	5,653.9	675.4	485.1	190.26	3.550		
13,000.0	6,597.1	6,483.5	6,483.1	182.3	11.9	83.29	464.5	5,653.9	774.5	581.8	192.73	4.019		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loustalet 5 (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		
12,400.0	6,602.7	6,525.2	6,523.0	165.5	11.3	-95.42	1,012.1	6,433.2	761.0	585.1	175.90	4.326		
12,500.0	6,601.8	6,514.3	6,512.2	168.3	11.3	-94.07	1,011.5	6,434.3	683.4	504.3	179.03	3.817		
12,600.0	6,600.8	6,503.4	6,501.4	171.1	11.3	-92.71	1,010.9	6,435.4	612.0	430.0	182.07	3.361		
12,700.0	6,599.9	6,492.5	6,490.6	173.9	11.3	-91.34	1,010.4	6,436.5	549.5	364.5	185.03	2.970		
12,800.0	6,599.0	6,481.7	6,479.8	176.7	11.3	-89.97	1,009.8	6,437.5	499.1	311.2	187.89	2.656		
12,900.0	6,598.1	6,470.8	6,469.0	179.5	11.2	-88.59	1,009.2	6,438.6	464.7	274.1	190.65	2.438		
13,000.0	6,597.1	6,459.9	6,458.2	182.3	11.2	-87.22	1,008.7	6,439.7	450.2	256.8	193.31	2.329		
13,017.5	6,597.0	6,458.0	6,456.3	182.8	11.2	-86.98	1,008.6	6,439.9	449.8	256.0	193.77	2.321	CC, ES, SF	
13,100.0	6,596.2	6,449.0	6,447.3	185.1	11.2	-85.84	1,008.1	6,440.8	457.2	261.4	195.86	2.334		
13,200.0	6,595.3	6,438.2	6,436.5	187.9	11.2	-84.47	1,007.5	6,441.9	485.0	286.7	198.30	2.446		
13,300.0	6,594.4	6,427.3	6,425.7	190.7	11.2	-83.09	1,006.9	6,443.0	530.3	329.7	200.62	2.643		
13,400.0	6,593.4	6,416.4	6,414.9	193.5	11.1	-81.73	1,006.4	6,444.0	589.0	386.2	202.82	2.904		
13,500.0	6,592.5	6,405.5	6,404.1	196.3	11.1	-80.36	1,005.8	6,445.1	657.6	452.7	204.89	3.209		
13,600.0	6,591.6	6,400.0	6,398.6	199.1	11.1	-79.67	1,005.5	6,445.7	733.3	526.0	207.26	3.538		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Schlagel 26-1 (SI) - 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		
8,900.0	6,635.1	6,525.3	6,524.1	68.4	11.6	77.40	496.1	3,056.1	736.4	658.6	77.73	9.473		
9,000.0	6,634.1	6,527.1	6,525.9	71.1	11.6	78.97	496.1	3,056.2	636.8	555.9	80.88	7.873		
9,100.0	6,633.2	6,528.9	6,527.8	73.9	11.7	80.56	496.1	3,056.2	537.4	453.4	84.01	6.397		
9,200.0	6,632.3	6,530.7	6,529.6	76.6	11.7	82.16	496.0	3,056.3	438.3	351.2	87.11	5.032		
9,300.0	6,631.4	6,532.5	6,531.4	79.3	11.7	83.77	496.0	3,056.3	339.7	249.5	90.17	3.767		
9,400.0	6,630.4	6,534.3	6,533.2	82.1	11.7	85.39	496.0	3,056.4	242.2	149.0	93.18	2.599		
9,500.0	6,629.5	6,536.1	6,535.0	84.8	11.7	87.02	496.0	3,056.4	148.0	51.9	96.15	1.539		
9,600.0	6,628.6	6,538.0	6,536.8	87.6	11.7	88.64	495.9	3,056.5	71.9	-27.2	99.05	0.726	Level 1	
9,633.7	6,628.3	6,538.6	6,537.4	88.5	11.7	89.20	495.9	3,056.5	63.5	-36.5	100.01	0.635	Level 1, CC, ES, SF	
9,700.0	6,627.7	6,539.8	6,538.6	90.4	11.7	90.28	495.9	3,056.5	91.7	-10.1	101.88	0.900	Level 1	
9,800.0	6,626.7	6,541.6	6,540.4	93.1	11.7	91.90	495.9	3,056.6	177.9	73.3	104.64	1.700		
9,900.0	6,625.8	6,543.4	6,542.2	95.9	11.7	93.53	495.9	3,056.6	273.7	166.4	107.32	2.550		
10,000.0	6,624.9	6,545.2	6,544.0	98.7	11.7	95.15	495.8	3,056.7	371.7	261.7	109.92	3.381		
10,100.0	6,624.0	6,547.0	6,545.8	101.4	11.7	96.75	495.8	3,056.7	470.5	358.1	112.42	4.185		
10,200.0	6,623.0	6,548.8	6,547.6	104.2	11.7	98.35	495.8	3,056.8	569.7	454.9	114.83	4.961		
10,300.0	6,622.1	6,550.6	6,549.4	107.0	11.7	99.93	495.8	3,056.8	669.2	552.0	117.14	5.713		
10,400.0	6,621.2	6,552.4	6,551.2	109.8	11.7	101.50	495.7	3,056.9	768.8	649.4	119.35	6.441		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Schlagel 26-4 (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		
10,200.0	6,623.0	6,509.1	6,508.2	104.2	13.7	94.51	521.0	4,361.7	740.0	622.4	117.56	6.295		
10,300.0	6,622.1	6,508.6	6,507.8	107.0	13.7	93.87	521.0	4,361.7	640.2	519.7	120.40	5.317		
10,400.0	6,621.2	6,508.2	6,507.4	109.8	13.7	93.24	521.0	4,361.7	540.4	417.1	123.24	4.385		
10,500.0	6,620.3	6,507.8	6,507.0	112.5	13.7	92.62	521.0	4,361.7	440.7	314.6	126.07	3.496		
10,600.0	6,619.3	6,507.4	6,506.6	115.3	13.7	92.01	521.0	4,361.7	341.2	212.3	128.89	2.647		
10,700.0	6,618.4	6,507.0	6,506.1	118.1	13.7	91.40	521.0	4,361.7	242.1	110.4	131.69	1.838		
10,800.0	6,617.5	6,506.6	6,505.7	120.9	13.7	90.80	521.0	4,361.7	144.2	9.7	134.49	1.072	Level 2	
10,900.0	6,616.6	6,506.2	6,505.4	123.7	13.7	90.21	521.0	4,361.7	54.7	-82.5	137.27	0.399	Level 1	
10,939.0	6,616.2	6,506.0	6,505.2	124.8	13.7	89.98	521.0	4,361.7	38.4	-100.0	138.35	0.277	Level 1, CC, ES, SF	
11,000.0	6,615.6	6,505.8	6,505.0	126.4	13.7	89.63	521.0	4,361.7	72.1	-68.0	140.04	0.515	Level 1	
11,100.0	6,614.7	6,505.4	6,504.6	129.2	13.7	89.05	521.0	4,361.7	165.5	22.7	142.80	1.159	Level 2	
11,200.0	6,613.8	6,505.0	6,504.2	132.0	13.7	88.49	521.0	4,361.7	263.8	118.3	145.55	1.812		
11,300.0	6,612.9	6,504.7	6,503.8	134.8	13.7	87.93	521.0	4,361.7	363.0	214.7	148.28	2.448		
11,400.0	6,611.9	6,504.3	6,503.5	137.6	13.7	87.38	521.0	4,361.7	462.6	311.6	151.00	3.063		
11,500.0	6,611.0	6,503.9	6,503.1	140.4	13.7	86.83	521.0	4,361.7	562.3	408.6	153.71	3.658		
11,600.0	6,610.1	6,503.6	6,502.7	143.2	13.7	86.30	521.0	4,361.7	662.1	505.7	156.40	4.233		
11,700.0	6,609.2	6,503.2	6,502.4	146.0	13.7	85.77	521.0	4,361.7	762.0	602.9	159.08	4.790		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	55.77	324.3	476.5	577.6					
100.0	100.0	62.5	62.5	0.1	0.1	55.77	324.2	476.5	576.4	576.2	0.20	2,949.090		
200.0	200.0	164.0	164.0	0.3	0.3	55.80	323.8	476.5	576.2	575.5	0.64	907.221		
300.0	300.0	264.4	264.4	0.6	0.6	55.84	323.3	476.4	575.7	574.6	1.12	513.849		
386.1	386.1	348.1	348.1	0.8	0.7	55.86	323.0	476.3	575.5	574.0	1.48	387.933		
400.0	400.0	361.4	361.4	0.8	0.7	55.86	322.9	476.3	575.5	574.0	1.54	374.685		
500.0	500.0	461.2	461.2	1.0	0.9	55.88	323.0	476.6	575.8	573.8	1.93	298.411		
600.0	600.0	559.8	559.8	1.2	1.1	55.88	323.1	476.7	575.9	573.6	2.31	249.302		
700.0	700.0	659.6	659.6	1.5	1.2	55.82	323.9	476.8	576.4	573.8	2.65	217.807		
800.0	800.0	760.5	760.5	1.7	1.3	55.78	324.3	476.9	576.7	573.7	2.98	193.321		
900.0	900.0	861.1	861.1	1.9	1.4	55.68	325.3	476.5	576.9	573.6	3.35	172.349		
1,000.0	1,000.0	960.8	960.8	2.1	1.6	55.64	325.7	476.4	577.1	573.3	3.74	154.251		
1,100.0	1,100.0	1,061.9	1,061.9	2.4	1.8	76.29	325.9	476.5	577.1	572.9	4.15	138.984		
1,200.0	1,200.0	1,161.5	1,161.5	2.6	2.0	76.52	326.1	476.3	576.4	571.8	4.57	126.257		
1,300.0	1,299.9	1,260.7	1,260.7	2.8	2.2	76.92	326.5	476.3	575.6	570.6	5.00	115.173		
1,400.0	1,399.7	1,361.5	1,361.5	3.0	2.4	77.49	326.8	476.2	574.4	568.9	5.45	105.465		
1,500.0	1,499.4	1,462.7	1,462.7	3.3	2.6	78.21	327.4	475.7	572.6	566.7	5.90	97.066		
1,600.0	1,598.9	1,562.8	1,562.8	3.5	2.9	79.05	328.3	474.8	570.4	564.1	6.36	89.659		
1,700.0	1,698.3	1,662.5	1,662.5	3.8	3.1	80.03	329.6	473.6	568.0	561.2	6.84	83.007		
1,800.0	1,797.4	1,760.9	1,760.9	4.0	3.3	81.16	330.9	472.4	565.5	558.1	7.34	77.018		
1,885.7	1,882.2	1,845.1	1,845.0	4.3	3.5	82.29	331.9	471.7	563.5	555.7	7.79	72.350		
1,900.0	1,896.3	1,859.1	1,859.1	4.3	3.5	82.49	332.1	471.6	563.2	555.3	7.86	71.609		
2,000.0	1,995.1	1,957.3	1,957.3	4.6	3.8	83.90	333.1	471.0	561.2	552.8	8.41	66.771		
2,100.0	2,093.9	2,055.6	2,055.5	4.9	4.0	85.37	333.7	470.7	559.8	550.9	8.94	62.608		
2,200.0	2,192.7	2,155.3	2,155.2	5.2	4.2	86.94	333.7	470.7	558.8	549.4	9.43	59.272		
2,300.0	2,291.5	2,254.4	2,254.4	5.6	4.3	88.53	333.4	470.7	558.0	548.2	9.85	56.661		
2,379.2	2,369.8	2,331.6	2,331.5	5.8	4.3	89.80	333.0	470.8	557.8	547.6	10.17	54.868		
2,400.0	2,390.3	2,351.7	2,351.6	5.9	4.4	90.13	332.8	470.9	557.8	547.5	10.25	54.417		
2,500.0	2,489.2	2,447.8	2,447.7	6.2	4.5	91.75	332.0	471.5	558.4	547.7	10.67	52.350		
2,600.0	2,588.0	2,544.7	2,544.5	6.5	4.6	93.47	330.4	472.9	560.0	548.9	11.10	50.453		
2,700.0	2,686.8	2,643.3	2,643.2	6.9	4.7	95.25	328.5	474.5	562.2	550.6	11.55	48.690		
2,800.0	2,785.6	2,742.7	2,742.5	7.2	4.8	97.04	326.4	476.0	564.8	552.8	12.00	47.055		
2,900.0	2,884.4	2,843.2	2,843.0	7.6	4.9	98.83	324.2	477.3	567.7	555.3	12.47	45.527		
3,000.0	2,983.2	2,944.5	2,944.3	7.9	5.1	100.59	322.2	478.1	570.8	557.8	12.95	44.091		
3,100.0	3,082.0	3,045.3	3,045.1	8.3	5.2	102.29	320.4	478.3	573.8	560.4	13.43	42.741		
3,200.0	3,180.8	3,144.8	3,144.5	8.6	5.4	103.92	318.9	478.2	577.1	563.2	13.91	41.492		
3,300.0	3,279.6	3,244.1	3,243.8	8.9	5.6	105.56	317.2	478.1	580.7	566.3	14.40	40.338		
3,400.0	3,378.4	3,345.0	3,344.7	9.3	5.8	107.23	315.0	477.7	584.6	569.7	14.89	39.264		
3,500.0	3,477.2	3,448.6	3,448.2	9.6	5.9	108.98	312.2	476.7	588.3	573.0	15.39	38.235		
3,600.0	3,576.0	3,551.5	3,551.1	10.0	6.1	110.73	309.1	474.7	591.7	575.8	15.89	37.245		
3,700.0	3,674.8	3,652.0	3,651.5	10.3	6.3	112.43	305.8	472.3	595.0	578.6	16.38	36.325		
3,800.0	3,773.6	3,750.4	3,749.8	10.7	6.5	114.09	302.5	469.7	598.6	581.8	16.87	35.486		
3,900.0	3,872.5	3,851.0	3,850.3	11.1	6.7	115.78	299.1	467.1	602.8	585.5	17.36	34.721		
4,000.0	3,971.3	3,953.3	3,952.6	11.4	6.9	117.39	296.5	463.7	606.8	588.9	17.86	33.982		
4,100.0	4,070.1	4,053.7	4,052.9	11.8	7.1	118.89	294.6	460.1	610.8	592.4	18.34	33.295		
4,200.0	4,168.9	4,154.3	4,153.4	12.1	7.4	120.34	293.1	456.3	614.9	596.1	18.83	32.653		
4,300.0	4,267.7	4,254.1	4,253.1	12.5	7.6	121.75	291.9	452.3	619.1	599.8	19.31	32.056		
4,400.0	4,366.5	4,352.5	4,351.4	12.8	7.8	123.07	291.1	448.3	623.7	603.9	19.79	31.509		
4,500.0	4,465.3	4,450.5	4,449.3	13.2	8.0	124.38	290.2	444.5	628.7	608.4	20.27	31.015		
4,600.0	4,564.1	4,549.1	4,547.9	13.5	8.2	125.65	289.6	440.9	634.1	613.4	20.75	30.565		
4,700.0	4,662.9	4,644.8	4,643.4	13.9	8.4	126.81	289.5	437.5	640.0	618.8	21.22	30.167		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad	MD Reference:	WELL @ 4701.0ft (RKB - 23')
	Sec.26-T5N-R64W		
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
4,800.0	4,761.7	4,737.1	4,735.7	14.2	8.6	127.84	289.9	435.4	647.0	625.4	21.67	29.858		
4,900.0	4,860.5	4,832.3	4,830.9	14.6	8.8	128.82	290.7	434.2	655.2	633.1	22.12	29.625		
5,000.0	4,959.3	4,932.0	4,930.6	15.0	8.9	129.78	291.9	433.2	663.7	641.1	22.56	29.421		
5,100.8	5,058.9	5,030.6	5,029.3	15.3	9.1	130.71	293.2	432.2	672.4	649.4	23.00	29.234		
5,200.0	5,157.2	5,126.0	5,124.7	15.6	9.3	131.62	294.0	431.5	680.4	657.0	23.41	29.065		
5,300.0	5,256.7	5,224.4	5,223.0	15.9	9.5	132.30	294.8	431.0	686.4	662.7	23.77	28.877		
5,400.0	5,356.4	5,318.2	5,316.8	16.1	9.6	132.67	295.8	431.2	690.9	666.8	24.08	28.689		
5,500.0	5,456.4	5,416.5	5,415.1	16.2	9.7	132.83	296.5	431.9	693.5	669.1	24.35	28.483		
5,543.6	5,500.0	5,460.1	5,458.7	16.3	9.8	112.26	296.6	432.2	693.9	669.5	24.34	28.510		
5,600.0	5,556.4	5,516.7	5,515.3	16.4	9.9	112.25	296.5	432.5	694.2	669.7	24.50	28.335		
5,700.0	5,656.4	5,618.0	5,616.6	16.5	10.0	112.24	296.6	432.8	694.5	669.7	24.81	27.994		
5,800.0	5,756.4	5,717.9	5,716.5	16.7	10.1	112.23	296.6	433.1	694.8	669.6	25.12	27.655		
5,900.0	5,856.4	5,818.4	5,817.0	16.9	10.3	112.20	296.8	433.4	694.9	669.5	25.45	27.308		
5,931.1	5,887.5	5,848.6	5,847.2	16.9	10.3	112.19	296.9	433.5	695.0	669.5	25.55	27.201		
5,950.0	5,906.4	5,867.0	5,865.6	16.9	10.3	22.20	296.8	433.6	694.9	669.2	25.69	27.050		
6,000.0	5,956.3	5,915.5	5,914.1	17.0	10.4	22.37	296.7	433.8	692.5	666.8	25.70	26.946		
6,050.0	6,005.9	5,963.7	5,962.3	17.1	10.5	22.71	296.5	434.1	687.1	661.5	25.61	26.832		
6,100.0	6,055.0	6,012.0	6,010.6	17.1	10.5	23.25	296.4	434.5	679.0	653.5	25.42	26.706		
6,150.0	6,103.4	6,061.6	6,060.2	17.1	10.6	24.03	296.3	434.9	667.8	642.7	25.15	26.556		
6,200.0	6,150.9	6,110.0	6,108.6	17.2	10.7	25.05	296.2	435.3	653.8	629.0	24.79	26.374		
6,250.0	6,197.2	6,156.6	6,155.2	17.2	10.8	26.33	296.2	435.6	636.9	612.6	24.36	26.148		
6,300.0	6,242.2	6,200.0	6,198.6	17.2	10.8	27.88	296.3	435.9	617.5	593.6	23.88	25.858		
6,350.0	6,285.7	6,243.7	6,242.3	17.2	10.9	29.82	296.4	436.4	595.6	572.2	23.38	25.470		
6,400.0	6,327.5	6,284.1	6,282.7	17.2	10.9	32.13	296.4	436.8	571.5	548.6	22.91	24.950		
6,450.0	6,367.4	6,323.3	6,321.9	17.2	11.0	34.94	296.4	437.4	545.5	523.0	22.51	24.231		
6,500.0	6,405.2	6,360.9	6,359.5	17.3	11.1	38.31	296.3	438.0	517.6	495.4	22.27	23.241		
6,550.0	6,440.9	6,396.5	6,395.0	17.3	11.1	42.31	296.2	438.6	488.3	466.1	22.27	21.923		
6,600.0	6,474.1	6,430.1	6,428.7	17.3	11.2	46.99	296.1	439.1	457.9	435.3	22.61	20.254		
6,650.0	6,504.9	6,461.4	6,459.9	17.4	11.2	52.34	296.0	439.7	426.7	403.4	23.31	18.304		
6,700.0	6,533.0	6,490.0	6,488.6	17.5	11.3	58.25	295.9	440.2	395.5	371.1	24.37	16.225		
6,750.0	6,558.3	6,515.8	6,514.4	17.7	11.3	64.48	295.7	440.6	364.9	339.2	25.68	14.207		
6,800.0	6,580.8	6,538.7	6,537.3	18.0	11.4	70.71	295.6	441.1	335.9	308.8	27.09	12.401		
6,850.0	6,600.3	6,558.7	6,557.3	18.6	11.4	76.57	295.5	441.4	309.9	281.4	28.45	10.891		
6,900.0	6,616.7	6,575.8	6,574.4	19.2	11.4	81.70	295.3	441.7	288.2	258.5	29.69	9.708		
6,950.0	6,630.0	6,589.9	6,588.4	20.0	11.4	85.81	295.2	442.0	272.7	241.9	30.79	8.856		
7,000.0	6,640.2	6,600.8	6,599.4	20.9	11.5	88.70	295.1	442.2	265.0	233.2	31.81	8.329		
7,018.6	6,643.1	6,604.2	6,602.7	21.2	11.5	89.47	295.1	442.3	264.3	232.1	32.19	8.211 CC, ES		
7,050.0	6,647.1	6,608.8	6,607.4	21.8	11.5	90.33	295.0	442.4	266.1	233.3	32.81	8.112 SF		
7,100.0	6,650.8	6,613.4	6,612.0	22.8	11.5	90.54	295.0	442.4	276.4	242.6	33.80	8.176		
7,138.1	6,651.4	6,614.7	6,613.3	23.5	11.5	89.74	295.0	442.5	289.8	255.2	34.55	8.386		
7,200.0	6,650.8	6,615.2	6,613.7	24.8	11.5	89.84	295.0	442.5	320.1	284.2	35.85	8.928		
7,300.0	6,649.9	6,616.0	6,614.5	27.0	11.5	90.01	295.0	442.5	385.4	347.3	38.06	10.125		
7,400.0	6,648.9	6,616.7	6,615.3	29.3	11.5	90.18	295.0	442.5	463.3	422.9	40.38	11.474		
7,500.0	6,648.0	6,617.5	6,616.0	31.7	11.5	90.34	295.0	442.5	548.4	505.6	42.77	12.820		
7,600.0	6,647.1	6,618.2	6,616.8	34.1	11.5	90.50	295.0	442.5	637.8	592.6	45.23	14.100		
7,700.0	6,646.2	6,618.9	6,617.5	36.6	11.5	90.65	294.9	442.5	730.0	682.2	47.74	15.289		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,500.0	6,648.0	6,600.6	6,599.6	31.7	12.1	90.06	371.1	1,633.0	734.7	691.4	43.34	16.955		
7,600.0	6,647.1	6,600.6	6,599.6	34.1	12.1	90.05	371.1	1,633.0	638.6	592.8	45.79	13.946		
7,700.0	6,646.2	6,600.5	6,599.6	36.6	12.1	90.04	371.1	1,633.0	543.8	495.5	48.30	11.260		
7,800.0	6,645.2	6,600.5	6,599.6	39.1	12.1	90.04	371.1	1,633.0	451.4	400.5	50.85	8.877		
7,900.0	6,644.3	6,600.5	6,599.6	41.7	12.1	90.03	371.1	1,633.0	362.9	309.5	53.43	6.792		
8,000.0	6,643.4	6,600.5	6,599.5	44.3	12.1	90.02	371.1	1,633.0	282.2	226.2	56.04	5.036		
8,100.0	6,642.5	6,600.5	6,599.5	46.9	12.1	90.02	371.1	1,633.0	218.2	159.5	58.67	3.719		
8,200.0	6,641.5	6,600.4	6,599.5	49.5	12.1	90.01	371.1	1,633.0	188.6	127.3	61.32	3.075		
8,210.2	6,641.5	6,600.4	6,599.5	49.8	12.1	90.01	371.1	1,633.0	188.3	126.7	61.59	3.057 CC, ES, SF		
8,300.0	6,640.6	6,600.4	6,599.5	52.2	12.1	90.00	371.1	1,633.0	208.6	144.6	63.99	3.260		
8,400.0	6,639.7	6,600.4	6,599.4	54.9	12.1	90.00	371.1	1,633.0	267.4	200.7	66.67	4.010		
8,500.0	6,638.8	6,600.4	6,599.4	57.5	12.1	89.99	371.1	1,633.0	345.6	276.2	69.37	4.982		
8,600.0	6,637.8	6,600.3	6,599.4	60.2	12.1	89.98	371.1	1,633.0	432.9	360.8	72.08	6.006		
8,700.0	6,636.9	6,600.3	6,599.4	63.0	12.1	89.98	371.1	1,633.0	524.7	449.9	74.79	7.016		
8,800.0	6,636.0	6,600.3	6,599.3	65.7	12.1	89.97	371.1	1,633.0	619.1	541.6	77.51	7.987		
8,900.0	6,635.1	6,600.3	6,599.3	68.4	12.1	89.96	371.1	1,633.0	715.0	634.8	80.24	8.911		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W (Grid) - Loloff B 26-25 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
6,900.0	6,616.7	6,577.9	6,575.6	19.2	12.2	-70.77	1,028.1	932.4	766.4	736.6	29.79	25.729		
6,950.0	6,630.0	6,590.7	6,588.4	20.0	12.3	-76.28	1,027.4	932.6	728.5	697.3	31.22	23.334		
7,000.0	6,640.2	6,600.6	6,598.2	20.9	12.3	-81.46	1,026.8	932.8	691.5	659.0	32.51	21.269		
7,050.0	6,647.1	6,608.3	6,605.9	21.8	12.3	-86.20	1,026.4	932.9	655.7	622.1	33.63	19.498		
7,100.0	6,650.8	6,612.7	6,610.3	22.8	12.3	-90.22	1,026.2	933.0	621.6	587.0	34.59	17.974		
7,138.1	6,651.4	6,613.8	6,611.4	23.5	12.3	-92.76	1,026.1	933.0	597.1	561.9	35.24	16.942		
7,200.0	6,650.8	6,614.1	6,611.7	24.8	12.3	-92.79	1,026.1	933.0	560.7	524.2	36.54	15.346		
7,300.0	6,649.9	6,614.5	6,612.1	27.0	12.3	-92.85	1,026.1	933.0	512.3	473.5	38.74	13.224		
7,400.0	6,648.9	6,615.0	6,612.6	29.3	12.3	-92.90	1,026.1	933.0	480.0	439.0	41.04	11.697		
7,500.0	6,648.0	6,615.4	6,613.0	31.7	12.3	-92.95	1,026.1	933.0	467.4	424.0	43.43	10.763		
7,509.9	6,647.9	6,615.5	6,613.0	31.9	12.3	-92.96	1,026.1	933.0	467.3	423.6	43.67	10.700 CC, ES		
7,600.0	6,647.1	6,615.8	6,613.4	34.1	12.3	-93.00	1,026.0	933.0	475.9	430.0	45.88	10.373 SF		
7,700.0	6,646.2	6,616.3	6,613.8	36.6	12.3	-93.05	1,026.0	933.0	504.5	456.1	48.38	10.427		
7,800.0	6,645.2	6,616.7	6,614.2	39.1	12.3	-93.10	1,026.0	933.0	550.0	499.1	50.92	10.801		
7,900.0	6,644.3	6,617.1	6,614.6	41.7	12.3	-93.15	1,026.0	933.0	608.7	555.2	53.50	11.378		
8,000.0	6,643.4	6,617.5	6,615.0	44.3	12.3	-93.20	1,025.9	933.0	677.1	621.0	56.10	12.070		
8,100.0	6,642.5	6,617.9	6,615.4	46.9	12.3	-93.25	1,025.9	933.0	752.7	694.0	58.73	12.816		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 599- Hoshiko 34-25 Pad Sec.25-T5N-R64W - Hoshiko 34-25 - Wellbore #1 - Wellbore #1														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
14,100.0	6,587.0	6,521.2	6,491.2	213.1	14.7	102.82	517.2	8,318.1	796.6	573.9	222.75	3.576			
14,200.0	6,586.0	6,519.9	6,489.9	215.9	14.7	101.17	517.3	8,318.1	696.8	470.1	226.72	3.073			
14,300.0	6,585.1	6,518.7	6,488.7	218.7	14.7	99.51	517.3	8,318.1	597.0	366.5	230.54	2.590			
14,400.0	6,584.2	6,517.4	6,487.4	221.5	14.7	97.83	517.3	8,318.1	497.3	263.1	234.22	2.123			
14,500.0	6,583.3	6,516.2	6,486.1	224.3	14.7	96.15	517.3	8,318.1	397.8	160.0	237.74	1.673			
14,600.0	6,582.3	6,514.9	6,484.9	227.1	14.7	94.47	517.3	8,318.1	298.5	57.5	241.08	1.238	Level 2		
14,700.0	6,581.4	6,513.7	6,483.7	229.9	14.7	92.79	517.3	8,318.1	200.0	-44.2	244.25	0.819	Level 1		
14,800.0	6,580.5	6,512.4	6,482.4	232.7	14.7	91.11	517.3	8,318.1	104.4	-142.8	247.23	0.422	Level 1		
14,895.6	6,579.6	6,511.3	6,481.3	235.4	14.7	89.51	517.3	8,318.1	42.0	-207.9	249.90	0.168	Level 1, CC, ES, SF		
14,900.0	6,579.6	6,511.2	6,481.2	235.5	14.7	89.44	517.3	8,318.1	42.3	-207.8	250.02	0.169	Level 1		
15,000.0	6,578.6	6,510.0	6,480.0	238.3	14.7	87.77	517.3	8,318.1	112.6	-140.1	252.61	0.446	Level 1		
15,100.0	6,577.7	6,508.8	6,478.8	241.1	14.6	86.12	517.3	8,318.1	208.7	-46.3	255.00	0.818	Level 1		
15,200.0	6,576.8	6,507.6	6,477.5	243.9	14.6	84.48	517.4	8,318.1	307.3	50.1	257.19	1.195	Level 2		
15,300.0	6,575.9	6,506.4	6,476.3	246.7	14.6	82.85	517.4	8,318.1	406.6	147.4	259.18	1.569			
15,400.0	6,574.9	6,505.2	6,475.1	249.5	14.6	81.24	517.4	8,318.1	506.1	245.1	260.98	1.939			
15,500.0	6,574.0	6,504.0	6,474.0	252.3	14.6	79.66	517.4	8,318.1	605.8	343.3	262.58	2.307			
15,600.0	6,573.1	6,502.8	6,472.8	255.1	14.6	78.10	517.4	8,318.1	705.6	441.6	263.99	2.673			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	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	1.0	1.0	0.0	0.0	-96.76	-3.6	-30.7	30.9	30.9	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	-96.76	-3.6	-30.7	30.9	30.6	0.23	135.977		
166.3	166.3	167.3	167.3	0.3	0.3	-96.76	-3.6	-30.7	30.9	30.3	0.53	58.776 CC		
200.0	200.0	201.0	201.0	0.3	0.3	-96.76	-3.6	-30.7	30.9	30.2	0.68	45.627		
300.0	300.0	300.9	300.9	0.6	0.6	-95.12	-2.8	-30.8	31.0	29.8	1.13	27.514		
400.0	400.0	400.8	400.8	0.8	0.8	-90.36	-0.2	-31.4	31.4	29.8	1.58	19.930		
500.0	500.0	500.6	500.4	1.0	1.0	-82.83	4.1	-32.3	32.6	30.6	2.03	16.061		
600.0	600.0	600.0	599.7	1.2	1.3	-73.43	10.0	-33.6	35.1	32.6	2.49	14.124		
700.0	700.0	699.5	698.8	1.5	1.5	-63.45	17.6	-35.3	39.5	36.5	2.94	13.419		
800.0	800.0	798.5	797.4	1.7	1.8	-54.20	26.9	-37.3	46.1	42.7	3.40	13.563		
900.0	900.0	897.2	895.5	1.9	2.0	-46.39	37.8	-39.6	55.0	51.2	3.85	14.276		
1,000.0	1,000.0	995.4	992.9	2.1	2.3	-40.13	50.2	-42.4	66.2	61.9	4.31	15.356		
1,100.0	1,100.0	1,093.4	1,089.7	2.4	2.6	-14.78	64.3	-45.4	78.7	73.9	4.80	16.392		
1,200.0	1,200.0	1,191.2	1,186.2	2.6	3.0	-11.19	79.9	-48.8	91.4	86.2	5.26	17.379		
1,300.0	1,299.9	1,290.2	1,283.8	2.8	3.3	-8.45	96.6	-52.4	103.5	97.8	5.73	18.085		
1,400.0	1,399.7	1,389.6	1,381.7	3.0	3.7	-6.39	113.3	-56.0	114.1	107.9	6.19	18.435		
1,500.0	1,499.4	1,489.1	1,479.7	3.3	4.1	-4.75	130.1	-59.7	123.1	116.4	6.66	18.486		
1,600.0	1,598.9	1,588.8	1,577.9	3.5	4.4	-3.38	146.8	-63.3	130.4	123.3	7.13	18.295		
1,700.0	1,698.3	1,688.6	1,676.2	3.8	4.8	-2.19	163.6	-67.0	136.1	128.5	7.60	17.904		
1,800.0	1,797.4	1,788.5	1,774.6	4.0	5.2	-1.11	180.4	-70.6	140.0	131.9	8.07	17.346		
1,885.7	1,882.2	1,874.1	1,859.0	4.3	5.5	-0.23	194.8	-73.7	142.1	133.6	8.48	16.756		
1,900.0	1,896.3	1,888.4	1,873.1	4.3	5.6	-0.09	197.2	-74.3	142.3	133.7	8.55	16.648		
2,000.0	1,995.1	1,988.4	1,971.5	4.6	5.9	0.91	214.0	-77.9	144.0	134.9	9.03	15.943		
2,100.0	2,093.9	2,088.3	2,070.0	4.9	6.3	1.88	230.8	-81.6	145.7	136.2	9.52	15.309		
2,200.0	2,192.7	2,188.3	2,168.5	5.2	6.7	2.82	247.7	-85.2	147.5	137.5	10.01	14.738		
2,300.0	2,291.5	2,288.2	2,266.9	5.6	7.1	3.75	264.5	-88.9	149.3	138.8	10.50	14.221		
2,400.0	2,390.3	2,388.2	2,365.4	5.9	7.5	4.65	281.3	-92.5	151.1	140.1	10.99	13.750		
2,500.0	2,489.2	2,488.1	2,463.8	6.2	7.9	5.53	298.1	-96.2	153.0	141.5	11.49	13.320		
2,600.0	2,588.0	2,588.1	2,562.3	6.5	8.2	6.39	314.9	-99.8	154.9	142.9	11.98	12.925		
2,700.0	2,686.8	2,688.1	2,660.8	6.9	8.6	7.22	331.7	-103.5	156.8	144.3	12.49	12.562		
2,800.0	2,785.6	2,788.0	2,759.2	7.2	9.0	8.04	348.5	-107.1	158.8	145.8	12.99	12.226		
2,900.0	2,884.4	2,888.0	2,857.7	7.6	9.4	8.84	365.4	-110.8	160.8	147.3	13.50	11.915		
3,000.0	2,983.2	2,987.9	2,956.2	7.9	9.8	9.61	382.2	-114.4	162.9	148.9	14.01	11.626		
3,100.0	3,082.0	3,087.9	3,054.6	8.3	10.2	10.37	399.0	-118.1	164.9	150.4	14.52	11.357		
3,200.0	3,180.8	3,187.8	3,153.1	8.6	10.6	11.11	415.8	-121.7	167.0	152.0	15.04	11.106		
3,300.0	3,279.6	3,287.8	3,251.6	8.9	10.9	11.83	432.6	-125.4	169.2	153.6	15.56	10.871		
3,400.0	3,378.4	3,387.7	3,350.0	9.3	11.3	12.53	449.4	-129.0	171.3	155.2	16.08	10.650		
3,500.0	3,477.2	3,487.7	3,448.5	9.6	11.7	13.22	466.2	-132.7	173.5	156.9	16.61	10.443		
3,600.0	3,576.0	3,587.6	3,546.9	10.0	12.1	13.88	483.1	-136.3	175.7	158.5	17.14	10.248		
3,700.0	3,674.8	3,687.6	3,645.4	10.3	12.5	14.53	499.9	-140.0	177.9	160.2	17.68	10.063		
3,800.0	3,773.6	3,787.6	3,743.9	10.7	12.9	15.17	516.7	-143.6	180.1	161.9	18.22	9.889		
3,900.0	3,872.5	3,887.5	3,842.3	11.1	13.3	15.79	533.5	-147.3	182.4	163.7	18.76	9.725		
4,000.0	3,971.3	3,987.5	3,940.8	11.4	13.7	16.39	550.3	-150.9	184.7	165.4	19.30	9.569		
4,100.0	4,070.1	4,087.4	4,039.3	11.8	14.0	16.98	567.1	-154.6	187.0	167.2	19.85	9.421		
4,200.0	4,168.9	4,187.4	4,137.7	12.1	14.4	17.55	583.9	-158.2	189.3	168.9	20.40	9.280		
4,300.0	4,267.7	4,287.3	4,236.2	12.5	14.8	18.12	600.7	-161.9	191.7	170.7	20.96	9.146		
4,400.0	4,366.5	4,387.3	4,334.6	12.8	15.2	18.66	617.6	-165.5	194.0	172.5	21.51	9.019		
4,500.0	4,465.3	4,487.2	4,433.1	13.2	15.6	19.20	634.4	-169.2	196.4	174.3	22.07	8.898		
4,600.0	4,564.1	4,587.2	4,531.6	13.5	16.0	19.72	651.2	-172.8	198.8	176.2	22.64	8.782		
4,700.0	4,662.9	4,687.2	4,630.0	13.9	16.4	20.23	668.0	-176.5	201.2	178.0	23.21	8.671		
4,800.0	4,761.7	4,787.1	4,728.5	14.2	16.8	20.72	684.8	-180.1	203.7	179.9	23.78	8.566		

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
4,900.0	4,860.5	4,887.1	4,827.0	14.6	17.1	21.21	701.6	-183.8	206.1	181.7	24.35	8.464			
5,000.0	4,959.3	4,987.0	4,925.4	15.0	17.5	21.68	718.4	-187.4	208.6	183.6	24.92	8.368			
5,100.8	5,058.9	5,087.7	5,024.6	15.3	17.9	22.15	735.4	-191.1	211.0	185.5	25.51	8.274			
5,200.0	5,157.2	5,186.9	5,122.3	15.6	18.3	22.45	752.1	-194.7	215.1	189.1	26.03	8.264			
5,300.0	5,256.7	5,286.6	5,220.5	15.9	18.7	22.42	768.8	-198.4	222.4	195.9	26.45	8.408			
5,400.0	5,356.4	5,387.0	5,319.5	16.1	19.1	22.09	785.7	-202.0	232.9	206.1	26.80	8.689			
5,500.0	5,456.4	5,495.1	5,426.3	16.2	19.4	21.58	801.4	-205.5	244.4	217.3	27.05	9.033			
5,543.6	5,500.0	5,542.4	5,473.3	16.3	19.5	0.77	807.1	-206.7	249.3	214.2	35.02	7.117			
5,600.0	5,556.4	5,603.8	5,534.3	16.4	19.7	0.44	813.3	-208.0	255.0	219.7	35.28	7.227			
5,700.0	5,656.4	5,713.1	5,643.4	16.5	19.9	0.06	821.2	-209.7	262.2	226.5	35.69	7.345			
5,800.0	5,756.4	5,823.0	5,753.1	16.7	20.0	-0.12	825.0	-210.6	265.6	229.6	36.04	7.369			
5,900.0	5,856.4	5,927.2	5,857.4	16.9	20.2	-0.14	825.4	-210.7	266.0	229.6	36.35	7.317			
5,931.1	5,887.5	5,958.3	5,888.5	16.9	20.2	-0.14	825.4	-210.7	266.0	229.5	36.45	7.297			
5,950.0	5,906.4	5,977.2	5,907.4	16.9	20.2	-90.19	825.4	-210.7	266.0	237.4	28.61	9.295			
6,000.0	5,956.3	6,027.1	5,957.3	17.0	20.3	-90.80	825.4	-210.6	266.0	237.3	28.73	9.260			
6,050.0	6,005.9	6,077.4	6,007.5	17.1	20.4	-91.70	825.4	-208.7	266.1	237.3	28.79	9.243			
6,100.0	6,055.0	6,127.8	6,057.7	17.1	20.4	-92.60	825.4	-203.4	266.2	237.4	28.83	9.234			
6,150.0	6,103.4	6,178.6	6,107.7	17.1	20.5	-93.48	825.4	-194.7	266.5	237.6	28.87	9.230			
6,200.0	6,150.9	6,229.7	6,157.3	17.2	20.5	-94.35	825.4	-182.7	266.7	237.8	28.91	9.227			
6,250.0	6,197.2	6,281.0	6,206.3	17.2	20.5	-95.20	825.4	-167.3	267.1	238.1	28.96	9.223			
6,300.0	6,242.2	6,332.6	6,254.3	17.2	20.6	-96.03	825.4	-148.5	267.5	238.4	29.03	9.214			
6,350.0	6,285.7	6,384.5	6,301.3	17.2	20.6	-96.84	825.4	-126.4	267.9	238.8	29.12	9.198			
6,400.0	6,327.5	6,436.7	6,346.9	17.2	20.6	-97.61	825.4	-101.1	268.3	239.1	29.27	9.169			
6,450.0	6,367.4	6,489.2	6,390.8	17.2	20.6	-98.35	825.4	-72.5	268.8	239.4	29.46	9.124			
6,500.0	6,405.2	6,541.9	6,432.9	17.3	20.7	-99.05	825.4	-40.8	269.3	239.6	29.74	9.057			
6,550.0	6,440.9	6,594.8	6,472.9	17.3	20.7	-99.71	825.4	-6.1	269.8	239.7	30.10	8.965			
6,600.0	6,474.1	6,648.0	6,510.6	17.3	20.7	-100.32	825.4	31.5	270.4	239.8	30.57	8.844			
6,650.0	6,504.9	6,701.4	6,545.7	17.4	20.8	-100.89	825.4	71.7	270.9	239.7	31.16	8.691			
6,700.0	6,533.0	6,755.0	6,578.0	17.5	20.9	-101.41	825.4	114.5	271.3	239.4	31.90	8.506			
6,750.0	6,558.3	6,808.9	6,607.3	17.7	21.0	-101.88	825.4	159.6	271.8	239.0	32.78	8.291			
6,800.0	6,580.8	6,862.8	6,633.5	18.0	21.2	-102.29	825.4	206.8	272.2	238.4	33.82	8.049			
6,850.0	6,600.3	6,917.0	6,656.3	18.6	21.4	-102.65	825.4	255.9	272.6	237.6	35.01	7.785			
6,900.0	6,616.7	6,971.3	6,675.6	19.2	21.7	-102.95	825.4	306.6	272.9	236.6	36.36	7.506			
6,950.0	6,630.0	7,025.7	6,691.3	20.0	22.2	-103.19	825.4	358.7	273.2	235.3	37.85	7.217			
7,000.0	6,640.2	7,080.1	6,703.3	20.9	22.8	-103.37	825.4	411.8	273.4	233.9	39.48	6.925			
7,050.0	6,647.1	7,134.7	6,711.5	21.8	23.6	-103.49	825.4	465.7	273.5	232.3	41.23	6.635			
7,100.0	6,650.8	7,189.2	6,715.8	22.8	24.5	-103.55	825.4	520.1	273.6	230.5	43.08	6.351			
7,138.1	6,651.4	7,230.7	6,716.5	23.5	25.2	-103.56	825.4	561.6	273.6	229.0	44.54	6.142			
7,200.0	6,650.8	7,292.6	6,716.0	24.8	26.4	-103.57	825.4	623.4	273.6	226.5	47.06	5.813			
7,300.0	6,649.9	7,392.6	6,715.1	27.0	28.4	-103.58	825.4	723.4	273.6	222.3	51.35	5.328			
7,400.0	6,648.9	7,492.6	6,714.2	29.3	30.6	-103.59	825.4	823.4	273.6	217.8	55.84	4.900			
7,500.0	6,648.0	7,592.6	6,713.3	31.7	32.9	-103.60	825.4	923.4	273.6	213.1	60.49	4.524			
7,600.0	6,647.1	7,692.6	6,712.5	34.1	35.2	-103.61	825.4	1,023.4	273.6	208.4	65.27	4.193			
7,700.0	6,646.2	7,792.6	6,711.6	36.6	37.7	-103.62	825.4	1,123.4	273.7	203.5	70.15	3.901			
7,800.0	6,645.2	7,892.6	6,710.7	39.1	40.1	-103.63	825.4	1,223.4	273.7	198.6	75.11	3.644			
7,900.0	6,644.3	7,992.6	6,709.9	41.7	42.7	-103.64	825.4	1,323.4	273.7	193.6	80.13	3.415			
8,000.0	6,643.4	8,092.6	6,709.0	44.3	45.2	-103.65	825.4	1,423.4	273.7	188.5	85.21	3.212			
8,100.0	6,642.5	8,192.6	6,708.1	46.9	47.8	-103.66	825.4	1,523.4	273.7	183.4	90.33	3.030			
8,200.0	6,641.5	8,292.6	6,707.2	49.5	50.4	-103.67	825.4	1,623.4	273.7	178.2	95.49	2.866			
8,300.0	6,640.6	8,392.6	6,706.4	52.2	53.0	-103.68	825.4	1,723.4	273.7	173.0	100.69	2.719			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,400.0	6,639.7	8,492.6	6,705.5	54.9	55.7	-103.69	825.4	1,823.4	273.7	167.8	105.91	2.585			
8,500.0	6,638.8	8,592.6	6,704.6	57.5	58.4	-103.70	825.4	1,923.4	273.8	162.6	111.15	2.463			
8,600.0	6,637.8	8,692.6	6,703.7	60.2	61.0	-103.71	825.4	2,023.4	273.8	157.4	116.41	2.352			
8,700.0	6,636.9	8,792.6	6,702.9	63.0	63.7	-103.73	825.4	2,123.4	273.8	152.1	121.69	2.250			
8,800.0	6,636.0	8,892.6	6,702.0	65.7	66.4	-103.74	825.4	2,223.4	273.8	146.8	126.99	2.156			
8,900.0	6,635.1	8,992.6	6,701.1	68.4	69.1	-103.75	825.3	2,323.4	273.8	141.5	132.29	2.070			
9,000.0	6,634.1	9,092.6	6,700.3	71.1	71.8	-103.76	825.3	2,423.4	273.8	136.2	137.61	1.990			
9,100.0	6,633.2	9,192.6	6,699.4	73.9	74.6	-103.77	825.3	2,523.3	273.8	130.9	142.94	1.916			
9,200.0	6,632.3	9,292.6	6,698.5	76.6	77.3	-103.78	825.3	2,623.3	273.8	125.6	148.28	1.847			
9,300.0	6,631.4	9,392.6	6,697.6	79.3	80.0	-103.79	825.3	2,723.3	273.9	120.2	153.63	1.783			
9,400.0	6,630.4	9,492.6	6,696.8	82.1	82.7	-103.80	825.3	2,823.3	273.9	114.9	158.98	1.723			
9,500.0	6,629.5	9,592.6	6,695.9	84.8	85.5	-103.81	825.3	2,923.3	273.9	109.5	164.34	1.666			
9,600.0	6,628.6	9,692.6	6,695.0	87.6	88.2	-103.82	825.3	3,023.3	273.9	104.2	169.71	1.614			
9,700.0	6,627.7	9,792.6	6,694.1	90.4	91.0	-103.83	825.3	3,123.3	273.9	98.8	175.08	1.564			
9,800.0	6,626.7	9,892.6	6,693.3	93.1	93.7	-103.84	825.3	3,223.3	273.9	93.5	180.46	1.518			
9,900.0	6,625.8	9,992.6	6,692.4	95.9	96.5	-103.85	825.3	3,323.3	273.9	88.1	185.84	1.474	Level 3		
10,000.0	6,624.9	10,092.6	6,691.5	98.7	99.3	-103.86	825.3	3,423.3	273.9	82.7	191.22	1.433	Level 3		
10,100.0	6,624.0	10,192.6	6,690.7	101.4	102.0	-103.87	825.3	3,523.3	274.0	77.3	196.61	1.393	Level 3		
10,200.0	6,623.0	10,292.6	6,689.8	104.2	104.8	-103.88	825.3	3,623.3	274.0	72.0	202.00	1.356	Level 3		
10,300.0	6,622.1	10,392.6	6,688.9	107.0	107.6	-103.90	825.3	3,723.3	274.0	66.6	207.40	1.321	Level 3		
10,400.0	6,621.2	10,492.6	6,688.0	109.8	110.3	-103.91	825.3	3,823.3	274.0	61.2	212.79	1.288	Level 3		
10,500.0	6,620.3	10,592.6	6,687.2	112.5	113.1	-103.92	825.3	3,923.3	274.0	55.8	218.19	1.256	Level 3		
10,600.0	6,619.3	10,692.6	6,686.3	115.3	115.9	-103.93	825.3	4,023.3	274.0	50.4	223.59	1.225	Level 2		
10,700.0	6,618.4	10,792.6	6,685.4	118.1	118.7	-103.94	825.3	4,123.3	274.0	45.0	229.00	1.197	Level 2		
10,800.0	6,617.5	10,892.6	6,684.6	120.9	121.4	-103.95	825.3	4,223.3	274.0	39.6	234.40	1.169	Level 2		
10,900.0	6,616.6	10,992.6	6,683.7	123.7	124.2	-103.96	825.3	4,323.3	274.1	34.2	239.81	1.143	Level 2		
11,000.0	6,615.6	11,092.6	6,682.8	126.4	127.0	-103.97	825.3	4,423.3	274.1	28.8	245.22	1.118	Level 2		
11,100.0	6,614.7	11,192.6	6,681.9	129.2	129.8	-103.98	825.3	4,523.3	274.1	23.4	250.63	1.094	Level 2		
11,200.0	6,613.8	11,292.6	6,681.1	132.0	132.5	-103.99	825.3	4,623.3	274.1	18.1	256.04	1.070	Level 2		
11,300.0	6,612.9	11,392.6	6,680.2	134.8	135.3	-104.00	825.3	4,723.3	274.1	12.7	261.45	1.048	Level 2		
11,400.0	6,611.9	11,492.6	6,679.3	137.6	138.1	-104.01	825.3	4,823.3	274.1	7.2	266.86	1.027	Level 2		
11,500.0	6,611.0	11,592.6	6,678.4	140.4	140.9	-104.02	825.3	4,923.3	274.1	1.8	272.28	1.007	Level 2		
11,600.0	6,610.1	11,692.6	6,677.6	143.2	143.7	-104.03	825.3	5,023.3	274.1	-3.6	277.69	0.987	Level 1		
11,700.0	6,609.2	11,792.6	6,676.7	146.0	146.5	-104.04	825.3	5,123.2	274.2	-9.0	283.11	0.968	Level 1		
11,800.0	6,608.2	11,892.6	6,675.8	148.8	149.3	-104.05	825.3	5,223.2	274.2	-14.4	288.53	0.950	Level 1		
11,900.0	6,607.3	11,992.6	6,675.0	151.6	152.1	-104.07	825.3	5,323.2	274.2	-19.8	293.94	0.933	Level 1		
12,000.0	6,606.4	12,092.6	6,674.1	154.3	154.8	-104.08	825.3	5,423.2	274.2	-25.2	299.36	0.916	Level 1		
12,100.0	6,605.5	12,192.6	6,673.2	157.1	157.6	-104.09	825.3	5,523.2	274.2	-30.6	304.78	0.900	Level 1		
12,200.0	6,604.5	12,292.6	6,672.3	159.9	160.4	-104.10	825.3	5,623.2	274.2	-36.0	310.20	0.884	Level 1		
12,300.0	6,603.6	12,392.6	6,671.5	162.7	163.2	-104.11	825.3	5,723.2	274.2	-41.4	315.62	0.869	Level 1		
12,400.0	6,602.7	12,492.6	6,670.6	165.5	166.0	-104.12	825.3	5,823.2	274.2	-46.8	321.04	0.854	Level 1		
12,500.0	6,601.8	12,592.6	6,669.7	168.3	168.8	-104.13	825.3	5,923.2	274.3	-52.2	326.46	0.840	Level 1		
12,600.0	6,600.8	12,692.6	6,668.8	171.1	171.6	-104.14	825.3	6,023.2	274.3	-57.6	331.88	0.826	Level 1		
12,700.0	6,599.9	12,792.6	6,668.0	173.9	174.4	-104.15	825.3	6,123.2	274.3	-63.0	337.30	0.813	Level 1		
12,800.0	6,599.0	12,892.6	6,667.1	176.7	177.2	-104.16	825.3	6,223.2	274.3	-68.4	342.72	0.800	Level 1		
12,900.0	6,598.1	12,992.6	6,666.2	179.5	180.0	-104.17	825.3	6,323.2	274.3	-73.8	348.14	0.788	Level 1		
13,000.0	6,597.1	13,092.6	6,665.4	182.3	182.8	-104.18	825.3	6,423.2	274.3	-79.2	353.56	0.776	Level 1		
13,100.0	6,596.2	13,192.6	6,664.5	185.1	185.6	-104.19	825.3	6,523.2	274.3	-84.7	358.99	0.764	Level 1		
13,200.0	6,595.3	13,292.6	6,663.6	187.9	188.4	-104.20	825.3	6,623.2	274.3	-90.1	364.41	0.753	Level 1		
13,300.0	6,594.4	13,392.6	6,662.7	190.7	191.2	-104.21	825.3	6,723.2	274.4	-95.5	369.83	0.742	Level 1		
13,400.0	6,593.4	13,492.6	6,661.9	193.5	194.0	-104.22	825.3	6,823.2	274.4	-100.9	375.25	0.731	Level 1		

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
13,500.0	6,592.5	13,592.6	6,661.0	196.3	196.8	-104.24	825.3	6,923.2	274.4	-106.3	380.67	0.721	Level 1		
13,600.0	6,591.6	13,692.6	6,660.1	199.1	199.6	-104.25	825.3	7,023.2	274.4	-111.7	386.10	0.711	Level 1		
13,700.0	6,590.7	13,792.6	6,659.2	201.9	202.4	-104.26	825.3	7,123.2	274.4	-117.1	391.52	0.701	Level 1		
13,800.0	6,589.7	13,892.6	6,658.4	204.7	205.2	-104.27	825.3	7,223.2	274.4	-122.5	396.94	0.691	Level 1		
13,900.0	6,588.8	13,992.6	6,657.5	207.5	208.0	-104.28	825.3	7,323.2	274.4	-127.9	402.36	0.682	Level 1		
14,000.0	6,587.9	14,092.6	6,656.6	210.3	210.8	-104.29	825.3	7,423.2	274.4	-133.3	407.78	0.673	Level 1		
14,100.0	6,587.0	14,192.6	6,655.8	213.1	213.6	-104.30	825.3	7,523.2	274.5	-138.7	413.20	0.664	Level 1		
14,200.0	6,586.0	14,292.6	6,654.9	215.9	216.4	-104.31	825.3	7,623.2	274.5	-144.2	418.63	0.656	Level 1		
14,300.0	6,585.1	14,392.6	6,654.0	218.7	219.2	-104.32	825.3	7,723.1	274.5	-149.6	424.05	0.647	Level 1		
14,400.0	6,584.2	14,492.6	6,653.1	221.5	222.0	-104.33	825.3	7,823.1	274.5	-155.0	429.47	0.639	Level 1		
14,500.0	6,583.3	14,592.6	6,652.3	224.3	224.8	-104.34	825.3	7,923.1	274.5	-160.4	434.89	0.631	Level 1		
14,600.0	6,582.3	14,692.6	6,651.4	227.1	227.6	-104.35	825.3	8,023.1	274.5	-165.8	440.31	0.623	Level 1		
14,700.0	6,581.4	14,792.6	6,650.5	229.9	230.4	-104.36	825.3	8,123.1	274.5	-171.2	445.73	0.616	Level 1		
14,800.0	6,580.5	14,892.6	6,649.6	232.7	233.2	-104.37	825.3	8,223.1	274.5	-176.6	451.15	0.609	Level 1		
14,900.0	6,579.6	14,992.6	6,648.8	235.5	236.0	-104.38	825.3	8,323.1	274.6	-182.0	456.57	0.601	Level 1		
15,000.0	6,578.6	15,092.6	6,647.9	238.3	238.8	-104.39	825.3	8,423.1	274.6	-187.4	461.99	0.594	Level 1		
15,100.0	6,577.7	15,192.6	6,647.0	241.1	241.6	-104.40	825.3	8,523.1	274.6	-192.8	467.41	0.587	Level 1		
15,200.0	6,576.8	15,292.6	6,646.2	243.9	244.4	-104.42	825.3	8,623.1	274.6	-198.2	472.83	0.581	Level 1		
15,300.0	6,575.9	15,392.6	6,645.3	246.7	247.2	-104.43	825.3	8,723.1	274.6	-203.6	478.25	0.574	Level 1		
15,400.0	6,574.9	15,492.6	6,644.4	249.5	250.0	-104.44	825.3	8,823.1	274.6	-209.1	483.67	0.568	Level 1		
15,500.0	6,574.0	15,592.6	6,643.5	252.3	252.8	-104.45	825.3	8,923.1	274.6	-214.5	489.09	0.562	Level 1		
15,600.0	6,573.1	15,692.6	6,642.7	255.1	255.6	-104.46	825.3	9,023.1	274.6	-219.9	494.51	0.555	Level 1		
15,700.0	6,572.2	15,792.6	6,641.8	258.0	258.4	-104.47	825.3	9,123.1	274.7	-225.3	499.93	0.549	Level 1		
15,800.0	6,571.2	15,892.6	6,640.9	260.8	261.2	-104.48	825.3	9,223.1	274.7	-230.7	505.35	0.544	Level 1		
15,900.0	6,570.3	15,992.6	6,640.0	263.6	264.0	-104.49	825.3	9,323.1	274.7	-236.1	510.77	0.538	Level 1		
16,000.0	6,569.4	16,092.6	6,639.2	266.4	266.8	-104.50	825.3	9,423.1	274.7	-241.5	516.18	0.532	Level 1		
16,100.0	6,568.5	16,192.6	6,638.3	269.2	269.6	-104.51	825.3	9,523.1	274.7	-246.9	521.60	0.527	Level 1		
16,200.0	6,567.5	16,292.6	6,637.4	272.0	272.4	-104.52	825.3	9,623.1	274.7	-252.3	527.02	0.521	Level 1		
16,300.0	6,566.6	16,392.6	6,636.6	274.8	275.2	-104.53	825.3	9,723.1	274.7	-257.7	532.43	0.516	Level 1		
16,337.5	6,566.3	16,430.1	6,636.2	275.8	276.2	-104.54	825.3	9,760.6	274.7	-259.7	534.47	0.514	Level 1		
16,367.0	6,566.0	16,456.1	6,636.0	276.7	277.0	-104.54	825.3	9,786.6	274.8	-261.2	535.97	0.513	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	30.7	30.7						
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	30.7	30.7	30.4	0.22	136.381			
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	30.7	30.7	30.0	0.67	45.460			
300.0	300.0	300.0	300.0	0.6	0.6	90.02	0.0	30.7	30.7	29.5	1.12	27.276			
400.0	400.0	400.0	400.0	0.8	0.8	90.02	0.0	30.7	30.7	29.1	1.57	19.483			
500.0	500.0	500.0	500.0	1.0	1.0	90.02	0.0	30.7	30.7	28.6	2.02	15.153			
600.0	600.0	600.0	600.0	1.2	1.2	90.02	0.0	30.7	30.7	28.2	2.47	12.398			
700.0	700.0	700.0	700.0	1.5	1.5	90.02	0.0	30.7	30.7	27.7	2.92	10.491			
800.0	800.0	800.0	800.0	1.7	1.7	90.02	0.0	30.7	30.7	27.3	3.37	9.092			
900.0	900.0	900.0	900.0	1.9	1.9	90.02	0.0	30.7	30.7	26.8	3.82	8.022			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.02	0.0	30.7	30.7	26.4	4.27	7.178 CC			
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	112.10	0.0	30.7	31.0	26.3	4.72	6.564			
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	116.43	0.0	30.7	32.0	26.9	5.17	6.204			
1,300.0	1,299.9	1,299.9	1,299.9	2.8	2.8	122.96	0.0	30.7	34.2	28.6	5.61	6.095			
1,400.0	1,399.7	1,399.7	1,399.7	3.0	3.0	130.70	0.0	30.7	37.9	31.8	6.06	6.251			
1,500.0	1,499.4	1,499.4	1,499.4	3.3	3.3	138.52	0.0	30.7	43.4	36.9	6.51	6.670			
1,600.0	1,598.9	1,598.9	1,598.9	3.5	3.5	145.62	0.0	30.7	51.0	44.0	6.96	7.333			
1,700.0	1,698.3	1,698.3	1,698.3	3.8	3.7	151.61	0.0	30.7	60.7	53.3	7.40	8.202			
1,800.0	1,797.4	1,797.4	1,797.4	4.0	3.9	156.47	0.0	30.7	72.5	64.6	7.84	9.239			
1,885.7	1,882.2	1,883.3	1,883.3	4.3	4.1	160.05	0.3	30.1	83.6	75.4	8.22	10.175			
1,900.0	1,896.3	1,897.6	1,897.6	4.3	4.1	160.62	0.4	29.9	85.5	77.2	8.28	10.323			
2,000.0	1,995.1	1,998.2	1,998.1	4.6	4.4	164.27	1.5	27.6	97.9	89.1	8.72	11.224			
2,100.0	2,093.9	2,098.9	2,098.8	4.9	4.6	167.56	3.4	23.7	109.1	99.9	9.16	11.902			
2,200.0	2,192.7	2,200.0	2,199.6	5.2	4.8	170.70	6.2	18.1	119.1	109.5	9.61	12.387			
2,300.0	2,291.5	2,301.1	2,300.5	5.6	5.0	173.82	9.7	11.0	128.0	117.9	10.07	12.710			
2,400.0	2,390.3	2,402.4	2,401.3	5.9	5.3	177.01	14.0	2.3	135.8	125.3	10.53	12.894			
2,500.0	2,489.2	2,503.6	2,501.9	6.2	5.5	-179.67	19.1	-8.0	142.8	131.8	11.01	12.963			
2,600.0	2,588.0	2,603.1	2,600.6	6.5	5.8	-176.49	24.5	-18.9	149.5	138.0	11.50	12.998			
2,700.0	2,686.8	2,702.5	2,699.3	6.9	6.0	-173.59	29.9	-29.8	156.7	144.7	12.01	13.051			
2,800.0	2,785.6	2,802.0	2,797.9	7.2	6.3	-170.95	35.2	-40.7	164.3	151.8	12.53	13.115			
2,900.0	2,884.4	2,901.4	2,896.6	7.6	6.6	-168.55	40.6	-51.6	172.2	159.1	13.06	13.187			
3,000.0	2,983.2	3,000.8	2,995.3	7.9	6.8	-166.36	46.0	-62.6	180.3	166.7	13.60	13.262			
3,100.0	3,082.0	3,100.3	3,094.0	8.3	7.1	-164.35	51.4	-73.5	188.7	174.6	14.15	13.339			
3,200.0	3,180.8	3,199.7	3,192.7	8.6	7.4	-162.53	56.8	-84.4	197.3	182.6	14.71	13.416			
3,300.0	3,279.6	3,299.2	3,291.4	8.9	7.7	-160.85	62.2	-95.3	206.1	190.8	15.27	13.492			
3,400.0	3,378.4	3,398.6	3,390.1	9.3	8.0	-159.31	67.5	-106.2	215.0	199.2	15.85	13.567			
3,500.0	3,477.2	3,498.0	3,488.8	9.6	8.2	-157.90	72.9	-117.1	224.1	207.7	16.43	13.640			
3,600.0	3,576.0	3,597.5	3,587.5	10.0	8.5	-156.60	78.3	-128.0	233.3	216.3	17.02	13.710			
3,700.0	3,674.8	3,696.9	3,686.2	10.3	8.8	-155.39	83.7	-138.9	242.6	225.0	17.61	13.779			
3,800.0	3,773.6	3,796.3	3,784.9	10.7	9.1	-154.28	89.1	-149.8	252.1	233.9	18.21	13.845			
3,900.0	3,872.5	3,895.8	3,883.6	11.1	9.4	-153.24	94.5	-160.7	261.6	242.8	18.81	13.908			
4,000.0	3,971.3	3,995.2	3,982.3	11.4	9.7	-152.28	99.8	-171.6	271.2	251.7	19.41	13.969			
4,100.0	4,070.1	4,094.7	4,081.0	11.8	10.0	-151.39	105.2	-182.5	280.8	260.8	20.02	14.027			
4,200.0	4,168.9	4,193.2	4,178.8	12.1	10.3	-150.58	110.5	-193.1	290.6	270.0	20.61	14.097			
4,300.0	4,267.7	4,289.6	4,274.8	12.5	10.5	-150.30	114.6	-201.4	301.2	280.0	21.11	14.264			
4,400.0	4,366.5	4,385.8	4,370.8	12.8	10.7	-150.61	117.2	-206.7	312.7	291.2	21.56	14.503			
4,500.0	4,465.3	4,481.6	4,466.5	13.2	10.9	-151.44	118.4	-209.2	325.4	303.4	21.97	14.811			
4,600.0	4,564.1	4,579.2	4,564.1	13.5	11.0	-152.63	118.5	-209.3	338.9	316.6	22.35	15.163			
4,700.0	4,662.9	4,678.0	4,662.9	13.9	11.2	-153.78	118.5	-209.3	352.7	329.9	22.76	15.499			
4,800.0	4,761.7	4,776.8	4,761.7	14.2	11.4	-154.84	118.5	-209.3	366.6	343.4	23.17	15.825			
4,900.0	4,860.5	4,875.6	4,860.5	14.6	11.6	-155.82	118.5	-209.3	380.6	357.1	23.58	16.142			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26I-312 - Wellbore #1 - Extension Plan															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,959.3	4,974.4	4,959.3	15.0	11.8	-156.74	118.5	-209.3	394.8	370.8	24.00	16.450			
5,100.8	5,058.9	5,074.0	5,058.9	15.3	12.0	-157.59	118.5	-209.3	409.1	384.7	24.42	16.752			
5,200.0	5,157.2	5,172.3	5,157.2	15.6	12.2	-158.39	118.5	-209.3	421.7	396.8	24.85	16.972			
5,300.0	5,256.7	5,271.8	5,256.7	15.9	12.4	-158.96	118.5	-209.3	431.2	406.0	25.23	17.094			
5,400.0	5,356.4	5,371.5	5,356.4	16.1	12.6	-159.32	118.5	-209.3	437.5	412.0	25.59	17.101			
5,500.0	5,456.4	5,471.5	5,456.4	16.2	12.8	-159.49	118.5	-209.3	440.6	414.7	25.92	16.998			
5,543.6	5,500.0	5,515.1	5,500.0	16.3	12.9	179.92	118.5	-209.3	440.9	412.9	27.99	15.752			
5,600.0	5,556.4	5,571.5	5,556.4	16.4	13.0	179.92	118.5	-209.3	440.9	412.7	28.20	15.637			
5,700.0	5,656.4	5,671.5	5,656.4	16.5	13.3	179.92	118.5	-209.3	440.9	412.3	28.58	15.428			
5,800.0	5,756.4	5,771.5	5,756.4	16.7	13.5	179.92	118.5	-209.3	440.9	411.9	28.96	15.223			
5,900.0	5,856.4	5,871.5	5,856.4	16.9	13.7	179.92	118.5	-209.3	440.9	411.6	29.35	15.023			
5,931.1	5,887.5	5,902.6	5,887.5	16.9	13.7	179.92	118.5	-209.3	440.9	411.4	29.47	14.962			
5,950.0	5,906.4	5,921.5	5,906.4	16.9	13.8	89.95	118.5	-209.3	440.9	413.2	27.72	15.906			
5,962.7	5,919.1	5,934.2	5,919.1	17.0	13.8	90.00	118.5	-209.3	440.9	413.1	27.77	15.878			
6,000.0	5,956.3	5,971.4	5,956.3	17.0	13.9	90.32	118.5	-209.3	440.9	413.0	27.92	15.790			
6,050.0	6,005.9	6,021.4	6,006.3	17.1	14.0	90.95	118.5	-208.1	441.0	412.9	28.11	15.685			
6,100.0	6,055.0	6,071.9	6,056.5	17.1	14.0	91.58	118.5	-203.5	441.1	412.8	28.28	15.597			
6,150.0	6,103.4	6,122.6	6,106.6	17.1	14.1	92.21	118.5	-195.6	441.2	412.8	28.42	15.524			
6,200.0	6,150.9	6,173.7	6,156.4	17.2	14.1	92.82	118.5	-184.3	441.4	412.9	28.55	15.462			
6,250.0	6,197.2	6,225.1	6,205.7	17.2	14.2	93.43	118.5	-169.6	441.7	413.0	28.67	15.409			
6,300.0	6,242.2	6,276.8	6,254.1	17.2	14.2	94.03	118.5	-151.4	442.0	413.2	28.78	15.358			
6,350.0	6,285.7	6,328.9	6,301.5	17.2	14.3	94.60	118.5	-129.9	442.3	413.4	28.91	15.303			
6,400.0	6,327.5	6,381.3	6,347.6	17.2	14.3	95.16	118.5	-105.1	442.7	413.7	29.06	15.236			
6,450.0	6,367.4	6,434.0	6,392.2	17.2	14.4	95.70	118.5	-76.9	443.1	413.9	29.25	15.148			
6,500.0	6,405.2	6,487.1	6,435.0	17.3	14.5	96.21	118.5	-45.6	443.5	414.0	29.51	15.027			
6,550.0	6,440.9	6,540.4	6,475.7	17.3	14.6	96.69	118.5	-11.1	443.9	414.1	29.87	14.864			
6,600.0	6,474.1	6,594.1	6,514.2	17.3	14.8	97.15	118.5	26.3	444.4	414.0	30.33	14.650			
6,650.0	6,504.9	6,648.0	6,550.0	17.4	15.1	97.57	118.5	66.5	444.8	413.9	30.93	14.379			
6,700.0	6,533.0	6,702.2	6,583.1	17.5	15.5	97.96	118.5	109.4	445.2	413.5	31.70	14.046			
6,750.0	6,558.3	6,756.6	6,613.3	17.7	16.0	98.31	118.5	154.7	445.6	413.0	32.63	13.654			
6,800.0	6,580.8	6,811.2	6,640.2	18.0	16.6	98.62	118.5	202.3	446.0	412.2	33.76	13.211			
6,850.0	6,600.3	6,866.1	6,663.7	18.6	17.3	98.90	118.5	251.8	446.3	411.2	35.06	12.728			
6,900.0	6,616.7	6,921.1	6,683.7	19.2	18.0	99.13	118.5	303.0	446.6	410.0	36.55	12.218			
6,950.0	6,630.0	6,976.2	6,699.9	20.0	18.9	99.32	118.5	355.7	446.8	408.6	38.21	11.693			
7,000.0	6,640.2	7,031.5	6,712.4	20.9	19.9	99.47	118.5	409.5	447.0	407.0	40.03	11.168			
7,050.0	6,647.1	7,086.9	6,720.9	21.8	20.9	99.57	118.5	464.2	447.1	405.2	41.97	10.652			
7,100.0	6,650.8	7,142.3	6,725.5	22.8	22.0	99.63	118.5	519.4	447.2	403.2	44.04	10.155			
7,138.1	6,651.4	7,184.6	6,726.2	23.5	22.8	99.64	118.5	561.7	447.2	401.5	45.67	9.793			
7,200.0	6,650.8	7,246.4	6,725.6	24.8	24.1	99.64	118.5	623.6	447.2	399.0	48.25	9.269			
7,300.0	6,649.9	7,346.4	6,724.7	27.0	26.4	99.63	118.5	723.6	447.2	394.6	52.59	8.503			
7,400.0	6,648.9	7,446.4	6,723.7	29.3	28.7	99.62	118.5	823.6	447.2	390.0	57.15	7.825			
7,500.0	6,648.0	7,546.4	6,722.7	31.7	31.1	99.62	118.5	923.6	447.2	385.3	61.87	7.228			
7,600.0	6,647.1	7,646.4	6,721.7	34.1	33.5	99.61	118.5	1,023.6	447.2	380.5	66.72	6.703			
7,700.0	6,646.2	7,746.4	6,720.8	36.6	36.0	99.60	118.5	1,123.6	447.2	375.5	71.67	6.239			
7,800.0	6,645.2	7,846.4	6,719.8	39.1	38.6	99.60	118.5	1,223.6	447.2	370.5	76.70	5.830			
7,900.0	6,644.3	7,946.4	6,718.8	41.7	41.2	99.59	118.5	1,323.6	447.1	365.3	81.80	5.466			
8,000.0	6,643.4	8,046.4	6,717.8	44.3	43.8	99.58	118.5	1,423.6	447.1	360.2	86.95	5.142			
8,100.0	6,642.5	8,146.4	6,716.8	46.9	46.4	99.58	118.5	1,523.6	447.1	355.0	92.15	4.852			
8,200.0	6,641.5	8,246.4	6,715.9	49.5	49.1	99.57	118.5	1,623.5	447.1	349.7	97.39	4.591			
8,300.0	6,640.6	8,346.4	6,714.9	52.2	51.7	99.56	118.5	1,723.5	447.1	344.4	102.67	4.355			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,400.0	6,639.7	8,446.4	6,713.9	54.9	54.4	99.56	118.5	1,823.5	447.1	339.1	107.97	4.141		
8,500.0	6,638.8	8,546.4	6,712.9	57.5	57.1	99.55	118.5	1,923.5	447.1	333.8	113.29	3.946		
8,600.0	6,637.8	8,646.4	6,712.0	60.2	59.8	99.54	118.5	2,023.5	447.1	328.4	118.64	3.768		
8,700.0	6,636.9	8,746.4	6,711.0	63.0	62.6	99.54	118.5	2,123.5	447.1	323.1	124.00	3.605		
8,800.0	6,636.0	8,846.4	6,710.0	65.7	65.3	99.53	118.5	2,223.5	447.1	317.7	129.38	3.455		
8,900.0	6,635.1	8,946.4	6,709.0	68.4	68.0	99.52	118.5	2,323.5	447.0	312.3	134.77	3.317		
9,000.0	6,634.1	9,046.4	6,708.1	71.1	70.7	99.52	118.5	2,423.5	447.0	306.9	140.18	3.189		
9,100.0	6,633.2	9,146.4	6,707.1	73.9	73.5	99.51	118.5	2,523.5	447.0	301.4	145.60	3.070		
9,200.0	6,632.3	9,246.4	6,706.1	76.6	76.2	99.50	118.5	2,623.5	447.0	296.0	151.03	2.960		
9,300.0	6,631.4	9,346.4	6,705.1	79.3	79.0	99.50	118.5	2,723.5	447.0	290.5	156.46	2.857		
9,400.0	6,630.4	9,446.4	6,704.1	82.1	81.7	99.49	118.5	2,823.5	447.0	285.1	161.91	2.761		
9,500.0	6,629.5	9,546.4	6,703.2	84.8	84.5	99.48	118.5	2,923.5	447.0	279.6	167.36	2.671		
9,600.0	6,628.6	9,646.4	6,702.2	87.6	87.3	99.48	118.5	3,023.5	447.0	274.2	172.82	2.586		
9,700.0	6,627.7	9,746.4	6,701.2	90.4	90.0	99.47	118.5	3,123.5	447.0	268.7	178.28	2.507		
9,800.0	6,626.7	9,846.4	6,700.2	93.1	92.8	99.46	118.5	3,223.5	447.0	263.2	183.75	2.432		
9,900.0	6,625.8	9,946.4	6,699.3	95.9	95.6	99.46	118.5	3,323.5	446.9	257.7	189.23	2.362		
10,000.0	6,624.9	10,046.4	6,698.3	98.7	98.4	99.45	118.5	3,423.5	446.9	252.2	194.71	2.295		
10,100.0	6,624.0	10,146.4	6,697.3	101.4	101.1	99.44	118.5	3,523.5	446.9	246.7	200.19	2.233		
10,200.0	6,623.0	10,246.4	6,696.3	104.2	103.9	99.44	118.5	3,623.4	446.9	241.2	205.68	2.173		
10,300.0	6,622.1	10,346.4	6,695.3	107.0	106.7	99.43	118.5	3,723.4	446.9	235.7	211.17	2.116		
10,400.0	6,621.2	10,446.4	6,694.4	109.8	109.5	99.42	118.5	3,823.4	446.9	230.2	216.67	2.063		
10,500.0	6,620.3	10,546.4	6,693.4	112.5	112.2	99.42	118.5	3,923.4	446.9	224.7	222.16	2.012		
10,600.0	6,619.3	10,646.4	6,692.4	115.3	115.0	99.41	118.5	4,023.4	446.9	219.2	227.67	1.963		
10,700.0	6,618.4	10,746.4	6,691.4	118.1	117.8	99.40	118.5	4,123.4	446.9	213.7	233.17	1.917		
10,800.0	6,617.5	10,846.4	6,690.5	120.9	120.6	99.40	118.5	4,223.4	446.9	208.2	238.68	1.872		
10,900.0	6,616.6	10,946.4	6,689.5	123.7	123.4	99.39	118.5	4,323.4	446.9	202.7	244.18	1.830		
11,000.0	6,615.6	11,046.4	6,688.5	126.4	126.2	99.38	118.5	4,423.4	446.8	197.1	249.70	1.790		
11,100.0	6,614.7	11,146.4	6,687.5	129.2	129.0	99.38	118.5	4,523.4	446.8	191.6	255.21	1.751		
11,200.0	6,613.8	11,246.4	6,686.6	132.0	131.8	99.37	118.5	4,623.4	446.8	186.1	260.72	1.714		
11,300.0	6,612.9	11,346.4	6,685.6	134.8	134.5	99.36	118.5	4,723.4	446.8	180.6	266.24	1.678		
11,400.0	6,611.9	11,446.4	6,684.6	137.6	137.3	99.36	118.5	4,823.4	446.8	175.0	271.76	1.644		
11,500.0	6,611.0	11,546.4	6,683.6	140.4	140.1	99.35	118.5	4,923.4	446.8	169.5	277.28	1.611		
11,600.0	6,610.1	11,646.4	6,682.6	143.2	142.9	99.35	118.5	5,023.4	446.8	164.0	282.80	1.580		
11,700.0	6,609.2	11,746.4	6,681.7	146.0	145.7	99.34	118.5	5,123.4	446.8	158.4	288.33	1.550		
11,800.0	6,608.2	11,846.4	6,680.7	148.8	148.5	99.33	118.5	5,223.4	446.8	152.9	293.85	1.520		
11,900.0	6,607.3	11,946.4	6,679.7	151.6	151.3	99.33	118.5	5,323.4	446.8	147.4	299.38	1.492 Level 3		
12,000.0	6,606.4	12,046.4	6,678.7	154.3	154.1	99.32	118.5	5,423.4	446.7	141.8	304.91	1.465 Level 3		
12,100.0	6,605.5	12,146.4	6,677.8	157.1	156.9	99.31	118.5	5,523.4	446.7	136.3	310.44	1.439 Level 3		
12,200.0	6,604.5	12,246.4	6,676.8	159.9	159.7	99.31	118.5	5,623.4	446.7	130.8	315.97	1.414 Level 3		
12,300.0	6,603.6	12,346.4	6,675.8	162.7	162.5	99.30	118.5	5,723.3	446.7	125.2	321.50	1.389 Level 3		
12,400.0	6,602.7	12,446.4	6,674.8	165.5	165.3	99.29	118.5	5,823.3	446.7	119.7	327.03	1.366 Level 3		
12,500.0	6,601.8	12,546.4	6,673.8	168.3	168.1	99.29	118.5	5,923.3	446.7	114.1	332.56	1.343 Level 3		
12,600.0	6,600.8	12,646.4	6,672.9	171.1	170.9	99.28	118.5	6,023.3	446.7	108.6	338.10	1.321 Level 3		
12,700.0	6,599.9	12,746.4	6,671.9	173.9	173.7	99.27	118.5	6,123.3	446.7	103.0	343.63	1.300 Level 3		
12,800.0	6,599.0	12,846.4	6,670.9	176.7	176.5	99.27	118.5	6,223.3	446.7	97.5	349.17	1.279 Level 3		
12,900.0	6,598.1	12,946.4	6,669.9	179.5	179.3	99.26	118.5	6,323.3	446.7	92.0	354.71	1.259 Level 3		
13,000.0	6,597.1	13,046.4	6,669.0	182.3	182.1	99.25	118.5	6,423.3	446.7	86.4	360.24	1.240 Level 2		
13,100.0	6,596.2	13,146.4	6,668.0	185.1	184.9	99.25	118.5	6,523.3	446.6	80.9	365.78	1.221 Level 2		
13,200.0	6,595.3	13,246.4	6,667.0	187.9	187.7	99.24	118.5	6,623.3	446.6	75.3	371.32	1.203 Level 2		
13,300.0	6,594.4	13,346.4	6,666.0	190.7	190.5	99.23	118.5	6,723.3	446.6	69.8	376.86	1.185 Level 2		
13,400.0	6,593.4	13,446.4	6,665.0	193.5	193.3	99.23	118.5	6,823.3	446.6	64.2	382.41	1.168 Level 2		

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
13,500.0	6,592.5	13,546.4	6,664.1	196.3	196.1	99.22	118.5	6,923.3	446.6	58.7	387.95	1.151	Level 2		
13,600.0	6,591.6	13,646.4	6,663.1	199.1	198.9	99.21	118.5	7,023.3	446.6	53.1	393.49	1.135	Level 2		
13,700.0	6,590.7	13,746.4	6,662.1	201.9	201.7	99.21	118.5	7,123.3	446.6	47.6	399.03	1.119	Level 2		
13,800.0	6,589.7	13,846.4	6,661.1	204.7	204.5	99.20	118.5	7,223.3	446.6	42.0	404.58	1.104	Level 2		
13,900.0	6,588.8	13,946.4	6,660.2	207.5	207.3	99.19	118.5	7,323.3	446.6	36.4	410.12	1.089	Level 2		
14,000.0	6,587.9	14,046.4	6,659.2	210.3	210.1	99.19	118.5	7,423.3	446.6	30.9	415.67	1.074	Level 2		
14,100.0	6,587.0	14,146.4	6,658.2	213.1	212.9	99.18	118.5	7,523.3	446.6	25.3	421.21	1.060	Level 2		
14,200.0	6,586.0	14,246.4	6,657.2	215.9	215.7	99.17	118.5	7,623.3	446.5	19.8	426.76	1.046	Level 2		
14,300.0	6,585.1	14,346.4	6,656.3	218.7	218.5	99.17	118.5	7,723.3	446.5	14.2	432.31	1.033	Level 2		
14,400.0	6,584.2	14,446.4	6,655.3	221.5	221.3	99.16	118.5	7,823.2	446.5	8.7	437.86	1.020	Level 2		
14,500.0	6,583.3	14,546.4	6,654.3	224.3	224.1	99.15	118.5	7,923.2	446.5	3.1	443.40	1.007	Level 2		
14,600.0	6,582.3	14,646.4	6,653.3	227.1	226.9	99.15	118.5	8,023.2	446.5	-2.4	448.95	0.995	Level 1		
14,700.0	6,581.4	14,746.4	6,652.3	229.9	229.7	99.14	118.5	8,123.2	446.5	-8.0	454.50	0.982	Level 1		
14,800.0	6,580.5	14,846.4	6,651.4	232.7	232.5	99.13	118.5	8,223.2	446.5	-13.6	460.05	0.971	Level 1		
14,900.0	6,579.6	14,946.4	6,650.4	235.5	235.3	99.13	118.5	8,323.2	446.5	-19.1	465.60	0.959	Level 1		
15,000.0	6,578.6	15,046.4	6,649.4	238.3	238.1	99.12	118.5	8,423.2	446.5	-24.7	471.15	0.948	Level 1		
15,100.0	6,577.7	15,146.4	6,648.4	241.1	240.9	99.11	118.5	8,523.2	446.5	-30.2	476.70	0.937	Level 1		
15,200.0	6,576.8	15,246.4	6,647.5	243.9	243.7	99.11	118.5	8,623.2	446.4	-35.8	482.26	0.926	Level 1		
15,300.0	6,575.9	15,346.4	6,646.5	246.7	246.5	99.10	118.5	8,723.2	446.4	-41.4	487.81	0.915	Level 1		
15,400.0	6,574.9	15,446.4	6,645.5	249.5	249.3	99.09	118.5	8,823.2	446.4	-46.9	493.36	0.905	Level 1		
15,500.0	6,574.0	15,546.4	6,644.5	252.3	252.1	99.09	118.5	8,923.2	446.4	-52.5	498.91	0.895	Level 1		
15,600.0	6,573.1	15,646.4	6,643.5	255.1	254.9	99.08	118.5	9,023.2	446.4	-58.1	504.47	0.885	Level 1		
15,700.0	6,572.2	15,746.4	6,642.6	258.0	257.7	99.07	118.5	9,123.2	446.4	-63.6	510.02	0.875	Level 1		
15,800.0	6,571.2	15,846.4	6,641.6	260.8	260.6	99.07	118.5	9,223.2	446.4	-69.2	515.58	0.866	Level 1		
15,900.0	6,570.3	15,946.4	6,640.6	263.6	263.4	99.06	118.5	9,323.2	446.4	-74.7	521.13	0.857	Level 1		
16,000.0	6,569.4	16,046.4	6,639.6	266.4	266.2	99.05	118.5	9,423.2	446.4	-80.3	526.69	0.848	Level 1		
16,100.0	6,568.5	16,146.4	6,638.7	269.2	269.0	99.05	118.5	9,523.2	446.4	-85.9	532.24	0.839	Level 1		
16,200.0	6,567.5	16,246.4	6,637.7	272.0	271.8	99.04	118.5	9,623.2	446.4	-91.4	537.80	0.830	Level 1		
16,300.0	6,566.6	16,346.4	6,636.7	274.8	274.6	99.03	118.5	9,723.2	446.3	-97.0	543.35	0.821	Level 1		
16,367.0	6,566.0	16,413.5	6,636.0	276.7	276.5	99.03	118.5	9,790.2	446.3	-100.7	547.08	0.816	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26I-402 - Wellbore #1 - Extension Plan															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	89.99	0.0	58.5	58.5						
100.0	100.0	99.0	99.0	0.1	0.1	89.99	0.0	58.5	58.5	58.3	0.22	261.670			
200.0	200.0	199.0	199.0	0.3	0.3	89.99	0.0	58.5	58.5	57.8	0.67	87.078			
300.0	300.0	299.0	299.0	0.6	0.6	89.99	0.0	58.5	58.5	57.4	1.12	52.177			
400.0	400.0	399.0	399.0	0.8	0.8	89.99	0.0	58.5	58.5	56.9	1.57	37.248			
500.0	500.0	499.0	499.0	1.0	1.0	89.99	0.0	58.5	58.5	56.5	2.02	28.962			
600.0	600.0	599.0	599.0	1.2	1.2	89.99	0.0	58.5	58.5	56.1	2.47	23.691			
700.0	700.0	699.0	699.0	1.5	1.5	89.99	0.0	58.5	58.5	55.6	2.92	20.043			
800.0	800.0	799.0	799.0	1.7	1.7	89.99	0.0	58.5	58.5	55.2	3.37	17.369			
900.0	900.0	899.0	899.0	1.9	1.9	89.99	0.0	58.5	58.5	54.7	3.82	15.325			
1,000.0	1,000.0	999.0	999.0	2.1	2.1	89.99	0.0	58.5	58.5	54.3	4.27	13.711 CC			
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	111.36	0.0	58.5	58.8	54.1	4.72	12.474 ES			
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	113.69	0.0	58.5	59.8	54.7	5.16	11.588			
1,300.0	1,299.9	1,298.9	1,298.9	2.8	2.8	117.38	0.0	58.5	61.7	56.1	5.61	11.000			
1,400.0	1,399.7	1,398.7	1,398.7	3.0	3.0	122.15	0.0	58.5	64.8	58.7	6.06	10.686			
1,500.0	1,499.4	1,498.4	1,498.4	3.3	3.3	127.60	0.0	58.5	69.3	62.7	6.51	10.638			
1,600.0	1,598.9	1,597.9	1,597.9	3.5	3.5	133.32	0.0	58.5	75.5	68.5	6.96	10.845			
1,700.0	1,698.3	1,697.3	1,697.3	3.8	3.7	138.89	0.0	58.5	83.7	76.3	7.41	11.290			
1,800.0	1,797.4	1,796.4	1,796.4	4.0	3.9	144.06	0.0	58.5	94.0	86.1	7.86	11.949			
1,885.7	1,882.2	1,881.2	1,881.2	4.3	4.1	148.04	0.0	58.5	104.4	96.2	8.25	12.663			
1,900.0	1,896.3	1,895.3	1,895.3	4.3	4.1	148.67	0.0	58.5	106.3	98.0	8.31	12.790			
2,000.0	1,995.1	1,994.1	1,994.1	4.6	4.4	152.49	0.0	58.5	119.7	111.0	8.77	13.661			
2,100.0	2,093.9	2,092.9	2,092.9	4.9	4.6	155.54	0.0	58.5	133.6	124.4	9.22	14.491			
2,200.0	2,192.7	2,191.7	2,191.7	5.2	4.8	158.00	0.0	58.5	147.8	138.1	9.68	15.273			
2,300.0	2,291.5	2,290.5	2,290.5	5.6	5.0	160.04	0.0	58.5	162.2	152.1	10.13	16.005			
2,400.0	2,390.3	2,389.3	2,389.3	5.9	5.3	161.74	0.0	58.5	176.8	166.2	10.59	16.689			
2,500.0	2,489.2	2,488.2	2,488.2	6.2	5.5	163.18	0.0	58.5	191.5	180.4	11.05	17.327			
2,600.0	2,588.0	2,587.2	2,587.2	6.5	5.7	164.61	-0.3	58.0	206.2	194.7	11.49	17.948			
2,700.0	2,686.8	2,686.1	2,686.0	6.9	5.9	166.28	-1.6	56.0	221.0	209.1	11.91	18.561			
2,800.0	2,785.6	2,784.7	2,784.6	7.2	6.1	168.16	-3.7	52.5	236.0	223.6	12.33	19.145			
2,900.0	2,884.4	2,883.1	2,882.8	7.6	6.2	170.20	-6.8	47.7	251.2	238.4	12.75	19.705			
3,000.0	2,983.2	2,981.2	2,980.6	7.9	6.4	172.36	-10.7	41.4	266.8	253.6	13.18	20.250			
3,100.0	3,082.0	3,078.9	3,077.9	8.3	6.6	174.62	-15.5	33.8	282.9	269.3	13.61	20.784			
3,200.0	3,180.8	3,176.1	3,174.6	8.6	6.8	176.94	-21.2	24.8	299.7	285.6	14.06	21.314			
3,300.0	3,279.6	3,272.9	3,270.5	8.9	7.1	179.30	-27.6	14.4	317.2	302.6	14.52	21.841			
3,400.0	3,378.4	3,369.5	3,366.2	9.3	7.3	-178.32	-34.9	2.8	335.5	320.5	15.00	22.367			
3,500.0	3,477.2	3,466.9	3,462.5	9.6	7.5	-176.13	-42.4	-9.1	354.4	338.9	15.49	22.876			
3,600.0	3,576.0	3,564.2	3,558.8	10.0	7.8	-174.16	-49.9	-21.1	373.8	357.8	16.00	23.368			
3,700.0	3,674.8	3,661.5	3,655.1	10.3	8.1	-172.38	-57.4	-33.1	393.6	377.1	16.51	23.840			
3,800.0	3,773.6	3,758.8	3,751.4	10.7	8.3	-170.77	-64.9	-45.0	413.7	396.7	17.03	24.293			
3,900.0	3,872.5	3,856.1	3,847.7	11.1	8.6	-169.31	-72.4	-57.0	434.1	416.6	17.56	24.725			
4,000.0	3,971.3	3,953.4	3,943.9	11.4	8.9	-167.98	-79.9	-69.0	454.8	436.7	18.09	25.139			
4,100.0	4,070.1	4,050.8	4,040.2	11.8	9.2	-166.76	-87.4	-80.9	475.6	457.0	18.63	25.533			
4,200.0	4,168.9	4,148.1	4,136.5	12.1	9.4	-165.65	-94.9	-92.9	496.7	477.5	19.17	25.910			
4,300.0	4,267.7	4,245.4	4,232.8	12.5	9.7	-164.63	-102.4	-104.8	517.9	498.2	19.72	26.270			
4,400.0	4,366.5	4,342.7	4,329.1	12.8	10.0	-163.68	-109.9	-116.8	539.3	519.0	20.26	26.614			
4,500.0	4,465.3	4,440.0	4,425.4	13.2	10.3	-162.81	-117.4	-128.8	560.8	540.0	20.82	26.942			
4,600.0	4,564.1	4,537.3	4,521.7	13.5	10.6	-162.00	-124.9	-140.7	582.4	561.1	21.37	27.255			
4,700.0	4,662.9	4,634.7	4,617.9	13.9	10.9	-161.25	-132.4	-152.7	604.1	582.2	21.93	27.555			
4,800.0	4,761.7	4,732.0	4,714.2	14.2	11.2	-160.56	-139.9	-164.7	626.0	603.5	22.48	27.841			
4,900.0	4,860.5	4,829.3	4,810.5	14.6	11.6	-159.90	-147.4	-176.6	647.9	624.8	23.04	28.115			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,959.3	4,929.8	4,910.0	15.0	11.9	-159.28	-155.1	-188.9	669.8	646.2	23.61	28.373			
5,100.8	5,058.9	5,042.6	5,022.0	15.3	12.2	-158.86	-162.1	-200.0	690.5	666.3	24.16	28.579			
5,200.0	5,157.2	5,155.1	5,134.2	15.6	12.4	-158.83	-166.7	-207.4	707.2	682.5	24.70	28.638			
5,300.0	5,256.7	5,269.8	5,248.8	15.9	12.6	-158.96	-169.0	-211.1	718.8	693.7	25.15	28.581			
5,400.0	5,356.4	5,376.5	5,355.4	16.1	12.8	-159.18	-169.3	-211.5	725.3	699.8	25.54	28.402			
5,500.0	5,456.4	5,476.4	5,455.4	16.2	13.0	-159.30	-169.3	-211.5	728.4	702.5	25.89	28.137			
5,543.6	5,500.0	5,520.0	5,499.0	16.3	13.1	-179.88	-169.3	-211.5	728.7	700.7	27.98	26.044			
5,600.0	5,556.4	5,576.4	5,555.4	16.4	13.2	-179.88	-169.3	-211.5	728.7	700.5	28.18	25.859			
5,700.0	5,656.4	5,676.4	5,655.4	16.5	13.4	-179.88	-169.3	-211.5	728.7	700.1	28.55	25.523			
5,800.0	5,756.4	5,776.4	5,755.4	16.7	13.6	-179.88	-169.3	-211.5	728.7	699.8	28.92	25.194			
5,900.0	5,856.4	5,876.4	5,855.4	16.9	13.8	-179.88	-169.3	-211.5	728.7	699.4	29.30	24.872			
5,931.1	5,887.5	5,907.5	5,886.5	16.9	13.9	-179.88	-169.3	-211.5	728.7	699.3	29.41	24.773			
5,950.0	5,906.4	5,926.4	5,905.4	16.9	13.9	90.13	-169.3	-211.5	728.7	701.0	27.65	26.355			
6,000.0	5,956.3	5,976.3	5,955.3	17.0	14.0	90.36	-169.3	-211.5	728.7	700.9	27.83	26.181			
6,050.0	6,005.9	6,025.9	6,004.9	17.1	14.1	90.83	-169.3	-211.5	728.8	700.8	28.01	26.016			
6,100.0	6,055.0	6,075.4	6,054.3	17.1	14.2	91.54	-169.3	-211.4	729.0	700.8	28.18	25.865			
6,150.0	6,103.4	6,126.0	6,104.9	17.1	14.3	92.32	-169.3	-208.9	729.3	701.0	28.33	25.742			
6,200.0	6,150.9	6,177.3	6,155.9	17.2	14.3	93.09	-169.3	-202.9	729.8	701.3	28.46	25.647			
6,250.0	6,197.2	6,229.4	6,207.1	17.2	14.4	93.86	-169.3	-193.3	730.4	701.9	28.56	25.572			
6,300.0	6,242.2	6,282.2	6,258.2	17.2	14.4	94.61	-169.3	-180.1	731.2	702.5	28.66	25.511			
6,350.0	6,285.7	6,335.9	6,309.0	17.2	14.4	95.35	-169.3	-163.1	732.0	703.2	28.76	25.455			
6,400.0	6,327.5	6,390.3	6,359.3	17.2	14.5	96.07	-169.3	-142.3	732.9	704.1	28.87	25.390			
6,450.0	6,367.4	6,445.5	6,408.6	17.2	14.5	96.77	-169.3	-117.5	734.0	705.0	29.01	25.302			
6,500.0	6,405.2	6,501.5	6,456.7	17.3	14.5	97.44	-169.3	-88.9	735.1	705.9	29.20	25.173			
6,550.0	6,440.9	6,558.3	6,503.2	17.3	14.6	98.08	-169.3	-56.2	736.2	706.7	29.47	24.980			
6,600.0	6,474.1	6,615.9	6,547.7	17.3	14.7	98.69	-169.3	-19.8	737.3	707.5	29.84	24.706			
6,650.0	6,504.9	6,674.2	6,589.9	17.4	14.8	99.25	-169.3	20.5	738.5	708.1	30.35	24.333			
6,700.0	6,533.0	6,733.3	6,629.4	17.5	15.1	99.78	-169.3	64.5	739.6	708.6	31.01	23.850			
6,750.0	6,558.3	6,793.1	6,665.7	17.7	15.4	100.25	-169.3	111.9	740.7	708.8	31.85	23.254			
6,800.0	6,580.8	6,853.5	6,698.6	18.0	16.0	100.68	-169.3	162.6	741.7	708.8	32.90	22.547			
6,850.0	6,600.3	6,914.5	6,727.6	18.6	16.6	101.05	-169.3	216.3	742.6	708.4	34.16	21.739			
6,900.0	6,616.7	6,976.0	6,752.4	19.2	17.4	101.37	-169.3	272.5	743.4	707.7	35.63	20.864			
6,950.0	6,630.0	7,038.0	6,772.8	20.0	18.3	101.63	-169.3	331.0	744.0	706.7	37.30	19.946			
7,000.0	6,640.2	7,100.3	6,788.4	20.9	19.3	101.82	-169.3	391.3	744.5	705.3	39.16	19.012			
7,050.0	6,647.1	7,162.8	6,799.0	21.8	20.5	101.95	-169.3	452.9	744.8	703.6	41.19	18.082			
7,100.0	6,650.8	7,225.5	6,804.6	22.8	21.7	102.01	-169.3	515.3	745.0	701.6	43.36	17.183			
7,138.1	6,651.4	7,272.3	6,805.5	23.5	22.6	102.02	-169.3	562.1	745.0	700.0	45.06	16.535			
7,200.0	6,650.8	7,334.1	6,805.1	24.8	23.9	102.03	-169.3	623.9	745.0	697.4	47.61	15.650			
7,300.0	6,649.9	7,434.1	6,804.4	27.0	26.1	102.05	-169.3	723.9	745.1	693.2	51.92	14.352			
7,400.0	6,648.9	7,534.1	6,803.7	29.3	28.5	102.06	-169.3	823.9	745.1	688.7	56.43	13.204			
7,500.0	6,648.0	7,634.1	6,803.0	31.7	30.9	102.08	-169.3	923.9	745.2	684.1	61.11	12.193			
7,600.0	6,647.1	7,734.1	6,802.3	34.1	33.3	102.10	-169.3	1,023.9	745.2	679.3	65.92	11.305			
7,700.0	6,646.2	7,834.1	6,801.6	36.6	35.8	102.11	-169.3	1,123.9	745.3	674.5	70.83	10.522			
7,800.0	6,645.2	7,934.1	6,800.9	39.1	38.4	102.13	-169.3	1,223.9	745.3	669.5	75.82	9.831			
7,900.0	6,644.3	8,034.1	6,800.2	41.7	41.0	102.15	-169.3	1,323.9	745.4	664.5	80.87	9.217			
8,000.0	6,643.4	8,134.1	6,799.5	44.3	43.6	102.17	-169.3	1,423.9	745.4	659.4	85.98	8.670			
8,100.0	6,642.5	8,234.1	6,798.8	46.9	46.2	102.18	-169.3	1,523.9	745.5	654.3	91.13	8.180			
8,200.0	6,641.5	8,334.1	6,798.1	49.5	48.9	102.20	-169.3	1,623.9	745.5	649.2	96.33	7.739			
8,300.0	6,640.6	8,434.1	6,797.4	52.2	51.5	102.22	-169.3	1,723.9	745.6	644.0	101.55	7.342			
8,400.0	6,639.7	8,534.1	6,796.7	54.9	54.2	102.23	-169.3	1,823.9	745.6	638.8	106.80	6.981			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,500.0	6,638.8	8,634.1	6,796.0	57.5	56.9	102.25	-169.3	1,923.9	745.7	633.6	112.07	6.653			
8,600.0	6,637.8	8,734.1	6,795.3	60.2	59.6	102.27	-169.3	2,023.9	745.7	628.3	117.37	6.354			
8,700.0	6,636.9	8,834.1	6,794.6	63.0	62.3	102.29	-169.3	2,123.9	745.8	623.1	122.68	6.079			
8,800.0	6,636.0	8,934.1	6,793.9	65.7	65.1	102.30	-169.3	2,223.9	745.8	617.8	128.00	5.826			
8,900.0	6,635.1	9,034.1	6,793.2	68.4	67.8	102.32	-169.3	2,323.9	745.8	612.5	133.34	5.593			
9,000.0	6,634.1	9,134.1	6,792.5	71.1	70.5	102.34	-169.3	2,423.9	745.9	607.2	138.69	5.378			
9,100.0	6,633.2	9,234.1	6,791.8	73.9	73.3	102.35	-169.3	2,523.9	745.9	601.9	144.05	5.178			
9,200.0	6,632.3	9,334.1	6,791.1	76.6	76.0	102.37	-169.3	2,623.9	746.0	596.6	149.42	4.992			
9,300.0	6,631.4	9,434.1	6,790.4	79.3	78.8	102.39	-169.3	2,723.9	746.0	591.2	154.80	4.819			
9,400.0	6,630.4	9,534.1	6,789.7	82.1	81.5	102.40	-169.3	2,823.9	746.1	585.9	160.19	4.658			
9,500.0	6,629.5	9,634.1	6,789.0	84.8	84.3	102.42	-169.3	2,923.9	746.1	580.6	165.58	4.506			
9,600.0	6,628.6	9,734.1	6,788.3	87.6	87.1	102.44	-169.3	3,023.9	746.2	575.2	170.97	4.364			
9,700.0	6,627.7	9,834.1	6,787.6	90.4	89.8	102.46	-169.3	3,123.9	746.2	569.9	176.38	4.231			
9,800.0	6,626.7	9,934.1	6,786.9	93.1	92.6	102.47	-169.3	3,223.9	746.3	564.5	181.78	4.105			
9,900.0	6,625.8	10,034.1	6,786.2	95.9	95.4	102.49	-169.3	3,323.9	746.3	559.1	187.19	3.987			
10,000.0	6,624.9	10,134.1	6,785.5	98.7	98.1	102.51	-169.3	3,423.9	746.4	553.8	192.61	3.875			
10,100.0	6,624.0	10,234.1	6,784.8	101.4	100.9	102.52	-169.3	3,523.9	746.4	548.4	198.02	3.769			
10,200.0	6,623.0	10,334.1	6,784.1	104.2	103.7	102.54	-169.3	3,623.9	746.5	543.0	203.45	3.669			
10,300.0	6,622.1	10,434.1	6,783.4	107.0	106.5	102.56	-169.3	3,723.9	746.5	537.7	208.87	3.574			
10,400.0	6,621.2	10,534.1	6,782.7	109.8	109.3	102.57	-169.3	3,823.9	746.6	532.3	214.29	3.484			
10,500.0	6,620.3	10,634.1	6,782.0	112.5	112.0	102.59	-169.3	3,923.9	746.6	526.9	219.72	3.398			
10,600.0	6,619.3	10,734.1	6,781.3	115.3	114.8	102.61	-169.3	4,023.9	746.7	521.5	225.15	3.316			
10,700.0	6,618.4	10,834.1	6,780.6	118.1	117.6	102.63	-169.3	4,123.9	746.7	516.1	230.58	3.238			
10,800.0	6,617.5	10,934.1	6,779.9	120.9	120.4	102.64	-169.3	4,223.8	746.8	510.7	236.02	3.164			
10,900.0	6,616.6	11,034.1	6,779.2	123.7	123.2	102.66	-169.3	4,323.8	746.8	505.4	241.45	3.093			
11,000.0	6,615.6	11,134.1	6,778.5	126.4	126.0	102.68	-169.3	4,423.8	746.9	500.0	246.89	3.025			
11,100.0	6,614.7	11,234.1	6,777.8	129.2	128.8	102.69	-169.3	4,523.8	746.9	494.6	252.33	2.960			
11,200.0	6,613.8	11,334.1	6,777.1	132.0	131.5	102.71	-169.3	4,623.8	747.0	489.2	257.77	2.898			
11,300.0	6,612.9	11,434.1	6,776.4	134.8	134.3	102.73	-169.3	4,723.8	747.0	483.8	263.21	2.838			
11,400.0	6,611.9	11,534.1	6,775.7	137.6	137.1	102.74	-169.3	4,823.8	747.1	478.4	268.65	2.781			
11,500.0	6,611.0	11,634.1	6,775.0	140.4	139.9	102.76	-169.3	4,923.8	747.1	473.0	274.09	2.726			
11,600.0	6,610.1	11,734.1	6,774.4	143.2	142.7	102.78	-169.3	5,023.8	747.2	467.6	279.53	2.673			
11,700.0	6,609.2	11,834.1	6,773.7	146.0	145.5	102.80	-169.3	5,123.8	747.2	462.2	284.97	2.622			
11,800.0	6,608.2	11,934.1	6,773.0	148.8	148.3	102.81	-169.3	5,223.8	747.3	456.8	290.42	2.573			
11,900.0	6,607.3	12,034.1	6,772.3	151.6	151.1	102.83	-169.3	5,323.8	747.3	451.4	295.86	2.526			
12,000.0	6,606.4	12,134.1	6,771.6	154.3	153.9	102.85	-169.3	5,423.8	747.4	446.0	301.30	2.480			
12,100.0	6,605.5	12,234.1	6,770.9	157.1	156.7	102.86	-169.3	5,523.8	747.4	440.7	306.75	2.437			
12,200.0	6,604.5	12,334.1	6,770.2	159.9	159.5	102.88	-169.3	5,623.8	747.5	435.3	312.19	2.394			
12,300.0	6,603.6	12,434.1	6,769.5	162.7	162.3	102.90	-169.3	5,723.8	747.5	429.9	317.64	2.353			
12,400.0	6,602.7	12,534.1	6,768.8	165.5	165.1	102.91	-169.3	5,823.8	747.6	424.5	323.08	2.314			
12,500.0	6,601.8	12,634.1	6,768.1	168.3	167.9	102.93	-169.3	5,923.8	747.6	419.1	328.53	2.276			
12,600.0	6,600.8	12,734.1	6,767.4	171.1	170.7	102.95	-169.3	6,023.8	747.7	413.7	333.97	2.239			
12,700.0	6,599.9	12,834.1	6,766.7	173.9	173.5	102.97	-169.3	6,123.8	747.7	408.3	339.42	2.203			
12,800.0	6,599.0	12,934.1	6,766.0	176.7	176.3	102.98	-169.3	6,223.8	747.8	402.9	344.86	2.168			
12,900.0	6,598.1	13,034.1	6,765.3	179.5	179.1	103.00	-169.3	6,323.8	747.8	397.5	350.31	2.135			
13,000.0	6,597.1	13,134.1	6,764.6	182.3	181.9	103.02	-169.3	6,423.8	747.9	392.1	355.76	2.102			
13,100.0	6,596.2	13,234.1	6,763.9	185.1	184.7	103.03	-169.3	6,523.8	747.9	386.7	361.20	2.071			
13,200.0	6,595.3	13,334.1	6,763.2	187.9	187.5	103.05	-169.3	6,623.8	748.0	381.3	366.65	2.040			
13,300.0	6,594.4	13,434.1	6,762.5	190.7	190.3	103.07	-169.3	6,723.8	748.0	375.9	372.09	2.010			
13,400.0	6,593.4	13,534.1	6,761.8	193.5	193.1	103.08	-169.3	6,823.8	748.1	370.5	377.54	1.981			
13,500.0	6,592.5	13,634.1	6,761.1	196.3	195.9	103.10	-169.3	6,923.8	748.1	365.1	382.98	1.953			

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 Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
13,600.0	6,591.6	13,734.1	6,760.4	199.1	198.7	103.12	-169.3	7,023.8	748.2	359.7	388.43	1.926			
13,700.0	6,590.7	13,834.1	6,759.7	201.9	201.5	103.13	-169.3	7,123.8	748.2	354.3	393.87	1.900			
13,800.0	6,589.7	13,934.1	6,759.0	204.7	204.3	103.15	-169.3	7,223.8	748.3	348.9	399.31	1.874			
13,900.0	6,588.8	14,034.1	6,758.3	207.5	207.1	103.17	-169.3	7,323.8	748.3	343.6	404.76	1.849			
14,000.0	6,587.9	14,134.1	6,757.6	210.3	209.9	103.19	-169.3	7,423.8	748.4	338.2	410.20	1.824			
14,100.0	6,587.0	14,234.1	6,756.9	213.1	212.7	103.20	-169.3	7,523.8	748.4	332.8	415.64	1.801			
14,200.0	6,586.0	14,334.1	6,756.2	215.9	215.5	103.22	-169.3	7,623.8	748.5	327.4	421.09	1.777			
14,300.0	6,585.1	14,434.1	6,755.5	218.7	218.3	103.24	-169.3	7,723.8	748.5	322.0	426.53	1.755			
14,400.0	6,584.2	14,534.1	6,754.8	221.5	221.1	103.25	-169.3	7,823.8	748.6	316.6	431.97	1.733			
14,500.0	6,583.3	14,634.1	6,754.1	224.3	223.9	103.27	-169.3	7,923.7	748.6	311.2	437.41	1.711			
14,600.0	6,582.3	14,734.1	6,753.4	227.1	226.7	103.29	-169.3	8,023.7	748.7	305.8	442.85	1.691			
14,700.0	6,581.4	14,834.1	6,752.7	229.9	229.5	103.30	-169.3	8,123.7	748.7	300.4	448.30	1.670			
14,800.0	6,580.5	14,934.1	6,752.0	232.7	232.3	103.32	-169.3	8,223.7	748.8	295.0	453.74	1.650			
14,900.0	6,579.6	15,034.1	6,751.3	235.5	235.1	103.34	-169.3	8,323.7	748.8	289.6	459.18	1.631			
15,000.0	6,578.6	15,134.1	6,750.6	238.3	237.9	103.35	-169.3	8,423.7	748.9	284.3	464.62	1.612			
15,100.0	6,577.7	15,234.1	6,749.9	241.1	240.7	103.37	-169.3	8,523.7	748.9	278.9	470.05	1.593			
15,200.0	6,576.8	15,334.1	6,749.2	243.9	243.5	103.39	-169.3	8,623.7	749.0	273.5	475.49	1.575			
15,300.0	6,575.9	15,434.1	6,748.5	246.7	246.3	103.41	-169.3	8,723.7	749.0	268.1	480.93	1.557			
15,400.0	6,574.9	15,534.1	6,747.8	249.5	249.1	103.42	-169.3	8,823.7	749.1	262.7	486.37	1.540			
15,500.0	6,574.0	15,634.1	6,747.1	252.3	251.9	103.44	-169.3	8,923.7	749.1	257.3	491.81	1.523			
15,600.0	6,573.1	15,734.1	6,746.4	255.1	254.7	103.46	-169.3	9,023.7	749.2	251.9	497.24	1.507			
15,700.0	6,572.2	15,834.1	6,745.7	258.0	257.5	103.47	-169.3	9,123.7	749.2	246.6	502.68	1.490 Level 3			
15,800.0	6,571.2	15,934.1	6,745.0	260.8	260.4	103.49	-169.3	9,223.7	749.3	241.2	508.12	1.475 Level 3			
15,900.0	6,570.3	16,034.1	6,744.3	263.6	263.2	103.51	-169.3	9,323.7	749.3	235.8	513.55	1.459 Level 3			
16,000.0	6,569.4	16,134.1	6,743.6	266.4	266.0	103.52	-169.3	9,423.7	749.4	230.4	518.99	1.444 Level 3			
16,100.0	6,568.5	16,234.1	6,742.9	269.2	268.8	103.54	-169.3	9,523.7	749.4	225.0	524.42	1.429 Level 3			
16,200.0	6,567.5	16,334.1	6,742.2	272.0	271.6	103.56	-169.3	9,623.7	749.5	219.6	529.85	1.415 Level 3			
16,300.0	6,566.6	16,434.1	6,741.5	274.8	274.4	103.57	-169.3	9,723.7	749.5	214.3	535.29	1.400 Level 3			
16,367.0	6,566.0	16,501.1	6,741.1	276.7	276.3	103.59	-169.3	9,790.7	749.6	210.7	538.93	1.391 Level 3, SF			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4701.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4701.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-232	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:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4701.0ft (RKB - 23')

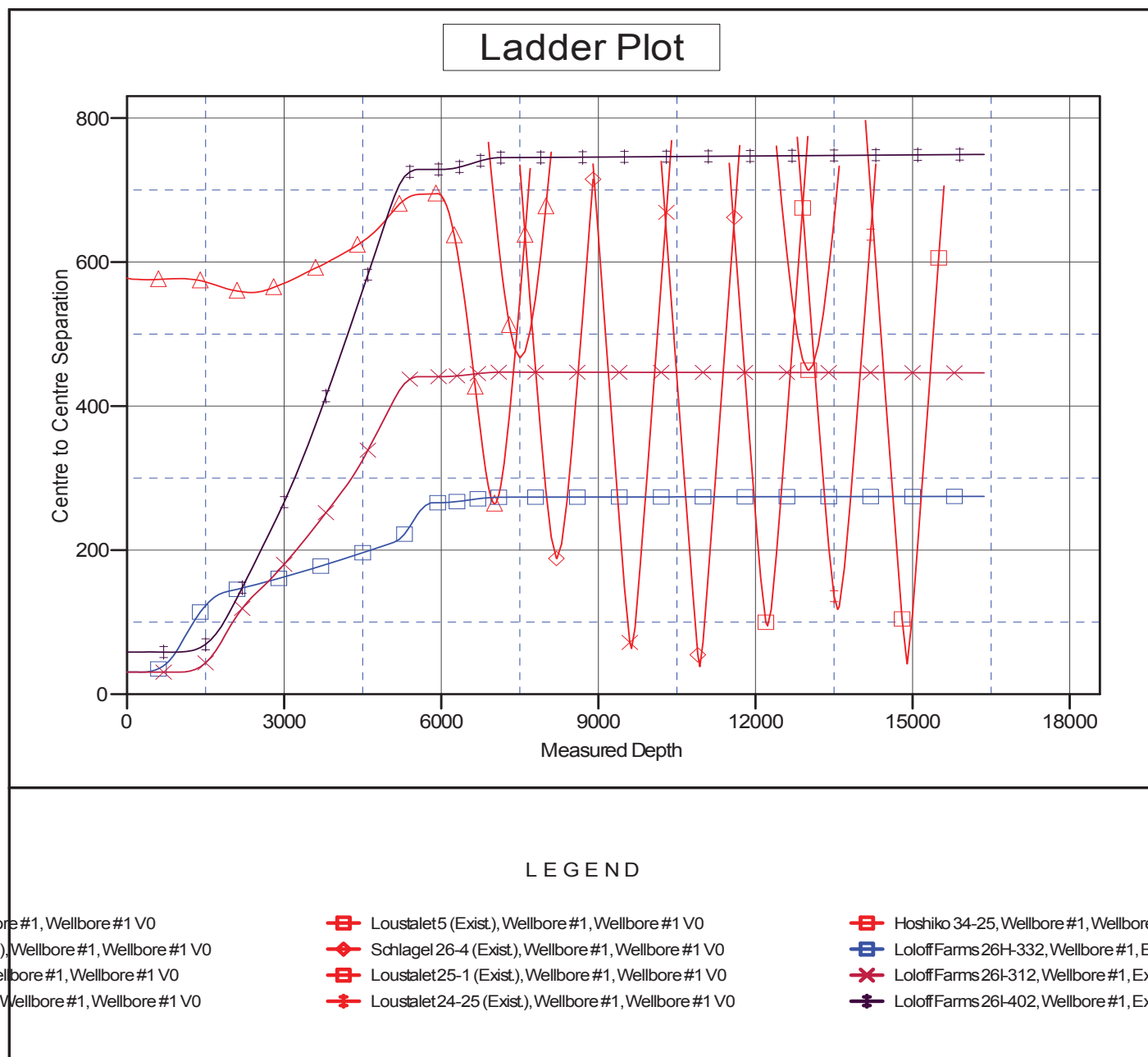
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Loloff Farms 26H-232

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-232
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Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Extension Plan #1 (1-29-16)	Offset TVD Reference:	Offset Datum

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