

PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Loloff Farms 26H-332**

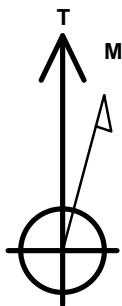
Surface Location: Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4679.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1376850.33	3271539.60	40.363760	-104.525530	

RKB - 23' WELL @ 4702.0ft (RKB - 23')

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 236'FSL, 230'FWL, Sec.26	1.0	0.0	0.0	Point
Spacing Unit Buffer - 460' (26H-332)	1.0	829.0	5203.9	Rectangle
BHL 1055'FSL, 500'FEL, SEC.25	6636.0	829.0	9817.3	Point



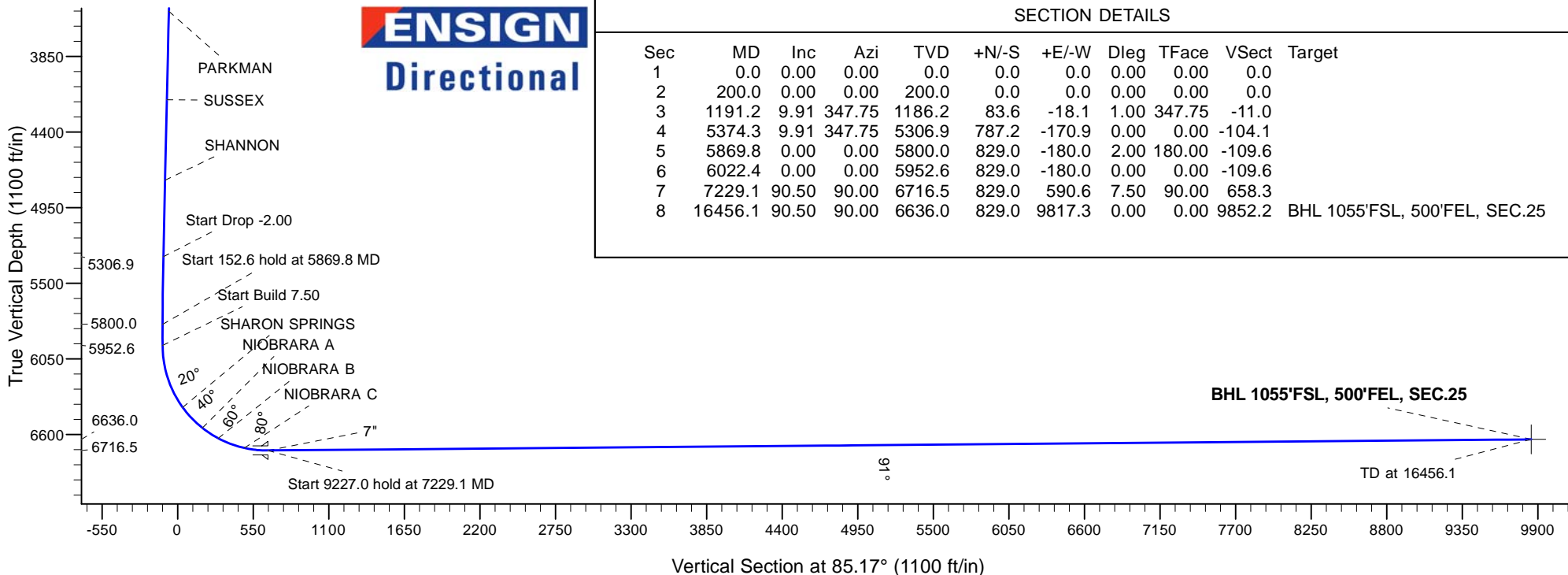
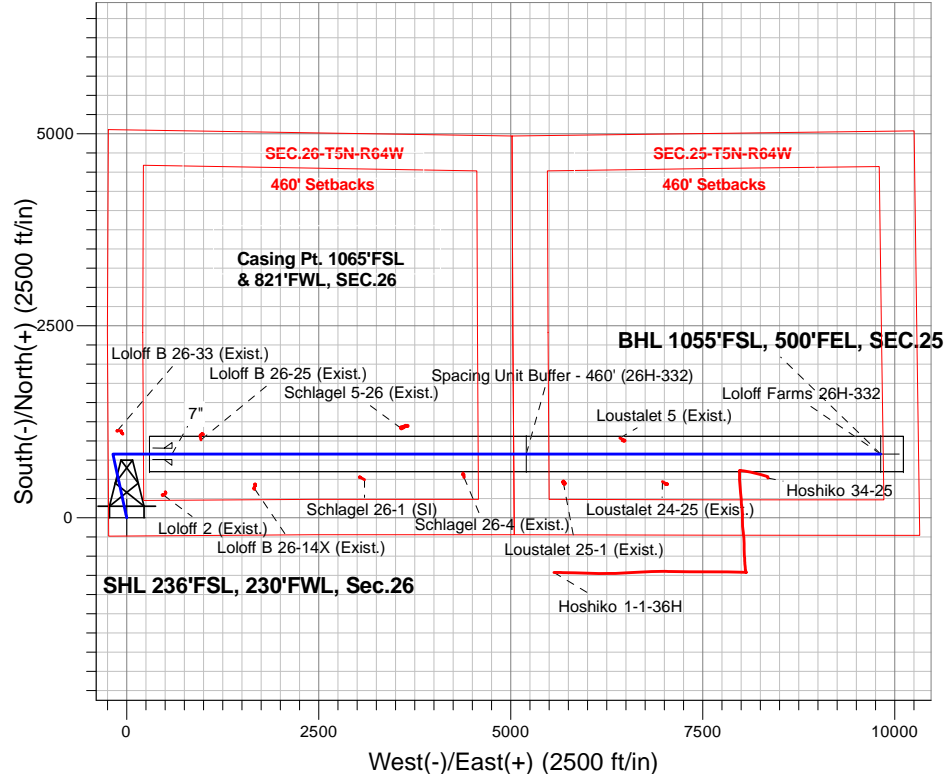
Azimuths to True North
Magnetic North: 8.11°

Magnetic Field
Strength: 52649.1snT
Dip Angle: 66.90°
Date: 2/4/2016
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.00
5306.9	5374.3	Start Drop -2.00
5800.0	5869.8	Start 152.6 hold at 5869.8 MD
5952.6	6022.4	Start Build 7.50
6716.5	7229.1	Start 9227.0 hold at 7229.1 MD
6636.0	16456.1	TD at 16456.1

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
Loloff Farms 26H-332
Extension Plan #1 (1-29-16)
5:11, February 04 2016



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1191.2	9.91	347.75	1186.2	83.6	-18.1	1.00	347.75	-11.0	
4	5374.3	9.91	347.75	5306.9	787.2	-170.9	0.00	0.00	-104.1	
5	5869.8	0.00	0.00	5800.0	829.0	-180.0	2.00	180.00	-109.6	
6	6022.4	0.00	0.00	5952.6	829.0	-180.0	0.00	0.00	-109.6	
7	7229.1	90.50	90.00	6716.5	829.0	590.6	7.50	90.00	658.3	
8	16456.1	90.50	90.00	6636.0	829.0	9817.3	0.00	0.00	9852.2	BHL 1055'FSL, 500'FEL, SEC.25



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.26-T5N-R64W

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

Loloff Farms 26H-332

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-332
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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-332					
Well Position	+N/-S	0.0 ft	Northing:	1,376,850.33 usft	Latitude:	40.363760
	+E/-W	0.0 ft	Easting:	3,271,539.61 usft	Longitude:	-104.525530
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,679.0 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	85.17

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,191.2	9.91	347.75	1,186.2	83.6	-18.1	1.00	1.00	0.00	347.75	
5,374.3	9.91	347.75	5,306.9	787.2	-170.9	0.00	0.00	0.00	0.00	
5,869.8	0.00	0.00	5,800.0	829.0	-180.0	2.00	-2.00	0.00	180.00	
6,022.4	0.00	0.00	5,952.6	829.0	-180.0	0.00	0.00	0.00	0.00	
7,229.1	90.50	90.00	6,716.5	829.0	590.6	7.50	7.50	0.00	90.00	
16,456.1	90.50	90.00	6,636.0	829.0	9,817.3	0.00	0.00	0.00	0.00	BHL 1055'FSL, 500'F

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Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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
Spacing Unit Buffer - 460' (26H-332) - SHL 236'FSL, 230'FWL, Sec.26									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.00									
300.0	1.00	347.75	300.0	0.9	-0.2	-0.1	1.00	1.00	0.00
400.0	2.00	347.75	400.0	3.4	-0.7	-0.5	1.00	1.00	0.00
500.0	3.00	347.75	499.9	7.7	-1.7	-1.0	1.00	1.00	0.00
600.0	4.00	347.75	599.7	13.6	-3.0	-1.8	1.00	1.00	0.00
700.0	5.00	347.75	699.4	21.3	-4.6	-2.8	1.00	1.00	0.00
800.0	6.00	347.75	798.9	30.7	-6.7	-4.1	1.00	1.00	0.00
900.0	7.00	347.75	898.3	41.7	-9.1	-5.5	1.00	1.00	0.00
1,000.0	8.00	347.75	997.4	54.5	-11.8	-7.2	1.00	1.00	0.00
1,100.0	9.00	347.75	1,096.3	68.9	-15.0	-9.1	1.00	1.00	0.00
1,191.2	9.91	347.75	1,186.2	83.6	-18.1	-11.0	1.00	1.00	0.00
1,200.0	9.91	347.75	1,194.9	85.1	-18.5	-11.2	0.00	0.00	0.00
1,300.0	9.91	347.75	1,293.4	101.9	-22.1	-13.5	0.00	0.00	0.00
1,400.0	9.91	347.75	1,391.9	118.7	-25.8	-15.7	0.00	0.00	0.00
1,500.0	9.91	347.75	1,490.5	135.5	-29.4	-17.9	0.00	0.00	0.00
1,600.0	9.91	347.75	1,589.0	152.3	-33.1	-20.1	0.00	0.00	0.00
1,700.0	9.91	347.75	1,687.5	169.2	-36.7	-22.4	0.00	0.00	0.00
1,800.0	9.91	347.75	1,786.0	186.0	-40.4	-24.6	0.00	0.00	0.00
1,900.0	9.91	347.75	1,884.5	202.8	-44.0	-26.8	0.00	0.00	0.00
2,000.0	9.91	347.75	1,983.0	219.6	-47.7	-29.0	0.00	0.00	0.00
2,100.0	9.91	347.75	2,081.5	236.4	-51.3	-31.3	0.00	0.00	0.00
2,200.0	9.91	347.75	2,180.0	253.3	-55.0	-33.5	0.00	0.00	0.00
2,300.0	9.91	347.75	2,278.5	270.1	-58.6	-35.7	0.00	0.00	0.00
2,400.0	9.91	347.75	2,377.0	286.9	-62.3	-37.9	0.00	0.00	0.00
2,500.0	9.91	347.75	2,475.5	303.7	-65.9	-40.2	0.00	0.00	0.00
2,600.0	9.91	347.75	2,574.0	320.6	-69.6	-42.4	0.00	0.00	0.00
2,700.0	9.91	347.75	2,672.5	337.4	-73.3	-44.6	0.00	0.00	0.00
2,800.0	9.91	347.75	2,771.1	354.2	-76.9	-46.8	0.00	0.00	0.00
2,900.0	9.91	347.75	2,869.6	371.0	-80.6	-49.1	0.00	0.00	0.00
3,000.0	9.91	347.75	2,968.1	387.8	-84.2	-51.3	0.00	0.00	0.00
3,100.0	9.91	347.75	3,066.6	404.7	-87.9	-53.5	0.00	0.00	0.00
3,200.0	9.91	347.75	3,165.1	421.5	-91.5	-55.7	0.00	0.00	0.00
3,300.0	9.91	347.75	3,263.6	438.3	-95.2	-58.0	0.00	0.00	0.00
3,400.0	9.91	347.75	3,362.1	455.1	-98.8	-60.2	0.00	0.00	0.00
3,500.0	9.91	347.75	3,460.6	471.9	-102.5	-62.4	0.00	0.00	0.00
3,563.3	9.91	347.75	3,523.0	482.6	-104.8	-63.8	0.00	0.00	0.00
PARKMAN									
3,600.0	9.91	347.75	3,559.1	488.8	-106.1	-64.6	0.00	0.00	0.00
3,700.0	9.91	347.75	3,657.6	505.6	-109.8	-66.8	0.00	0.00	0.00
3,800.0	9.91	347.75	3,756.1	522.4	-113.4	-69.1	0.00	0.00	0.00
3,900.0	9.91	347.75	3,854.6	539.2	-117.1	-71.3	0.00	0.00	0.00
4,000.0	9.91	347.75	3,953.1	556.0	-120.7	-73.5	0.00	0.00	0.00
4,100.0	9.91	347.75	4,051.6	572.9	-124.4	-75.7	0.00	0.00	0.00
4,200.0	9.91	347.75	4,150.2	589.7	-128.0	-78.0	0.00	0.00	0.00
4,216.1	9.91	347.75	4,166.0	592.4	-128.6	-78.3	0.00	0.00	0.00
SUSSEX									
4,300.0	9.91	347.75	4,248.7	606.5	-131.7	-80.2	0.00	0.00	0.00

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Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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	9.91	347.75	4,347.2	623.3	-135.3	-82.4	0.00	0.00	0.00
4,500.0	9.91	347.75	4,445.7	640.2	-139.0	-84.6	0.00	0.00	0.00
4,600.0	9.91	347.75	4,544.2	657.0	-142.6	-86.9	0.00	0.00	0.00
4,700.0	9.91	347.75	4,642.7	673.8	-146.3	-89.1	0.00	0.00	0.00
4,800.0	9.91	347.75	4,741.2	690.6	-150.0	-91.3	0.00	0.00	0.00
4,808.9	9.91	347.75	4,750.0	692.1	-150.3	-91.5	0.00	0.00	0.00
SHANNON									
4,900.0	9.91	347.75	4,839.7	707.4	-153.6	-93.5	0.00	0.00	0.00
5,000.0	9.91	347.75	4,938.2	724.3	-157.3	-95.8	0.00	0.00	0.00
5,100.0	9.91	347.75	5,036.7	741.1	-160.9	-98.0	0.00	0.00	0.00
5,200.0	9.91	347.75	5,135.2	757.9	-164.6	-100.2	0.00	0.00	0.00
5,300.0	9.91	347.75	5,233.7	774.7	-168.2	-102.4	0.00	0.00	0.00
5,374.3	9.91	347.75	5,306.9	787.2	-170.9	-104.1	0.00	0.00	0.00
Start Drop -2.00									
5,400.0	9.40	347.75	5,332.3	791.4	-171.8	-104.6	2.00	-2.00	0.00
5,500.0	7.40	347.75	5,431.2	805.7	-174.9	-106.5	2.00	-2.00	0.00
5,600.0	5.40	347.75	5,530.6	816.6	-177.3	-108.0	2.00	-2.00	0.00
5,700.0	3.40	347.75	5,630.3	824.1	-178.9	-109.0	2.00	-2.00	0.00
5,800.0	1.40	347.75	5,730.2	828.2	-179.8	-109.5	2.00	-2.00	0.00
5,869.8	0.00	347.75	5,800.0	829.0	-180.0	-109.6	2.00	-2.00	0.00
Start 152.6 hold at 5869.8 MD									
5,900.0	0.00	0.00	5,830.2	829.0	-180.0	-109.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,930.2	829.0	-180.0	-109.6	0.00	0.00	0.00
6,022.4	0.00	0.00	5,952.6	829.0	-180.0	-109.6	0.00	0.00	0.00
Start Build 7.50									
6,100.0	5.82	90.00	6,030.0	829.0	-176.1	-105.7	7.50	7.50	0.00
6,200.0	13.32	90.00	6,128.6	829.0	-159.5	-89.1	7.50	7.50	0.00
6,300.0	20.82	90.00	6,224.1	829.0	-130.1	-59.9	7.50	7.50	0.00
6,400.0	28.32	90.00	6,315.0	829.0	-88.6	-18.5	7.50	7.50	0.00
6,500.0	35.82	90.00	6,399.7	829.0	-35.5	34.3	7.50	7.50	0.00
6,504.1	36.13	90.00	6,403.0	829.0	-33.1	36.8	7.50	7.50	0.00
SHARON SPRINGS									
6,600.0	43.32	90.00	6,476.7	829.0	28.1	97.8	7.50	7.50	0.00
6,700.0	50.82	90.00	6,544.8	829.0	101.3	170.7	7.50	7.50	0.00
6,713.2	51.81	90.00	6,553.0	829.0	111.6	180.9	7.50	7.50	0.00
NIOBRARA A									
6,800.0	58.32	90.00	6,602.7	829.0	182.7	251.8	7.50	7.50	0.00
6,851.0	62.14	90.00	6,628.0	829.0	226.9	295.9	7.50	7.50	0.00
NIOBRARA B									
6,900.0	65.82	90.00	6,649.5	829.0	271.0	339.8	7.50	7.50	0.00
7,000.0	73.32	90.00	6,684.4	829.0	364.6	433.1	7.50	7.50	0.00
7,053.8	77.35	90.00	6,698.0	829.0	416.6	484.9	7.50	7.50	0.00
NIOBRARA C									
7,100.0	80.82	90.00	6,706.8	829.0	462.0	530.1	7.50	7.50	0.00
7,200.0	88.32	90.00	6,716.2	829.0	561.5	629.3	7.50	7.50	0.00
7,229.1	90.50	90.00	6,716.5	829.0	590.6	658.3	7.50	7.50	0.00
Start 9227.0 hold at 7229.1 MD - 7"									
7,300.0	90.50	90.00	6,715.9	829.0	661.5	728.9	0.00	0.00	0.00
7,400.0	90.50	90.00	6,715.0	829.0	761.5	828.5	0.00	0.00	0.00
7,500.0	90.50	90.00	6,714.2	829.0	861.5	928.2	0.00	0.00	0.00
7,600.0	90.50	90.00	6,713.3	829.0	961.5	1,027.8	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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)
7,700.0	90.50	90.00	6,712.4	829.0	1,061.5	1,127.5	0.00	0.00	0.00
7,800.0	90.50	90.00	6,711.5	829.0	1,161.5	1,227.1	0.00	0.00	0.00
7,900.0	90.50	90.00	6,710.7	829.0	1,261.5	1,326.7	0.00	0.00	0.00
8,000.0	90.50	90.00	6,709.8	829.0	1,361.5	1,426.4	0.00	0.00	0.00
8,100.0	90.50	90.00	6,708.9	829.0	1,461.5	1,526.0	0.00	0.00	0.00
8,200.0	90.50	90.00	6,708.0	829.0	1,561.5	1,625.7	0.00	0.00	0.00
8,300.0	90.50	90.00	6,707.2	829.0	1,661.5	1,725.3	0.00	0.00	0.00
8,400.0	90.50	90.00	6,706.3	829.0	1,761.5	1,825.0	0.00	0.00	0.00
8,500.0	90.50	90.00	6,705.4	829.0	1,861.4	1,924.6	0.00	0.00	0.00
8,600.0	90.50	90.00	6,704.6	829.0	1,961.4	2,024.2	0.00	0.00	0.00
8,700.0	90.50	90.00	6,703.7	829.0	2,061.4	2,123.9	0.00	0.00	0.00
8,800.0	90.50	90.00	6,702.8	829.0	2,161.4	2,223.5	0.00	0.00	0.00
8,900.0	90.50	90.00	6,701.9	829.0	2,261.4	2,323.2	0.00	0.00	0.00
9,000.0	90.50	90.00	6,701.1	829.0	2,361.4	2,422.8	0.00	0.00	0.00
9,100.0	90.50	90.00	6,700.2	829.0	2,461.4	2,522.4	0.00	0.00	0.00
9,200.0	90.50	90.00	6,699.3	829.0	2,561.4	2,622.1	0.00	0.00	0.00
9,300.0	90.50	90.00	6,698.4	829.0	2,661.4	2,721.7	0.00	0.00	0.00
9,400.0	90.50	90.00	6,697.6	829.0	2,761.4	2,821.4	0.00	0.00	0.00
9,500.0	90.50	90.00	6,696.7	829.0	2,861.4	2,921.0	0.00	0.00	0.00
9,600.0	90.50	90.00	6,695.8	829.0	2,961.4	3,020.7	0.00	0.00	0.00
9,700.0	90.50	90.00	6,695.0	829.0	3,061.4	3,120.3	0.00	0.00	0.00
9,800.0	90.50	90.00	6,694.1	829.0	3,161.4	3,219.9	0.00	0.00	0.00
9,900.0	90.50	90.00	6,693.2	829.0	3,261.4	3,319.6	0.00	0.00	0.00
10,000.0	90.50	90.00	6,692.3	829.0	3,361.4	3,419.2	0.00	0.00	0.00
10,100.0	90.50	90.00	6,691.5	829.0	3,461.4	3,518.9	0.00	0.00	0.00
10,200.0	90.50	90.00	6,690.6	829.0	3,561.4	3,618.5	0.00	0.00	0.00
10,300.0	90.50	90.00	6,689.7	829.0	3,661.4	3,718.1	0.00	0.00	0.00
10,400.0	90.50	90.00	6,688.8	829.0	3,761.4	3,817.8	0.00	0.00	0.00
10,500.0	90.50	90.00	6,688.0	829.0	3,861.4	3,917.4	0.00	0.00	0.00
10,600.0	90.50	90.00	6,687.1	829.0	3,961.4	4,017.1	0.00	0.00	0.00
10,700.0	90.50	90.00	6,686.2	829.0	4,061.4	4,116.7	0.00	0.00	0.00
10,800.0	90.50	90.00	6,685.4	829.0	4,161.4	4,216.4	0.00	0.00	0.00
10,900.0	90.50	90.00	6,684.5	829.0	4,261.4	4,316.0	0.00	0.00	0.00
11,000.0	90.50	90.00	6,683.6	829.0	4,361.4	4,415.6	0.00	0.00	0.00
11,100.0	90.50	90.00	6,682.7	829.0	4,461.4	4,515.3	0.00	0.00	0.00
11,200.0	90.50	90.00	6,681.9	829.0	4,561.3	4,614.9	0.00	0.00	0.00
11,300.0	90.50	90.00	6,681.0	829.0	4,661.3	4,714.6	0.00	0.00	0.00
11,400.0	90.50	90.00	6,680.1	829.0	4,761.3	4,814.2	0.00	0.00	0.00
11,500.0	90.50	90.00	6,679.2	829.0	4,861.3	4,913.8	0.00	0.00	0.00
11,600.0	90.50	90.00	6,678.4	829.0	4,961.3	5,013.5	0.00	0.00	0.00
11,700.0	90.50	90.00	6,677.5	829.0	5,061.3	5,113.1	0.00	0.00	0.00
11,800.0	90.50	90.00	6,676.6	829.0	5,161.3	5,212.8	0.00	0.00	0.00
11,900.0	90.50	90.00	6,675.8	829.0	5,261.3	5,312.4	0.00	0.00	0.00
12,000.0	90.50	90.00	6,674.9	829.0	5,361.3	5,412.1	0.00	0.00	0.00
12,100.0	90.50	90.00	6,674.0	829.0	5,461.3	5,511.7	0.00	0.00	0.00
12,200.0	90.50	90.00	6,673.1	829.0	5,561.3	5,611.3	0.00	0.00	0.00
12,300.0	90.50	90.00	6,672.3	829.0	5,661.3	5,711.0	0.00	0.00	0.00
12,400.0	90.50	90.00	6,671.4	829.0	5,761.3	5,810.6	0.00	0.00	0.00
12,500.0	90.50	90.00	6,670.5	829.0	5,861.3	5,910.3	0.00	0.00	0.00
12,600.0	90.50	90.00	6,669.7	829.0	5,961.3	6,009.9	0.00	0.00	0.00
12,700.0	90.50	90.00	6,668.8	829.0	6,061.3	6,109.5	0.00	0.00	0.00
12,800.0	90.50	90.00	6,667.9	829.0	6,161.3	6,209.2	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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)
12,900.0	90.50	90.00	6,667.0	829.0	6,261.3	6,308.8	0.00	0.00	0.00
13,000.0	90.50	90.00	6,666.2	829.0	6,361.3	6,408.5	0.00	0.00	0.00
13,100.0	90.50	90.00	6,665.3	829.0	6,461.3	6,508.1	0.00	0.00	0.00
13,200.0	90.50	90.00	6,664.4	829.0	6,561.3	6,607.8	0.00	0.00	0.00
13,300.0	90.50	90.00	6,663.5	829.0	6,661.3	6,707.4	0.00	0.00	0.00
13,400.0	90.50	90.00	6,662.7	829.0	6,761.3	6,807.0	0.00	0.00	0.00
13,500.0	90.50	90.00	6,661.8	829.0	6,861.3	6,906.7	0.00	0.00	0.00
13,600.0	90.50	90.00	6,660.9	829.0	6,961.3	7,006.3	0.00	0.00	0.00
13,700.0	90.50	90.00	6,660.1	829.0	7,061.3	7,106.0	0.00	0.00	0.00
13,800.0	90.50	90.00	6,659.2	829.0	7,161.2	7,205.6	0.00	0.00	0.00
13,822.7	90.50	90.00	6,659.0	829.0	7,184.0	7,228.3	0.00	0.00	0.00
BHL 1065°FSL & 2140°FEL, Sec.25									
13,900.0	90.50	90.00	6,658.3	829.0	7,261.2	7,305.2	0.00	0.00	0.00
14,000.0	90.50	90.00	6,657.4	829.0	7,361.2	7,404.9	0.00	0.00	0.00
14,100.0	90.50	90.00	6,656.6	829.0	7,461.2	7,504.5	0.00	0.00	0.00
14,200.0	90.50	90.00	6,655.7	829.0	7,561.2	7,604.2	0.00	0.00	0.00
14,300.0	90.50	90.00	6,654.8	829.0	7,661.2	7,703.8	0.00	0.00	0.00
14,400.0	90.50	90.00	6,653.9	829.0	7,761.2	7,803.5	0.00	0.00	0.00
14,500.0	90.50	90.00	6,653.1	829.0	7,861.2	7,903.1	0.00	0.00	0.00
14,600.0	90.50	90.00	6,652.2	829.0	7,961.2	8,002.7	0.00	0.00	0.00
14,700.0	90.50	90.00	6,651.3	829.0	8,061.2	8,102.4	0.00	0.00	0.00
14,800.0	90.50	90.00	6,650.5	829.0	8,161.2	8,202.0	0.00	0.00	0.00
14,900.0	90.50	90.00	6,649.6	829.0	8,261.2	8,301.7	0.00	0.00	0.00
15,000.0	90.50	90.00	6,648.7	829.0	8,361.2	8,401.3	0.00	0.00	0.00
15,100.0	90.50	90.00	6,647.8	829.0	8,461.2	8,500.9	0.00	0.00	0.00
15,200.0	90.50	90.00	6,647.0	829.0	8,561.2	8,600.6	0.00	0.00	0.00
15,300.0	90.50	90.00	6,646.1	829.0	8,661.2	8,700.2	0.00	0.00	0.00
15,400.0	90.50	90.00	6,645.2	829.0	8,761.2	8,799.9	0.00	0.00	0.00
15,500.0	90.50	90.00	6,644.3	829.0	8,861.2	8,899.5	0.00	0.00	0.00
15,600.0	90.50	90.00	6,643.5	829.0	8,961.2	8,999.2	0.00	0.00	0.00
15,700.0	90.50	90.00	6,642.6	829.0	9,061.2	9,098.8	0.00	0.00	0.00
15,800.0	90.50	90.00	6,641.7	829.0	9,161.2	9,198.4	0.00	0.00	0.00
15,900.0	90.50	90.00	6,640.9	829.0	9,261.2	9,298.1	0.00	0.00	0.00
16,000.0	90.50	90.00	6,640.0	829.0	9,361.2	9,397.7	0.00	0.00	0.00
16,100.0	90.50	90.00	6,639.1	829.0	9,461.2	9,497.4	0.00	0.00	0.00
16,200.0	90.50	90.00	6,638.2	829.0	9,561.2	9,597.0	0.00	0.00	0.00
16,300.0	90.50	90.00	6,637.4	829.0	9,661.2	9,696.6	0.00	0.00	0.00
16,400.0	90.50	90.00	6,636.5	829.0	9,761.1	9,796.3	0.00	0.00	0.00
16,456.1	90.50	90.00	6,636.0	829.0	9,817.2	9,852.2	0.00	0.00	0.00
TD at 16456.1 - BHL 1055°FSL, 500°FEL, SEC.25									

Database:	US_EDM	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-332	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
Spacing Unit Buffer - 46I - plan misses target center by 5269.6ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Rectangle (sides W9,817.3 H460.0 D0.0)	0.00	0.00	1.0	829.0	5,203.9	1,377,736.43	3,276,733.91	40.366034	-104.506855
SHL 236'FSL, 230'FWL, - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,376,850.35	3,271,539.61	40.363760	-104.525530
BHL 1055'FSL, 500'FEL - plan hits target center - Point	0.00	0.00	6,636.0	829.0	9,817.3	1,377,787.07	3,281,346.74	40.366030	-104.490300

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,229.1	6,716.5	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,563.3	3,523.0	PARKMAN		0.00	
4,216.1	4,166.0	SUSSEX		0.00	
4,808.9	4,750.0	SHANNON		0.00	
6,504.1	6,403.0	SHARON SPRINGS		0.00	
6,713.2	6,553.0	NIOBRARA A		0.00	
6,851.0	6,628.0	NIOBRARA B		0.00	
7,053.8	6,698.0	NIOBRARA C		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
200.0	200.0	0.0	0.0	KOP - Start Build 1.00	
5,374.3	5,306.9	83.6	-18.1	Start Drop -2.00	
5,869.8	5,800.0	787.2	-170.9	Start 152.6 hold at 5869.8 MD	
6,022.4	5,952.6	829.0	-180.0	Start Build 7.50	
7,229.1	6,716.5	829.0	-180.0	Start 9227.0 hold at 7229.1 MD	
16,456.1	6,636.0	829.0	590.6	TD at 16456.1	

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.26-T5N-R64W

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

Loloff Farms 26H-332

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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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	16,456.1	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	13,652.8	6,568.9	379.6	170.1	1.812	CC, ES, SF
Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1	12,323.0	6,559.4	361.3	188.1	2.087	CC, ES, SF
Loustalet 5 (Exist.) - Wellbore #1 - Wellbore #1	13,101.2	6,539.6	187.8	-6.3	0.968	Level 1, CC, ES, SF
Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1	9,727.5	6,600.3	330.3	229.8	3.285	CC, ES, SF
Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1	11,031.2	6,572.4	304.3	165.5	2.193	CC, ES, SF
Schlagel 5-26 (Exist.) - Wellbore #1 - Wellbore #1	10,211.2	6,584.4	334.8	218.5	2.879	CC, ES, SF
Existing Wells Pad Sec.26-T5N-R64W (Grid)						
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,111.7	6,669.2	530.7	497.7	16.084	CC, ES
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,300.0	6,678.7	562.9	526.1	15.312	SF
Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1	8,302.8	6,664.7	454.3	392.1	7.303	CC, ES
Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1	8,400.0	6,664.8	464.6	399.8	7.170	SF
Loloff B 26-25 (Exist.) - Wellbore #1 - Wellbore #1	7,602.7	6,665.6	198.4	154.1	4.478	CC, ES, SF
Loloff B 26-33 (Exist.) - Wellbore #1 - Wellbore #1	5,900.0	5,761.5	303.1	271.9	9.737	ES
Loloff B 26-33 (Exist.) - Wellbore #1 - Wellbore #1	6,022.4	5,882.9	303.4	272.0	9.656	SF
Loloff B 26-33 (Exist.) - Wellbore #1 - Wellbore #1	6,304.0	6,157.7	299.8	272.3	10.875	CC
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	14,987.3	6,577.1	308.6	58.2	1.233	Level 2, CC
Hoshiko 34-25 - Wellbore #1 - Wellbore #1	15,000.0	6,576.9	308.8	58.1	1.232	Level 2, ES, SF
Loloff Farms 5N64W26G Pad Sec.26-T5N-R64W						
Loloff Farms 26H-202 - Wellbore #1 - Extension Plan #1	6,139.5	6,084.9	338.7	309.2	11.471	CC
Loloff Farms 26H-202 - Wellbore #1 - Extension Plan #1	16,456.1	16,343.1	345.2	-199.1	0.634	Level 1, ES, 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
13,000.0	6,666.2	6,639.6	6,636.7	180.2	11.6	103.50	453.5	7,007.2	751.8	564.7	187.16	4.017	
13,100.0	6,665.3	6,628.8	6,625.9	183.0	11.5	101.93	453.0	7,008.2	667.9	477.0	190.90	3.499	

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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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		
13,200.0	6,664.4	6,617.9	6,615.2	185.8	11.5	100.33	452.4	7,009.3	588.8	394.3	194.54	3.027		
13,300.0	6,663.5	6,607.1	6,604.4	188.6	11.5	98.73	451.8	7,010.4	516.8	318.8	198.08	2.609		
13,400.0	6,662.7	6,596.3	6,593.7	191.4	11.5	97.12	451.3	7,011.5	455.3	253.8	201.49	2.260		
13,500.0	6,661.8	6,585.5	6,582.9	194.2	11.5	95.50	450.7	7,012.6	408.9	204.1	204.78	1.997		
13,600.0	6,660.9	6,574.6	6,572.2	197.0	11.4	93.88	450.1	7,013.6	383.3	175.3	207.94	1.843		
13,652.8	6,660.5	6,568.9	6,566.5	198.4	11.4	93.02	449.8	7,014.2	379.6	170.1	209.54	1.812	CC, ES, SF	
13,700.0	6,660.1	6,563.8	6,561.4	199.8	11.4	92.26	449.6	7,014.7	382.5	171.6	210.94	1.813		
13,800.0	6,659.2	6,553.0	6,550.7	202.6	11.4	90.63	449.0	7,015.8	406.9	193.1	213.80	1.903		
13,900.0	6,658.3	6,542.2	6,539.9	205.4	11.4	89.02	448.4	7,016.9	452.3	235.8	216.50	2.089		
14,000.0	6,657.4	6,531.4	6,529.1	208.2	11.4	87.40	447.9	7,017.9	513.1	294.1	219.04	2.343		
14,100.0	6,656.6	6,520.5	6,518.4	211.0	11.3	85.80	447.3	7,019.0	584.6	363.2	221.42	2.640		
14,200.0	6,655.7	6,509.7	6,507.6	213.8	11.3	84.21	446.7	7,020.1	663.4	439.8	223.62	2.967		
14,300.0	6,654.8	6,498.9	6,496.9	216.6	11.3	82.63	446.2	7,021.2	747.1	521.4	225.66	3.311		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,700.0	6,677.5	6,567.7	6,567.3	143.9	12.1	90.98	467.7	5,684.2	720.1	564.3	155.76	4.623		
11,800.0	6,676.6	6,566.4	6,565.9	146.7	12.1	90.77	467.7	5,684.2	635.6	477.0	158.55	4.009		
11,900.0	6,675.8	6,565.0	6,564.6	149.5	12.1	90.56	467.7	5,684.2	556.2	394.9	161.34	3.447		
12,000.0	6,674.9	6,563.7	6,563.3	152.3	12.1	90.35	467.7	5,684.2	484.5	320.4	164.12	2.952		
12,100.0	6,674.0	6,562.4	6,562.0	155.1	12.1	90.14	467.7	5,684.2	424.5	257.6	166.91	2.543		
12,200.0	6,673.1	6,561.1	6,560.6	157.8	12.1	89.93	467.7	5,684.2	381.6	211.9	169.69	2.249		
12,300.0	6,672.3	6,559.7	6,559.3	160.6	12.1	89.72	467.7	5,684.2	362.0	189.5	172.48	2.099		
12,323.0	6,672.1	6,559.4	6,559.0	161.3	12.1	89.67	467.7	5,684.2	361.3	188.1	173.11	2.087	CC, ES, SF	
12,400.0	6,671.4	6,558.4	6,558.0	163.4	12.1	89.51	467.7	5,684.2	369.4	194.1	175.26	2.108		
12,500.0	6,670.5	6,557.1	6,556.6	166.2	12.1	89.30	467.7	5,684.2	402.3	224.3	178.03	2.260		
12,600.0	6,669.7	6,555.7	6,555.3	169.0	12.1	89.09	467.7	5,684.3	455.2	274.4	180.81	2.518		
12,700.0	6,668.8	6,554.4	6,554.0	171.8	12.1	88.88	467.8	5,684.3	522.2	338.6	183.59	2.844		
12,800.0	6,667.9	6,553.1	6,552.7	174.6	12.1	88.67	467.8	5,684.3	598.4	412.0	186.36	3.211		
12,900.0	6,667.0	6,551.8	6,551.3	177.4	12.1	88.46	467.8	5,684.3	680.8	491.6	189.13	3.599		
13,000.0	6,666.2	6,550.4	6,550.0	180.2	12.1	88.24	467.8	5,684.3	767.3	575.4	191.90	3.999		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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	6,671.4	6,615.5	6,612.8	163.4	11.5	-108.86	1,020.5	6,454.9	722.0	556.6	165.35	4.366		
12,500.0	6,670.5	6,604.7	6,602.0	166.2	11.5	-105.98	1,019.9	6,455.9	626.5	455.9	170.55	3.673		
12,600.0	6,669.7	6,593.9	6,591.3	169.0	11.5	-103.00	1,019.3	6,457.0	532.5	357.0	175.51	3.034		
12,700.0	6,668.8	6,583.1	6,580.5	171.8	11.5	-99.92	1,018.8	6,458.1	440.9	260.7	180.15	2.447		
12,800.0	6,667.9	6,572.2	6,569.8	174.6	11.4	-96.77	1,018.2	6,459.2	353.5	169.1	184.38	1.917		
12,900.0	6,667.0	6,561.4	6,559.0	177.4	11.4	-93.55	1,017.6	6,460.3	274.4	86.2	188.14	1.458	Level 3	
13,000.0	6,666.2	6,550.6	6,548.3	180.2	11.4	-90.30	1,017.1	6,461.3	213.0	21.7	191.38	1.113	Level 2	
13,100.0	6,665.3	6,539.8	6,537.5	183.0	11.4	-87.02	1,016.5	6,462.4	187.8	-6.3	194.04	0.968	Level 1	
13,101.2	6,665.3	6,539.6	6,537.4	183.0	11.4	-86.98	1,016.5	6,462.4	187.8	-6.3	194.06	0.968	Level 1, CC, ES, SF	
13,200.0	6,664.4	6,529.0	6,526.8	185.8	11.4	-83.74	1,015.9	6,463.5	211.9	15.8	196.09	1.081	Level 2	
13,300.0	6,663.5	6,518.1	6,516.0	188.6	11.3	-80.48	1,015.4	6,464.6	272.6	75.1	197.53	1.380	Level 3	
13,400.0	6,662.7	6,507.3	6,505.2	191.4	11.3	-77.26	1,014.8	6,465.6	351.4	153.0	198.36	1.771		
13,500.0	6,661.8	6,496.5	6,494.5	194.2	11.3	-74.11	1,014.2	6,466.7	438.7	240.0	198.61	2.209		
13,600.0	6,660.9	6,485.7	6,483.7	197.0	11.3	-71.03	1,013.7	6,467.8	530.2	331.9	198.30	2.674		
13,700.0	6,660.1	6,474.8	6,473.0	199.8	11.2	-68.04	1,013.1	6,468.9	624.2	426.7	197.50	3.160		
13,800.0	6,659.2	6,464.0	6,462.2	202.6	11.2	-65.16	1,012.5	6,469.9	719.6	523.3	196.25	3.667		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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	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)				
9,000.0	6,701.1	6,586.8	6,585.6	69.3	11.8	86.85	498.9	3,088.5	798.8	718.5	80.36	9.941			
9,100.0	6,700.2	6,588.6	6,587.4	72.0	11.8	87.17	498.9	3,088.5	709.0	625.9	83.12	8.529			
9,200.0	6,699.3	6,590.5	6,589.3	74.8	11.8	87.50	498.8	3,088.6	622.3	536.4	85.90	7.245			
9,300.0	6,698.4	6,592.3	6,591.1	77.5	11.8	87.82	498.8	3,088.6	540.2	451.5	88.67	6.092			
9,400.0	6,697.6	6,594.2	6,593.0	80.2	11.8	88.14	498.8	3,088.7	465.1	373.6	91.45	5.086			
9,500.0	6,696.7	6,596.0	6,594.9	83.0	11.8	88.46	498.8	3,088.7	401.0	306.8	94.23	4.256			
9,600.0	6,695.8	6,597.9	6,596.7	85.7	11.8	88.78	498.7	3,088.8	354.1	257.0	97.01	3.650			
9,700.0	6,695.0	6,599.8	6,598.6	88.4	11.8	89.11	498.7	3,088.8	331.5	231.7	99.79	3.321			
9,727.5	6,694.7	6,600.3	6,599.1	89.2	11.8	89.20	498.7	3,088.8	330.3	229.8	100.56	3.285	CC, ES, SF		
9,800.0	6,694.1	6,601.6	6,600.4	91.2	11.8	89.43	498.7	3,088.9	338.2	235.6	102.58	3.297			
9,900.0	6,693.2	6,603.5	6,602.3	93.9	11.8	89.75	498.6	3,088.9	372.7	267.3	105.36	3.537			
10,000.0	6,692.3	6,605.3	6,604.1	96.7	11.8	90.07	498.6	3,089.0	428.2	320.1	108.15	3.960			
10,100.0	6,691.5	6,607.2	6,606.0	99.5	11.8	90.40	498.6	3,089.0	497.8	386.9	110.93	4.488			
10,200.0	6,690.6	6,609.1	6,607.9	102.2	11.8	90.72	498.6	3,089.1	576.5	462.8	113.71	5.070			
10,300.0	6,689.7	6,610.9	6,609.7	105.0	11.8	91.04	498.5	3,089.1	660.9	544.4	116.49	5.674			
10,400.0	6,688.8	6,612.8	6,611.6	107.8	11.8	91.36	498.5	3,089.2	749.2	629.9	119.27	6.281			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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	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)			
10,300.0	6,689.7	6,578.4	6,577.6	105.0	13.8	91.18	524.6	4,392.6	792.0	673.5	118.49	6.684		
10,400.0	6,688.8	6,577.6	6,576.7	107.8	13.8	91.01	524.6	4,392.6	700.7	579.5	121.27	5.778		
10,500.0	6,688.0	6,576.7	6,575.9	110.5	13.8	90.85	524.6	4,392.6	612.2	488.2	124.04	4.935		
10,600.0	6,687.1	6,575.9	6,575.0	113.3	13.8	90.69	524.6	4,392.6	527.8	401.0	126.82	4.162		
10,700.0	6,686.2	6,575.0	6,574.2	116.1	13.8	90.54	524.6	4,392.6	449.8	320.2	129.60	3.471		
10,800.0	6,685.4	6,574.2	6,573.4	118.9	13.8	90.38	524.6	4,392.6	382.2	249.8	132.38	2.887		
10,900.0	6,684.5	6,573.4	6,572.6	121.6	13.8	90.23	524.6	4,392.6	331.4	196.3	135.16	2.452		
11,000.0	6,683.6	6,572.6	6,571.8	124.4	13.8	90.08	524.6	4,392.6	305.9	168.0	137.94	2.218		
11,031.2	6,683.3	6,572.4	6,571.5	125.3	13.8	90.04	524.6	4,392.6	304.3	165.5	138.80	2.193	CC, ES, SF	
11,100.0	6,682.7	6,571.8	6,571.0	127.2	13.8	89.93	524.6	4,392.6	312.0	171.3	140.72	2.217		
11,200.0	6,681.9	6,571.1	6,570.2	130.0	13.8	89.79	524.6	4,392.6	348.0	204.5	143.50	2.425		
11,300.0	6,681.0	6,570.3	6,569.5	132.8	13.8	89.64	524.6	4,392.6	406.0	259.8	146.28	2.776		
11,400.0	6,680.1	6,569.5	6,568.7	135.5	13.8	89.50	524.6	4,392.6	478.1	329.1	149.06	3.208		
11,500.0	6,679.2	6,568.8	6,568.0	138.3	13.8	89.36	524.6	4,392.6	558.9	407.1	151.84	3.681		
11,600.0	6,678.4	6,568.1	6,567.2	141.1	13.8	89.22	524.6	4,392.6	645.1	490.5	154.62	4.172		
11,700.0	6,677.5	6,567.3	6,566.5	143.9	13.8	89.09	524.6	4,392.6	734.8	577.4	157.40	4.668		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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 5-26 (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)			
9,500.0	6,696.7	6,588.5	6,587.3	83.0	14.1	-91.16	1,163.7	3,572.6	786.1	689.5	96.58	8.139		
9,600.0	6,695.8	6,587.9	6,586.8	85.7	14.1	-91.07	1,163.7	3,572.6	696.9	597.6	99.34	7.015		
9,700.0	6,695.0	6,587.4	6,586.2	88.4	14.1	-90.97	1,163.7	3,572.6	611.1	509.0	102.11	5.985		
9,800.0	6,694.1	6,586.8	6,585.6	91.2	14.1	-90.88	1,163.7	3,572.6	530.3	425.4	104.87	5.056		
9,900.0	6,693.2	6,586.2	6,585.0	93.9	14.1	-90.78	1,163.7	3,572.6	457.1	349.5	107.64	4.246		
10,000.0	6,692.3	6,585.7	6,584.5	96.7	14.1	-90.68	1,163.7	3,572.6	395.8	285.4	110.42	3.585		
10,100.0	6,691.5	6,585.1	6,583.9	99.5	14.1	-90.58	1,163.8	3,572.6	352.8	239.6	113.19	3.117		
10,200.0	6,690.6	6,584.5	6,583.3	102.2	14.1	-90.47	1,163.8	3,572.6	335.0	219.0	115.97	2.889		
10,211.2	6,690.5	6,584.4	6,583.2	102.5	14.1	-90.46	1,163.8	3,572.6	334.8	218.5	116.28	2.879	CC, ES, SF	
10,300.0	6,689.7	6,583.8	6,582.7	105.0	14.1	-90.37	1,163.8	3,572.6	346.4	227.6	118.75	2.917		
10,400.0	6,688.8	6,583.2	6,582.0	107.8	14.1	-90.26	1,163.8	3,572.6	384.3	262.8	121.53	3.163		
10,500.0	6,688.0	6,582.6	6,581.4	110.5	14.1	-90.15	1,163.8	3,572.6	442.1	317.8	124.31	3.557		
10,600.0	6,687.1	6,581.9	6,580.8	113.3	14.1	-90.04	1,163.8	3,572.6	513.1	386.0	127.09	4.037		
10,700.0	6,686.2	6,581.3	6,580.1	116.1	14.1	-89.93	1,163.8	3,572.6	592.4	462.6	129.87	4.562		
10,800.0	6,685.4	6,580.6	6,579.4	118.9	14.1	-89.82	1,163.8	3,572.6	677.3	544.6	132.66	5.106		
10,900.0	6,684.5	6,580.0	6,578.8	121.6	14.1	-89.70	1,163.8	3,572.6	765.8	630.4	135.44	5.654		

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad	MD Reference:	WELL @ 4702.0ft (RKB - 23')
	Sec.26-T5N-R64W		
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	57.12	327.9	507.2	605.2					
100.0	100.0	61.5	61.5	0.1	0.1	57.12	327.8	507.2	603.9	603.7	0.19	3,111.490		
200.0	200.0	163.1	163.1	0.3	0.3	57.15	327.4	507.2	603.7	603.1	0.63	954.390		
300.0	300.0	263.5	263.5	0.6	0.6	69.52	326.9	507.0	603.0	601.9	1.12	539.405		
400.0	400.0	360.3	360.3	0.8	0.7	69.78	326.6	507.0	601.9	600.3	1.54	392.025		
500.0	499.9	459.9	459.9	1.0	0.9	70.19	326.6	507.3	600.6	598.7	1.93	310.653		
600.0	599.7	558.6	558.5	1.3	1.1	70.76	326.7	507.4	598.7	596.4	2.33	257.314		
700.0	699.4	658.0	658.0	1.5	1.2	71.42	327.5	507.5	596.7	594.0	2.69	222.103		
800.0	798.9	758.7	758.7	1.8	1.3	72.29	328.0	507.5	593.9	590.9	3.06	194.189		
900.0	898.3	858.7	858.7	2.0	1.4	73.28	328.9	507.2	590.7	587.2	3.47	170.023		
1,000.0	997.4	957.4	957.4	2.3	1.6	74.48	329.3	507.0	587.2	583.2	3.94	149.130		
1,100.0	1,096.3	1,057.3	1,057.3	2.7	1.8	75.89	329.5	507.1	583.5	579.1	4.44	131.393		
1,191.2	1,186.2	1,147.4	1,147.3	3.0	2.0	77.32	329.7	506.9	579.9	575.0	4.92	117.760		
1,200.0	1,194.9	1,155.9	1,155.8	3.0	2.0	77.46	329.7	506.9	579.6	574.6	4.97	116.560		
1,300.0	1,293.4	1,253.5	1,253.5	3.4	2.2	79.06	330.1	506.9	576.2	570.6	5.53	104.096		
1,400.0	1,391.9	1,353.2	1,353.2	3.7	2.4	80.71	330.4	506.9	573.2	567.1	6.12	93.662		
1,500.0	1,490.5	1,453.8	1,453.8	4.1	2.6	82.37	331.0	506.4	570.4	563.7	6.71	85.005		
1,600.0	1,589.0	1,553.7	1,553.7	4.5	2.8	83.97	331.9	505.5	567.7	560.4	7.30	77.720		
1,700.0	1,687.5	1,652.9	1,652.9	4.9	3.1	85.54	333.1	504.4	565.4	557.5	7.91	71.500		
1,800.0	1,786.0	1,751.0	1,750.9	5.2	3.3	87.10	334.4	503.2	563.5	555.0	8.52	66.162		
1,900.0	1,884.5	1,848.3	1,848.3	5.6	3.5	88.66	335.6	502.3	562.3	553.1	9.13	61.576		
2,000.0	1,983.0	1,945.8	1,945.7	6.0	3.8	90.25	336.6	501.7	561.7	551.9	9.75	57.604		
2,028.8	2,011.3	1,973.6	1,973.5	6.1	3.8	90.72	336.9	501.5	561.6	551.7	9.93	56.567		
2,100.0	2,081.5	2,042.8	2,042.7	6.4	4.0	91.89	337.3	501.4	561.8	551.5	10.36	54.241		
2,200.0	2,180.0	2,141.2	2,141.1	6.8	4.2	93.60	337.4	501.4	562.7	551.8	10.92	51.549		
2,300.0	2,278.5	2,239.9	2,239.8	7.1	4.3	95.35	337.1	501.3	564.0	552.6	11.40	49.482		
2,400.0	2,377.0	2,336.6	2,336.5	7.5	4.4	97.09	336.6	501.5	565.9	554.1	11.84	47.785		
2,500.0	2,475.5	2,431.7	2,431.7	7.9	4.4	98.80	335.8	502.0	568.9	556.6	12.30	46.268		
2,600.0	2,574.0	2,526.4	2,526.3	8.3	4.5	100.56	334.4	503.3	573.1	560.3	12.75	44.931		
2,700.0	2,672.5	2,624.4	2,624.3	8.7	4.7	102.39	332.5	504.8	578.2	564.9	13.22	43.725		
2,800.0	2,771.1	2,723.1	2,722.9	9.1	4.8	104.22	330.5	506.4	583.8	570.1	13.70	42.629		
2,900.0	2,869.6	2,823.1	2,822.9	9.4	4.9	106.05	328.3	507.7	589.8	575.7	14.17	41.621		
3,000.0	2,968.1	2,924.4	2,924.2	9.8	5.1	107.86	326.2	508.6	596.0	581.4	14.65	40.682		
3,100.0	3,066.6	3,026.0	3,025.8	10.2	5.2	109.61	324.4	508.9	602.2	587.0	15.13	39.795		
3,200.0	3,165.1	3,125.4	3,125.2	10.6	5.4	111.27	322.8	508.9	608.5	592.8	15.61	38.976		
3,300.0	3,263.6	3,223.8	3,223.6	11.0	5.5	112.90	321.2	508.8	615.2	599.1	16.09	38.234		
3,400.0	3,362.1	3,323.0	3,322.7	11.4	5.7	114.54	319.1	508.5	622.3	605.8	16.57	37.561		
3,500.0	3,460.6	3,425.0	3,424.7	11.8	5.9	116.24	316.5	507.7	629.6	612.6	17.05	36.934		
3,600.0	3,559.1	3,527.9	3,527.5	12.2	6.1	117.98	313.5	505.9	636.7	619.2	17.52	36.333		
3,700.0	3,657.6	3,628.1	3,627.6	12.5	6.3	119.67	310.2	503.6	643.8	625.8	17.99	35.781		
3,800.0	3,756.1	3,726.6	3,726.0	12.9	6.5	121.31	307.0	501.0	651.1	632.7	18.45	35.283		
3,900.0	3,854.6	3,825.0	3,824.4	13.3	6.7	122.92	303.5	498.5	659.2	640.3	18.91	34.850		
4,000.0	3,953.1	3,930.1	3,929.3	13.7	6.9	124.56	300.6	495.2	666.9	647.6	19.38	34.414		
4,100.0	4,051.6	4,031.1	4,030.3	14.1	7.1	126.05	298.6	491.6	674.5	654.7	19.84	34.001		
4,200.0	4,150.2	4,131.8	4,130.9	14.5	7.3	127.48	297.1	487.9	682.2	661.9	20.29	33.614		
4,300.0	4,248.7	4,232.3	4,231.3	14.9	7.5	128.86	295.8	483.8	689.8	669.1	20.75	33.252		
4,400.0	4,347.2	4,331.2	4,330.1	15.3	7.7	130.16	294.9	479.8	697.7	676.5	21.19	32.919		
4,500.0	4,445.7	4,428.4	4,427.3	15.6	7.9	131.41	294.1	476.0	706.0	684.4	21.64	32.626		
4,600.0	4,544.2	4,527.2	4,526.0	16.0	8.1	132.63	293.3	472.3	714.7	692.6	22.09	32.362		
4,700.0	4,642.7	4,625.2	4,623.9	16.4	8.4	133.77	293.1	468.8	723.6	701.1	22.53	32.120		
4,800.0	4,741.2	4,717.8	4,716.5	16.8	8.6	134.76	293.4	466.4	733.4	710.4	22.96	31.937		

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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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)				
4,900.0	4,839.7	4,812.3	4,810.9	17.2	8.7	135.66	294.1	465.0	744.1	720.7	23.39	31.811			
5,000.0	4,938.2	4,912.5	4,911.2	17.6	8.9	136.55	295.3	464.1	755.1	731.3	23.81	31.711			
5,100.0	5,036.7	5,010.8	5,009.4	18.0	9.1	137.39	296.6	463.0	766.2	741.9	24.23	31.620			
5,200.0	5,135.2	5,104.3	5,103.0	18.4	9.3	138.18	297.4	462.3	777.8	753.2	24.65	31.559			
5,300.0	5,233.7	5,203.9	5,202.5	18.8	9.5	138.99	298.2	461.7	789.9	764.8	25.07	31.510			
5,374.3	5,306.9	5,272.6	5,271.2	19.0	9.6	139.52	298.9	461.6	799.1	773.8	25.36	31.515			
6,300.0	6,224.1	6,183.0	6,181.6	20.5	10.8	43.43	299.9	466.5	797.4	771.1	26.34	30.273			
6,350.0	6,270.2	6,227.9	6,226.5	20.6	10.9	45.09	300.0	466.8	783.3	757.3	26.01	30.120			
6,400.0	6,315.0	6,270.5	6,269.1	20.6	10.9	47.04	300.1	467.3	767.4	741.7	25.67	29.888			
6,450.0	6,358.2	6,312.1	6,310.7	20.6	11.0	49.32	300.0	467.9	749.8	724.4	25.38	29.539			
6,500.0	6,399.7	6,353.0	6,351.6	20.6	11.1	51.96	299.9	468.5	730.8	705.6	25.18	29.025			
6,550.0	6,439.2	6,392.2	6,390.8	20.7	11.1	54.93	299.9	469.1	710.5	685.4	25.10	28.312			
6,600.0	6,476.7	6,429.7	6,428.3	20.7	11.2	58.23	299.7	469.8	689.4	664.2	25.18	27.378			
6,650.0	6,511.9	6,465.1	6,463.7	20.7	11.2	61.80	299.6	470.4	667.7	642.3	25.45	26.233			
6,700.0	6,544.8	6,498.2	6,496.7	20.8	11.3	65.57	299.5	471.0	645.9	620.0	25.91	24.924			
6,750.0	6,575.1	6,528.3	6,526.9	20.9	11.3	69.40	299.3	471.5	624.4	597.9	26.54	23.527			
6,800.0	6,602.7	6,555.9	6,554.5	21.0	11.4	73.22	299.1	472.0	603.8	576.5	27.30	22.121			
6,850.0	6,627.5	6,580.9	6,579.4	21.1	11.4	76.88	298.9	472.5	584.6	556.5	28.14	20.779			
6,900.0	6,649.5	6,603.4	6,601.9	21.3	11.5	80.31	298.7	472.9	567.5	538.5	29.03	19.551			
6,950.0	6,668.5	6,624.6	6,623.1	21.6	11.5	83.50	298.5	473.3	553.0	523.0	29.95	18.462			
7,000.0	6,684.4	6,642.3	6,640.8	22.0	11.5	86.16	298.4	473.5	541.7	510.8	30.88	17.540			
7,050.0	6,697.2	6,656.5	6,655.0	22.5	11.6	88.20	298.4	473.7	534.1	502.3	31.82	16.788			
7,100.0	6,706.8	6,667.2	6,665.7	23.1	11.6	89.58	298.3	473.8	530.8	498.1	32.77	16.201			
7,111.7	6,708.5	6,669.2	6,667.7	23.3	11.6	89.80	298.3	473.9	530.7	497.7	33.00	16.084 CC, ES			
7,150.0	6,713.1	6,674.4	6,672.9	23.8	11.6	90.25	298.3	473.9	532.1	498.3	33.73	15.772			
7,200.0	6,716.2	6,678.1	6,676.6	24.7	11.6	90.21	298.3	474.0	537.9	503.2	34.72	15.494			
7,229.1	6,716.5	6,678.7	6,677.2	25.2	11.6	89.86	298.3	474.0	543.4	508.1	35.29	15.399			
7,300.0	6,715.9	6,678.7	6,677.3	26.5	11.6	89.86	298.3	474.0	562.9	526.1	36.76	15.312 SF			
7,400.0	6,715.0	6,678.8	6,677.3	28.6	11.6	89.87	298.3	474.0	603.6	564.7	38.95	15.496			
7,500.0	6,714.2	6,678.9	6,677.4	30.8	11.6	89.88	298.3	474.0	657.2	615.9	41.25	15.932			
7,600.0	6,713.3	6,678.9	6,677.4	33.0	11.6	89.88	298.3	474.0	720.7	677.0	43.62	16.520			
7,700.0	6,712.4	6,679.0	6,677.5	35.4	11.6	89.89	298.3	474.0	791.7	745.7	46.07	17.187			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
7,700.0	6,712.4	6,664.3	6,663.3	35.4	12.2	89.89	374.7	1,664.3	754.8	708.2	46.65	16.180		
7,800.0	6,711.5	6,664.3	6,663.4	37.8	12.2	89.90	374.7	1,664.3	677.6	628.5	49.15	13.788		
7,900.0	6,710.7	6,664.4	6,663.5	40.3	12.2	89.91	374.7	1,664.3	607.2	555.5	51.69	11.747		
8,000.0	6,709.8	6,664.5	6,663.5	42.9	12.2	89.92	374.7	1,664.3	546.0	491.7	54.26	10.062		
8,100.0	6,708.9	6,664.6	6,663.6	45.4	12.2	89.93	374.7	1,664.3	497.5	440.6	56.86	8.750		
8,200.0	6,708.0	6,664.6	6,663.7	48.0	12.2	89.94	374.7	1,664.3	465.8	406.3	59.48	7.830		
8,300.0	6,707.2	6,664.7	6,663.8	50.6	12.2	89.95	374.7	1,664.3	454.3	392.2	62.13	7.312		
8,302.8	6,707.1	6,664.7	6,663.8	50.7	12.2	89.95	374.7	1,664.3	454.3	392.1	62.20	7.303 CC, ES		
8,400.0	6,706.3	6,664.8	6,663.9	53.2	12.2	89.96	374.7	1,664.3	464.6	399.8	64.79	7.170 SF		
8,500.0	6,705.4	6,664.9	6,663.9	55.9	12.2	89.97	374.7	1,664.3	495.2	427.8	67.47	7.340		
8,600.0	6,704.6	6,665.0	6,664.0	58.5	12.2	89.98	374.7	1,664.3	542.9	472.7	70.16	7.738		
8,700.0	6,703.7	6,665.0	6,664.1	61.2	12.2	89.99	374.7	1,664.3	603.4	530.6	72.86	8.282		
8,800.0	6,702.8	6,665.1	6,664.2	63.9	12.2	90.00	374.7	1,664.3	673.5	597.9	75.57	8.912		
8,900.0	6,701.9	6,665.2	6,664.3	66.6	12.2	90.01	374.7	1,664.3	750.3	672.0	78.29	9.584		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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							
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)			
6,850.0	6,627.5	6,569.0	6,566.7	21.1	12.2	-30.44	1,032.3	962.9	764.4	742.7	21.71	35.214		
6,900.0	6,649.5	6,592.1	6,589.7	21.3	12.3	-35.47	1,030.9	963.3	721.2	698.7	22.44	32.143		
6,950.0	6,668.5	6,612.4	6,609.9	21.6	12.3	-41.84	1,029.8	963.6	676.9	652.8	24.04	28.158		
7,000.0	6,684.4	6,629.5	6,627.0	22.0	12.3	-49.72	1,029.0	963.8	631.7	605.2	26.48	23.859		
7,050.0	6,697.2	6,643.3	6,640.8	22.5	12.3	-58.99	1,028.3	964.0	586.0	556.6	29.41	19.927		
7,100.0	6,706.8	6,653.6	6,651.1	23.1	12.4	-69.12	1,027.8	964.1	540.0	507.8	32.22	16.762		
7,150.0	6,713.1	6,660.5	6,658.0	23.8	12.4	-79.16	1,027.4	964.2	494.2	459.9	34.33	14.396		
7,200.0	6,716.2	6,664.1	6,661.6	24.7	12.4	-88.15	1,027.2	964.2	448.9	413.4	35.55	12.629		
7,229.1	6,716.5	6,664.7	6,662.3	25.2	12.4	-92.60	1,027.2	964.2	423.0	387.1	35.92	11.775		
7,300.0	6,715.9	6,664.9	6,662.4	26.5	12.4	-92.64	1,027.2	964.2	361.9	324.5	37.39	9.679		
7,400.0	6,715.0	6,665.1	6,662.6	28.6	12.4	-92.71	1,027.2	964.2	283.6	244.1	39.58	7.166		
7,500.0	6,714.2	6,665.3	6,662.9	30.8	12.4	-92.77	1,027.2	964.2	223.4	181.5	41.87	5.336		
7,600.0	6,713.3	6,665.6	6,663.1	33.0	12.4	-92.84	1,027.2	964.2	198.4	154.2	44.24	4.485		
7,602.7	6,713.3	6,665.6	6,663.1	33.1	12.4	-92.84	1,027.2	964.2	198.4	154.1	44.31	4.478	CC, ES, SF	
7,700.0	6,712.4	6,665.8	6,663.3	35.4	12.4	-92.90	1,027.2	964.3	221.0	174.3	46.68	4.735		
7,800.0	6,711.5	6,666.0	6,663.5	37.8	12.4	-92.97	1,027.1	964.3	279.8	230.7	49.17	5.692		
7,900.0	6,710.7	6,666.2	6,663.8	40.3	12.4	-93.03	1,027.1	964.3	357.5	305.8	51.70	6.915		
8,000.0	6,709.8	6,666.5	6,664.0	42.9	12.4	-93.10	1,027.1	964.3	444.1	389.9	54.26	8.185		
8,100.0	6,708.9	6,666.7	6,664.2	45.4	12.4	-93.16	1,027.1	964.3	535.4	478.6	56.85	9.418		
8,200.0	6,708.0	6,666.9	6,664.4	48.0	12.4	-93.22	1,027.1	964.3	629.4	569.9	59.47	10.584		
8,300.0	6,707.2	6,667.1	6,664.6	50.6	12.4	-93.29	1,027.1	964.3	725.0	662.9	62.11	11.674		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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 26-33 (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)				
2,700.0	2,672.5	2,587.1	2,586.8	8.7	6.5	12.61	1,123.3	-70.2	786.1	773.1	12.99	60.518			
2,800.0	2,771.1	2,686.0	2,685.6	9.1	6.8	12.85	1,125.3	-70.8	771.3	757.8	13.51	57.083			
2,900.0	2,869.6	2,788.8	2,788.4	9.4	7.0	13.11	1,127.2	-71.3	756.3	742.2	14.04	53.848			
3,000.0	2,968.1	2,889.4	2,889.0	9.8	7.3	13.41	1,128.5	-71.4	740.8	726.3	14.55	50.905			
3,100.0	3,066.6	2,990.8	2,990.4	10.2	7.5	13.78	1,129.5	-70.8	725.1	710.1	15.02	48.278			
3,200.0	3,165.1	3,093.2	3,092.7	10.6	7.6	14.19	1,130.1	-69.9	709.0	693.6	15.43	45.954			
3,300.0	3,263.6	3,195.1	3,194.6	11.0	7.7	14.65	1,130.2	-68.7	692.4	676.6	15.78	43.879			
3,400.0	3,362.1	3,294.3	3,293.9	11.4	7.7	15.10	1,129.9	-67.9	675.5	659.4	16.09	41.976			
3,500.0	3,460.6	3,390.0	3,389.6	11.8	7.8	15.49	1,129.9	-67.7	658.8	642.3	16.49	39.948			
3,600.0	3,559.1	3,490.5	3,490.0	12.2	8.0	15.85	1,129.9	-68.3	642.3	625.3	16.97	37.845			
3,700.0	3,657.6	3,588.3	3,587.9	12.5	8.2	16.18	1,129.9	-69.4	625.6	608.2	17.43	35.885			
3,800.0	3,756.1	3,687.8	3,687.4	12.9	8.4	16.52	1,129.9	-70.7	609.0	591.1	17.90	34.014			
3,900.0	3,854.6	3,786.6	3,786.1	13.3	8.6	16.84	1,129.8	-72.2	592.2	573.9	18.37	32.235			
4,000.0	3,953.1	3,885.1	3,884.6	13.7	8.8	17.16	1,129.6	-73.9	575.5	556.7	18.85	30.538			
4,100.0	4,051.6	3,984.4	3,983.8	14.1	9.0	17.51	1,129.5	-75.7	558.7	539.4	19.32	28.915			
4,200.0	4,150.2	4,081.0	4,080.5	14.5	9.2	17.79	1,129.4	-78.1	542.1	522.2	19.81	27.369			
4,300.0	4,248.7	4,178.5	4,177.9	14.9	9.4	17.97	1,129.8	-81.6	525.7	505.4	20.30	25.900			
4,400.0	4,347.2	4,275.7	4,275.0	15.3	9.6	18.07	1,130.5	-85.8	509.6	488.8	20.80	24.505			
4,500.0	4,445.7	4,375.2	4,374.4	15.6	9.8	18.13	1,131.4	-90.5	493.6	472.3	21.30	23.175			
4,600.0	4,544.2	4,476.5	4,475.5	16.0	10.1	18.15	1,131.9	-95.8	477.3	455.5	21.80	21.891			
4,700.0	4,642.7	4,574.2	4,573.0	16.4	10.3	18.02	1,132.3	-102.0	460.6	438.3	22.29	20.668			
4,800.0	4,741.2	4,674.2	4,672.8	16.8	10.5	17.78	1,132.8	-109.2	444.1	421.3	22.77	19.504			
4,900.0	4,839.7	4,773.8	4,772.2	17.2	10.7	17.60	1,132.9	-115.7	427.1	403.9	23.25	18.370			
5,000.0	4,938.2	4,872.1	4,870.4	17.6	11.0	17.59	1,132.8	-120.9	410.2	386.4	23.74	17.275			
5,100.0	5,036.7	4,972.0	4,970.1	18.0	11.2	17.78	1,132.5	-124.9	393.1	368.9	24.24	16.217			
5,200.0	5,135.2	5,072.3	5,070.4	18.4	11.4	18.22	1,131.6	-127.4	375.6	350.9	24.73	15.191			
5,300.0	5,233.7	5,172.0	5,170.1	18.8	11.5	18.96	1,130.1	-128.4	357.7	332.5	25.17	14.213			
5,374.3	5,306.9	5,245.1	5,243.2	19.0	11.5	19.70	1,128.7	-128.3	344.2	318.8	25.47	13.516			
5,400.0	5,332.3	5,270.3	5,268.4	19.1	11.5	19.95	1,128.3	-128.1	339.7	314.1	25.58	13.283			
5,500.0	5,431.2	5,365.7	5,363.8	19.4	11.6	20.87	1,126.8	-127.3	324.6	298.7	25.93	12.520			
5,600.0	5,530.6	5,462.0	5,460.0	19.6	11.6	21.66	1,126.4	-126.5	314.0	287.7	26.24	11.963			
5,700.0	5,630.3	5,561.1	5,559.2	19.8	11.7	22.27	1,126.6	-125.6	307.2	280.7	26.54	11.575			
5,800.0	5,730.2	5,661.4	5,659.5	20.0	11.8	22.65	1,126.8	-125.0	303.6	276.8	26.79	11.334			
5,863.9	5,794.0	5,725.4	5,723.4	20.1	11.8	22.77	1,126.9	-124.7	303.0	276.1	26.92	11.257			
5,869.8	5,800.0	5,731.4	5,729.4	20.1	11.8	10.52	1,126.9	-124.7	303.0	271.9	31.06	9.755			
5,900.0	5,830.2	5,761.5	5,759.6	20.1	11.8	10.55	1,126.9	-124.5	303.1	271.9	31.12	9.737 ES			
6,000.0	5,930.2	5,860.8	5,858.8	20.3	11.9	10.64	1,127.1	-124.0	303.3	271.9	31.36	9.671			
6,022.4	5,952.6	5,882.9	5,881.0	20.3	12.0	10.66	1,127.2	-123.9	303.4	272.0	31.42	9.656 SF			
6,050.0	5,980.2	5,910.3	5,908.3	20.3	12.0	-79.41	1,127.3	-123.8	303.5	276.0	27.46	11.051			
6,100.0	6,030.0	5,960.1	5,958.1	20.4	12.1	-80.05	1,127.6	-123.6	303.2	275.6	27.58	10.994			
6,150.0	6,079.6	6,009.6	6,007.6	20.4	12.2	-81.32	1,127.9	-123.4	302.4	274.8	27.62	10.949			
6,200.0	6,128.6	6,058.7	6,056.8	20.5	12.3	-83.23	1,128.2	-123.4	301.4	273.7	27.62	10.910			
6,250.0	6,176.8	6,107.0	6,105.1	20.5	12.4	-85.70	1,128.5	-123.3	300.4	272.8	27.60	10.884			
6,300.0	6,224.1	6,154.0	6,152.0	20.5	12.5	-88.65	1,128.8	-123.3	299.8	272.3	27.57	10.875			
6,304.0	6,227.8	6,157.7	6,155.8	20.6	12.5	-88.90	1,128.8	-123.3	299.8	272.3	27.57	10.875 CC			
6,350.0	6,270.2	6,200.0	6,198.0	20.6	12.6	-92.00	1,129.1	-123.3	300.4	272.8	27.57	10.897			
6,400.0	6,315.0	6,244.4	6,242.5	20.6	12.7	-95.59	1,129.5	-123.3	302.5	274.9	27.58	10.966			
6,450.0	6,358.2	6,287.5	6,285.5	20.6	12.8	-99.31	1,129.8	-123.3	306.8	279.1	27.62	11.105			
6,500.0	6,399.7	6,329.3	6,327.3	20.6	12.9	-103.05	1,130.2	-123.3	313.7	286.1	27.66	11.341			
6,550.0	6,439.2	6,369.3	6,367.4	20.7	13.0	-106.63	1,130.5	-123.3	323.9	296.2	27.69	11.696			
6,600.0	6,476.7	6,407.1	6,405.1	20.7	13.1	-109.88	1,130.7	-123.3	337.6	309.9	27.69	12.192			

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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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 26-33 (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)				
6,650.0	6,511.9	6,441.9	6,439.9	20.7	13.2	-112.62	1,130.9	-123.3	355.1	327.4	27.66	12.836			
6,700.0	6,544.8	6,474.2	6,472.2	20.8	13.2	-114.86	1,131.1	-123.3	376.5	348.8	27.62	13.629			
6,750.0	6,575.1	6,504.2	6,502.2	20.9	13.3	-116.54	1,131.3	-123.4	401.7	374.1	27.61	14.550			
6,800.0	6,602.7	6,532.5	6,530.6	21.0	13.4	-117.72	1,131.5	-123.4	430.4	402.8	27.64	15.571			
6,850.0	6,627.5	6,558.1	6,556.2	21.1	13.4	-118.23	1,131.7	-123.4	462.4	434.6	27.80	16.629			
6,900.0	6,649.5	6,580.9	6,578.9	21.3	13.5	-118.01	1,131.8	-123.4	497.2	469.1	28.16	17.655			
6,950.0	6,668.5	6,600.6	6,598.7	21.6	13.5	-116.95	1,131.9	-123.4	534.7	505.9	28.79	18.572			
7,000.0	6,684.4	6,617.1	6,615.1	22.0	13.5	-114.93	1,131.9	-123.3	574.3	544.6	29.73	19.316			
7,050.0	6,697.2	6,630.3	6,628.3	22.5	13.5	-111.80	1,131.9	-123.3	615.9	584.9	31.04	19.842			
7,100.0	6,706.8	6,640.2	6,638.3	23.1	13.6	-107.40	1,131.9	-123.3	659.0	626.3	32.69	20.161			
7,150.0	6,713.1	6,646.9	6,644.9	23.8	13.6	-101.55	1,131.9	-123.2	703.4	668.9	34.56	20.354			
7,200.0	6,716.2	6,650.2	6,648.2	24.7	13.6	-94.17	1,131.9	-123.2	748.8	712.4	36.40	20.571			
7,229.1	6,716.5	6,650.5	6,648.6	25.2	13.6	-89.21	1,131.9	-123.2	775.5	738.2	37.30	20.789			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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
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		
14,300.0	6,654.8	6,586.4	6,556.4	216.6	14.8	91.22	520.3	8,348.5	753.4	522.2	231.12	3.260			
14,400.0	6,653.9	6,585.1	6,555.0	219.4	14.8	90.97	520.3	8,348.5	663.4	429.5	233.93	2.836			
14,500.0	6,653.1	6,583.7	6,553.7	222.2	14.8	90.71	520.3	8,348.5	576.8	340.0	236.73	2.436			
14,600.0	6,652.2	6,582.3	6,552.3	225.0	14.8	90.46	520.4	8,348.5	495.2	255.7	239.53	2.067			
14,700.0	6,651.3	6,581.0	6,550.9	227.8	14.8	90.21	520.4	8,348.5	421.6	179.3	242.33	1.740			
14,800.0	6,650.5	6,579.6	6,549.6	230.6	14.8	89.96	520.4	8,348.5	361.0	115.9	245.12	1.473	Level 3		
14,900.0	6,649.6	6,578.3	6,548.3	233.4	14.8	89.71	520.4	8,348.5	320.7	72.8	247.91	1.294	Level 3		
14,987.3	6,648.8	6,577.1	6,547.1	235.8	14.8	89.49	520.4	8,348.5	308.6	58.2	250.34	1.233	Level 2, CC		
15,000.0	6,648.7	6,576.9	6,546.9	236.2	14.8	89.46	520.4	8,348.5	308.8	58.1	250.69	1.232	Level 2, ES, SF		
15,100.0	6,647.8	6,575.6	6,545.6	239.0	14.8	89.22	520.4	8,348.5	328.5	75.0	253.47	1.296	Level 3		
15,200.0	6,647.0	6,574.3	6,544.3	241.8	14.8	88.97	520.4	8,348.5	374.7	118.5	256.25	1.462	Level 3		
15,300.0	6,646.1	6,573.0	6,543.0	244.6	14.8	88.73	520.4	8,348.5	439.3	180.2	259.02	1.696			
15,400.0	6,645.2	6,571.7	6,541.6	247.4	14.8	88.48	520.4	8,348.5	515.2	253.5	261.79	1.968			
15,500.0	6,644.3	6,570.4	6,540.3	250.2	14.8	88.24	520.5	8,348.5	598.3	333.8	264.55	2.262			
15,600.0	6,643.5	6,569.1	6,539.0	253.0	14.8	88.00	520.5	8,348.6	685.9	418.6	267.30	2.566			
15,700.0	6,642.6	6,567.8	6,537.7	255.8	14.8	87.76	520.5	8,348.6	776.5	506.5	270.06	2.875			

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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		Loloff Farms 5N64W26G Pad Sec.26-T5N-R64W - Loloff Farms 26H-202 - Wellbore #1 - Extension Plan											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
4,300.0	4,248.7	4,386.0	4,326.5	14.9	16.2	11.82	1,388.9	-145.0	795.4	774.2	21.27	37.404			
4,400.0	4,347.2	4,480.0	4,418.8	15.3	16.6	11.77	1,372.0	-148.7	761.2	739.4	21.77	34.968			
4,500.0	4,445.7	4,573.9	4,511.1	15.6	17.0	11.72	1,355.1	-152.3	726.9	704.6	22.27	32.641			
4,600.0	4,544.2	4,667.8	4,603.5	16.0	17.4	11.66	1,338.2	-156.0	692.6	669.8	22.77	30.416			
4,700.0	4,642.7	4,761.8	4,695.8	16.4	17.7	11.60	1,321.3	-159.6	658.3	635.0	23.27	28.286			
4,800.0	4,741.2	4,855.7	4,788.1	16.8	18.1	11.53	1,304.3	-163.3	624.0	600.2	23.77	26.246			
4,900.0	4,839.7	4,949.6	4,880.4	17.2	18.5	11.46	1,287.4	-166.9	589.7	565.4	24.28	24.291			
5,000.0	4,938.2	5,043.6	4,972.8	17.6	18.9	11.37	1,270.5	-170.6	555.4	530.6	24.78	22.414			
5,100.0	5,036.7	5,137.5	5,065.1	18.0	19.3	11.28	1,253.6	-174.2	521.1	495.8	25.28	20.612			
5,200.0	5,135.2	5,231.4	5,157.4	18.4	19.7	11.17	1,236.7	-177.9	486.8	461.0	25.79	18.879			
5,300.0	5,233.7	5,325.4	5,249.7	18.8	20.1	11.04	1,219.8	-181.5	452.6	426.3	26.29	17.213			
5,374.3	5,306.9	5,389.2	5,312.5	19.0	20.3	10.95	1,208.6	-184.0	427.4	400.8	26.64	16.046			
5,400.0	5,332.3	5,410.5	5,333.5	19.1	20.4	10.89	1,205.1	-184.7	419.1	392.3	26.78	15.649			
5,500.0	5,431.2	5,500.0	5,422.1	19.4	20.6	10.67	1,192.2	-187.5	390.7	363.4	27.29	14.315			
5,600.0	5,530.6	5,581.2	5,502.6	19.6	20.8	10.49	1,182.8	-189.5	368.3	340.6	27.74	13.277			
5,700.0	5,630.3	5,669.1	5,590.3	19.8	21.0	10.32	1,175.2	-191.2	352.3	324.1	28.15	12.512			
5,800.0	5,730.2	5,758.2	5,679.2	20.0	21.1	10.18	1,170.2	-192.2	342.6	314.0	28.51	12.013			
5,869.8	5,800.0	5,820.7	5,741.7	20.1	21.2	-2.14	1,168.3	-192.7	339.6	298.8	40.76	8.332			
5,900.0	5,830.2	5,847.8	5,768.7	20.1	21.2	-2.15	1,167.9	-192.8	339.1	298.3	40.83	8.305			
6,000.0	5,930.2	5,944.9	5,865.8	20.3	21.4	-1.96	1,167.7	-191.6	338.9	297.8	41.09	8.248			
6,022.4	5,952.6	5,967.6	5,888.5	20.3	21.4	-1.69	1,167.7	-190.0	338.9	297.7	41.15	8.234			
6,050.0	5,980.2	5,995.4	5,916.1	20.3	21.4	-91.29	1,167.7	-187.1	338.8	309.5	29.33	11.551			
6,100.0	6,030.0	6,045.5	5,965.7	20.4	21.4	-90.57	1,167.7	-179.4	338.7	309.3	29.45	11.503			
6,139.5	6,069.2	6,084.9	6,004.2	20.4	21.5	-90.00	1,167.7	-171.1	338.7	309.2	29.53	11.471	CC		
6,150.0	6,079.6	6,095.4	6,014.3	20.4	21.5	-89.85	1,167.7	-168.5	338.7	309.2	29.55	11.463			
6,200.0	6,128.6	6,145.1	6,061.9	20.5	21.5	-89.13	1,167.7	-154.5	338.8	309.1	29.64	11.429			
6,250.0	6,176.8	6,194.4	6,108.3	20.5	21.5	-88.41	1,167.7	-137.6	338.8	309.1	29.73	11.398			
6,300.0	6,224.1	6,243.5	6,153.2	20.5	21.5	-87.71	1,167.7	-117.9	339.0	309.2	29.82	11.369			
6,350.0	6,270.2	6,292.3	6,196.6	20.6	21.6	-87.01	1,167.7	-95.4	339.2	309.3	29.92	11.336			
6,400.0	6,315.0	6,340.9	6,238.2	20.6	21.6	-86.34	1,167.7	-70.3	339.4	309.4	30.05	11.297			
6,450.0	6,358.2	6,389.2	6,277.9	20.6	21.6	-85.67	1,167.7	-42.8	339.7	309.5	30.21	11.246			
6,500.0	6,399.7	6,437.4	6,315.6	20.6	21.6	-85.03	1,167.7	-13.0	340.0	309.6	30.42	11.178			
6,550.0	6,439.2	6,485.3	6,351.3	20.7	21.6	-84.42	1,167.7	19.0	340.3	309.7	30.69	11.088			
6,600.0	6,476.7	6,532.9	6,384.7	20.7	21.7	-83.82	1,167.7	53.0	340.7	309.7	31.04	10.976			
6,650.0	6,511.9	6,580.4	6,415.8	20.7	21.7	-83.26	1,167.7	88.9	341.1	309.6	31.50	10.828			
6,700.0	6,544.8	6,627.7	6,444.5	20.8	21.8	-82.72	1,167.7	126.5	341.5	309.4	32.07	10.648			
6,750.0	6,575.1	6,674.9	6,470.7	20.9	21.9	-82.21	1,167.7	165.7	341.9	309.1	32.76	10.435			
6,800.0	6,602.7	6,721.9	6,494.4	21.0	22.0	-81.74	1,167.7	206.2	342.3	308.7	33.59	10.189			
6,850.0	6,627.5	6,768.7	6,515.5	21.1	22.1	-81.30	1,167.7	248.0	342.7	308.1	34.57	9.914			
6,900.0	6,649.5	6,815.4	6,534.0	21.3	22.3	-80.90	1,167.7	290.9	343.1	307.4	35.68	9.614			
6,950.0	6,668.5	6,862.0	6,549.7	21.6	22.5	-80.53	1,167.7	334.7	343.4	306.5	36.94	9.295			
7,000.0	6,684.4	6,908.4	6,562.7	22.0	22.8	-80.20	1,167.7	379.3	343.7	305.4	38.34	8.965			
7,050.0	6,697.2	6,954.8	6,573.0	22.5	23.2	-79.92	1,167.7	424.5	344.0	304.2	39.87	8.630			
7,100.0	6,706.8	7,000.0	6,580.4	23.1	23.7	-79.67	1,167.7	469.1	344.3	302.8	41.49	8.299			
7,150.0	6,713.1	7,047.3	6,585.2	23.8	24.3	-79.46	1,167.7	516.1	344.5	301.3	43.25	7.966			
7,200.0	6,716.2	7,093.4	6,587.2	24.7	25.0	-79.29	1,167.7	562.2	344.7	299.6	45.08	7.647			
7,229.1	6,716.5	7,121.2	6,587.1	25.2	25.5	-79.23	1,167.7	590.0	344.8	298.6	46.21	7.462			
7,300.0	6,715.9	7,192.1	6,586.5	26.5	26.7	-79.23	1,167.7	660.9	344.8	295.7	49.14	7.017			
7,400.0	6,715.0	7,292.1	6,585.6	28.6	28.7	-79.22	1,167.7	760.9	344.8	291.3	53.49	6.446			
7,500.0	6,714.2	7,392.1	6,584.7	30.8	30.8	-79.22	1,167.7	860.9	344.8	286.8	58.05	5.940			
7,600.0	6,713.3	7,492.1	6,583.8	33.0	33.1	-79.22	1,167.7	960.9	344.8	282.1	62.76	5.494			

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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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		
7,700.0	6,712.4	7,592.1	6,582.9	35.4	35.5	-79.22	1,167.7	1,060.9	344.8	277.2	67.59	5.102			
7,800.0	6,711.5	7,692.1	6,582.0	37.8	37.9	-79.21	1,167.7	1,160.9	344.8	272.3	72.53	4.755			
7,900.0	6,710.7	7,792.1	6,581.1	40.3	40.4	-79.21	1,167.7	1,260.9	344.8	267.3	77.54	4.447			
8,000.0	6,709.8	7,892.1	6,580.2	42.9	42.9	-79.21	1,167.7	1,360.9	344.8	262.2	82.62	4.174			
8,100.0	6,708.9	7,992.1	6,579.3	45.4	45.4	-79.20	1,167.7	1,460.9	344.8	257.1	87.75	3.930			
8,200.0	6,708.0	8,092.1	6,578.4	48.0	48.0	-79.20	1,167.7	1,560.9	344.8	251.9	92.93	3.711			
8,300.0	6,707.2	8,192.1	6,577.6	50.6	50.6	-79.20	1,167.7	1,660.9	344.8	246.7	98.15	3.513			
8,400.0	6,706.3	8,292.1	6,576.7	53.2	53.3	-79.20	1,167.7	1,760.9	344.8	241.5	103.40	3.335			
8,500.0	6,705.4	8,392.1	6,575.8	55.9	55.9	-79.19	1,167.7	1,860.9	344.9	236.2	108.68	3.173			
8,600.0	6,704.6	8,492.1	6,574.9	58.5	58.6	-79.19	1,167.7	1,960.9	344.9	230.9	113.98	3.026			
8,700.0	6,703.7	8,592.1	6,574.0	61.2	61.3	-79.19	1,167.7	2,060.9	344.9	225.6	119.30	2.891			
8,800.0	6,702.8	8,692.1	6,573.1	63.9	63.9	-79.18	1,167.7	2,160.9	344.9	220.2	124.64	2.767			
8,900.0	6,701.9	8,792.1	6,572.2	66.6	66.6	-79.18	1,167.7	2,260.9	344.9	214.9	129.99	2.653			
9,000.0	6,701.1	8,892.1	6,571.3	69.3	69.4	-79.18	1,167.7	2,360.9	344.9	209.5	135.36	2.548			
9,100.0	6,700.2	8,992.1	6,570.4	72.0	72.1	-79.18	1,167.7	2,460.8	344.9	204.1	140.74	2.450			
9,200.0	6,699.3	9,092.1	6,569.5	74.8	74.8	-79.17	1,167.7	2,560.8	344.9	198.7	146.13	2.360			
9,300.0	6,698.4	9,192.1	6,568.7	77.5	77.5	-79.17	1,167.7	2,660.8	344.9	193.4	151.53	2.276			
9,400.0	6,697.6	9,292.1	6,567.8	80.2	80.3	-79.17	1,167.7	2,760.8	344.9	187.9	156.94	2.198			
9,500.0	6,696.7	9,392.1	6,566.9	83.0	83.0	-79.16	1,167.7	2,860.8	344.9	182.5	162.36	2.124			
9,600.0	6,695.8	9,492.1	6,566.0	85.7	85.7	-79.16	1,167.7	2,960.8	344.9	177.1	167.79	2.056			
9,700.0	6,695.0	9,592.1	6,565.1	88.4	88.5	-79.16	1,167.7	3,060.8	344.9	171.7	173.22	1.991			
9,800.0	6,694.1	9,692.1	6,564.2	91.2	91.2	-79.16	1,167.7	3,160.8	344.9	166.3	178.66	1.931			
9,900.0	6,693.2	9,792.1	6,563.3	93.9	94.0	-79.15	1,167.7	3,260.8	344.9	160.8	184.10	1.874			
10,000.0	6,692.3	9,892.1	6,562.4	96.7	96.8	-79.15	1,167.7	3,360.8	344.9	155.4	189.55	1.820			
10,100.0	6,691.5	9,992.1	6,561.5	99.5	99.5	-79.15	1,167.7	3,460.8	344.9	149.9	195.00	1.769			
10,200.0	6,690.6	10,092.1	6,560.6	102.2	102.3	-79.15	1,167.7	3,560.8	344.9	144.5	200.45	1.721			
10,300.0	6,689.7	10,192.1	6,559.8	105.0	105.0	-79.14	1,167.7	3,660.8	344.9	139.0	205.91	1.675			
10,400.0	6,688.8	10,292.1	6,558.9	107.8	107.8	-79.14	1,167.7	3,760.8	344.9	133.6	211.37	1.632			
10,500.0	6,688.0	10,392.1	6,558.0	110.5	110.6	-79.14	1,167.7	3,860.8	344.9	128.1	216.84	1.591			
10,600.0	6,687.1	10,492.1	6,557.1	113.3	113.4	-79.13	1,167.7	3,960.8	344.9	122.6	222.31	1.552			
10,700.0	6,686.2	10,592.1	6,556.2	116.1	116.1	-79.13	1,167.7	4,060.8	344.9	117.2	227.78	1.514			
10,800.0	6,685.4	10,692.1	6,555.3	118.9	118.9	-79.13	1,167.7	4,160.8	344.9	111.7	233.26	1.479 Level 3			
10,900.0	6,684.5	10,792.1	6,554.4	121.6	121.7	-79.13	1,167.7	4,260.8	345.0	106.2	238.73	1.445 Level 3			
11,000.0	6,683.6	10,892.1	6,553.5	124.4	124.5	-79.12	1,167.7	4,360.8	345.0	100.7	244.21	1.413 Level 3			
11,100.0	6,682.7	10,992.1	6,552.6	127.2	127.3	-79.12	1,167.7	4,460.8	345.0	95.3	249.69	1.382 Level 3			
11,200.0	6,681.9	11,092.1	6,551.7	130.0	130.0	-79.12	1,167.7	4,560.8	345.0	89.8	255.17	1.352 Level 3			
11,300.0	6,681.0	11,192.1	6,550.8	132.8	132.8	-79.11	1,167.7	4,660.8	345.0	84.3	260.66	1.323 Level 3			
11,400.0	6,680.1	11,292.1	6,550.0	135.5	135.6	-79.11	1,167.7	4,760.8	345.0	78.8	266.14	1.296 Level 3			
11,500.0	6,679.2	11,392.1	6,549.1	138.3	138.4	-79.11	1,167.7	4,860.8	345.0	73.3	271.63	1.270 Level 3			
11,600.0	6,678.4	11,492.1	6,548.2	141.1	141.2	-79.11	1,167.7	4,960.8	345.0	67.9	277.12	1.245 Level 2			
11,700.0	6,677.5	11,592.1	6,547.3	143.9	144.0	-79.10	1,167.7	5,060.7	345.0	62.4	282.61	1.221 Level 2			
11,800.0	6,676.6	11,692.1	6,546.4	146.7	146.7	-79.10	1,167.7	5,160.7	345.0	56.9	288.10	1.197 Level 2			
11,900.0	6,675.8	11,792.1	6,545.5	149.5	149.5	-79.10	1,167.7	5,260.7	345.0	51.4	293.59	1.175 Level 2			
12,000.0	6,674.9	11,892.1	6,544.6	152.3	152.3	-79.09	1,167.7	5,360.7	345.0	45.9	299.09	1.154 Level 2			
12,100.0	6,674.0	11,992.1	6,543.7	155.1	155.1	-79.09	1,167.7	5,460.7	345.0	40.4	304.58	1.133 Level 2			
12,200.0	6,673.1	12,092.1	6,542.8	157.8	157.9	-79.09	1,167.7	5,560.7	345.0	34.9	310.08	1.113 Level 2			
12,300.0	6,672.3	12,192.1	6,541.9	160.6	160.7	-79.09	1,167.7	5,660.7	345.0	29.4	315.57	1.093 Level 2			
12,400.0	6,671.4	12,292.1	6,541.1	163.4	163.5	-79.08	1,167.7	5,760.7	345.0	23.9	321.07	1.075 Level 2			
12,500.0	6,670.5	12,392.1	6,540.2	166.2	166.3	-79.08	1,167.7	5,860.7	345.0	18.5	326.57	1.057 Level 2			
12,600.0	6,669.7	12,492.1	6,539.3	169.0	169.1	-79.08	1,167.7	5,960.7	345.0	13.0	332.07	1.039 Level 2			

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

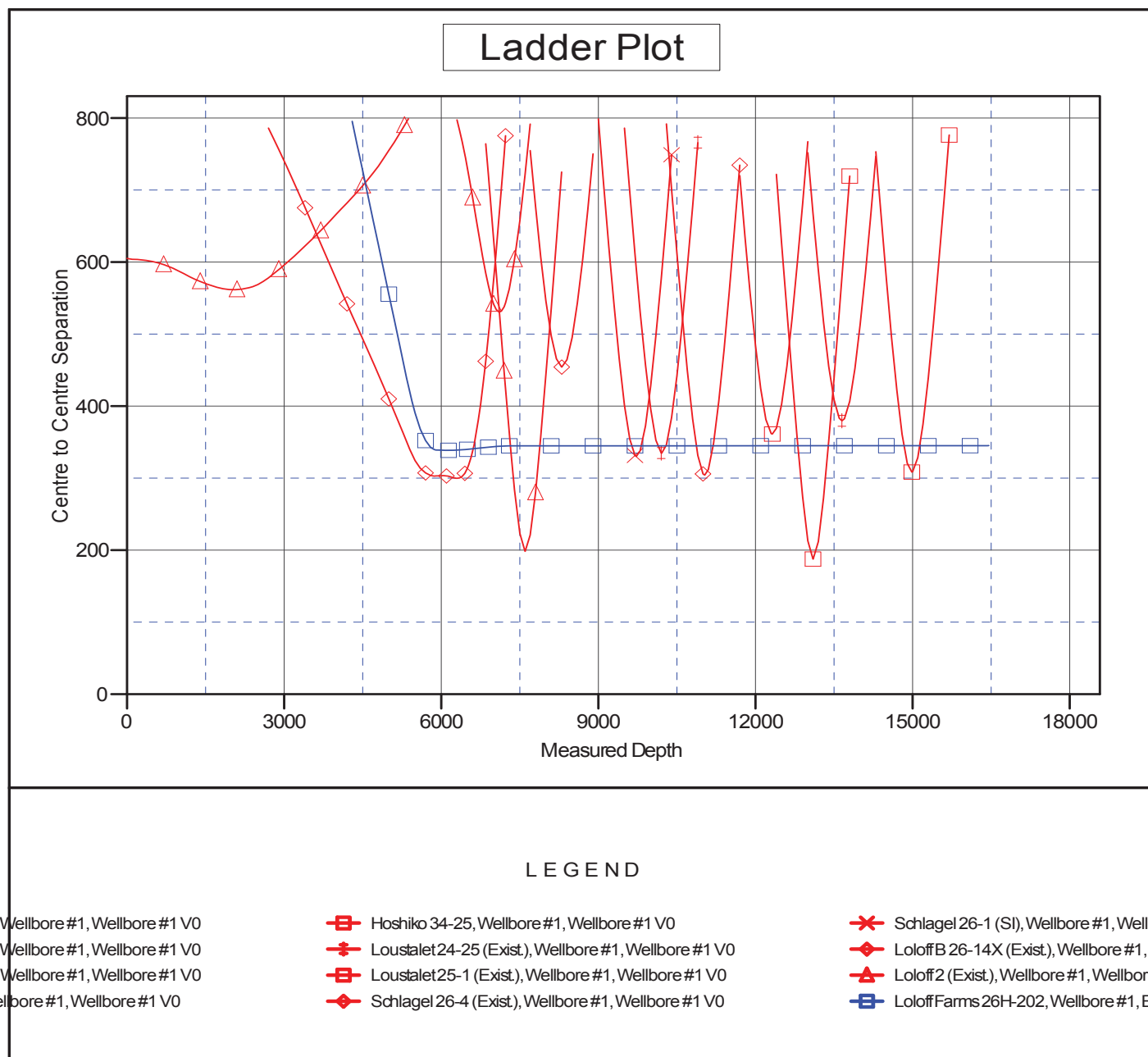
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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		
12,700.0	6,668.8	12,592.1	6,538.4	171.8	171.9	-79.07	1,167.7	6,060.7	345.0	7.5	337.57	1.022	Level 2		
12,800.0	6,667.9	12,692.1	6,537.5	174.6	174.7	-79.07	1,167.7	6,160.7	345.0	2.0	343.07	1.006	Level 2		
12,900.0	6,667.0	12,792.1	6,536.6	177.4	177.5	-79.07	1,167.7	6,260.7	345.0	-3.5	348.57	0.990	Level 1		
13,000.0	6,666.2	12,892.1	6,535.7	180.2	180.3	-79.07	1,167.7	6,360.7	345.0	-9.0	354.07	0.974	Level 1		
13,100.0	6,665.3	12,992.1	6,534.8	183.0	183.1	-79.06	1,167.7	6,460.7	345.0	-14.5	359.57	0.960	Level 1		
13,200.0	6,664.4	13,092.1	6,533.9	185.8	185.8	-79.06	1,167.7	6,560.7	345.0	-20.0	365.07	0.945	Level 1		
13,300.0	6,663.5	13,192.1	6,533.0	188.6	188.6	-79.06	1,167.7	6,660.7	345.1	-25.5	370.58	0.931	Level 1		
13,400.0	6,662.7	13,292.1	6,532.2	191.4	191.4	-79.05	1,167.7	6,760.7	345.1	-31.0	376.08	0.918	Level 1		
13,500.0	6,661.8	13,392.1	6,531.3	194.2	194.2	-79.05	1,167.7	6,860.7	345.1	-36.5	381.59	0.904	Level 1		
13,600.0	6,660.9	13,492.1	6,530.4	197.0	197.0	-79.05	1,167.7	6,960.7	345.1	-42.0	387.09	0.891	Level 1		
13,700.0	6,660.1	13,592.1	6,529.5	199.8	199.8	-79.05	1,167.7	7,060.7	345.1	-47.5	392.60	0.879	Level 1		
13,800.0	6,659.2	13,692.1	6,528.6	202.6	202.6	-79.04	1,167.7	7,160.7	345.1	-53.0	398.10	0.867	Level 1		
13,900.0	6,658.3	13,792.1	6,527.7	205.4	205.4	-79.04	1,167.7	7,260.7	345.1	-58.5	403.61	0.855	Level 1		
14,000.0	6,657.4	13,892.1	6,526.8	208.2	208.2	-79.04	1,167.7	7,360.7	345.1	-64.0	409.11	0.843	Level 1		
14,100.0	6,656.6	13,992.1	6,525.9	211.0	211.0	-79.04	1,167.7	7,460.7	345.1	-69.5	414.62	0.832	Level 1		
14,200.0	6,655.7	14,092.1	6,525.0	213.8	213.8	-79.03	1,167.7	7,560.6	345.1	-75.0	420.13	0.821	Level 1		
14,300.0	6,654.8	14,192.1	6,524.1	216.6	216.6	-79.03	1,167.7	7,660.6	345.1	-80.5	425.63	0.811	Level 1		
14,400.0	6,653.9	14,292.1	6,523.3	219.4	219.4	-79.03	1,167.7	7,760.6	345.1	-86.0	431.14	0.800	Level 1		
14,500.0	6,653.1	14,392.1	6,522.4	222.2	222.2	-79.02	1,167.7	7,860.6	345.1	-91.5	436.65	0.790	Level 1		
14,600.0	6,652.2	14,492.1	6,521.5	225.0	225.0	-79.02	1,167.7	7,960.6	345.1	-97.1	442.16	0.781	Level 1		
14,700.0	6,651.3	14,592.1	6,520.6	227.8	227.8	-79.02	1,167.7	8,060.6	345.1	-102.6	447.67	0.771	Level 1		
14,800.0	6,650.5	14,692.1	6,519.7	230.6	230.6	-79.02	1,167.7	8,160.6	345.1	-108.1	453.18	0.762	Level 1		
14,900.0	6,649.6	14,792.1	6,518.8	233.4	233.4	-79.01	1,167.8	8,260.6	345.1	-113.6	458.68	0.752	Level 1		
15,000.0	6,648.7	14,892.1	6,517.9	236.2	236.2	-79.01	1,167.8	8,360.6	345.1	-119.1	464.19	0.743	Level 1		
15,100.0	6,647.8	14,992.1	6,517.0	239.0	239.0	-79.01	1,167.8	8,460.6	345.1	-124.6	469.70	0.735	Level 1		
15,200.0	6,647.0	15,092.1	6,516.1	241.8	241.8	-79.00	1,167.8	8,560.6	345.1	-130.1	475.21	0.726	Level 1		
15,300.0	6,646.1	15,192.1	6,515.2	244.6	244.6	-79.00	1,167.8	8,660.6	345.1	-135.6	480.72	0.718	Level 1		
15,400.0	6,645.2	15,292.1	6,514.4	247.4	247.4	-79.00	1,167.8	8,760.6	345.1	-141.1	486.23	0.710	Level 1		
15,500.0	6,644.3	15,392.1	6,513.5	250.2	250.3	-79.00	1,167.8	8,860.6	345.1	-146.6	491.74	0.702	Level 1		
15,600.0	6,643.5	15,492.1	6,512.6	253.0	253.1	-78.99	1,167.8	8,960.6	345.1	-152.1	497.25	0.694	Level 1		
15,700.0	6,642.6	15,592.1	6,511.7	255.8	255.9	-78.99	1,167.8	9,060.6	345.2	-157.6	502.76	0.687	Level 1		
15,800.0	6,641.7	15,692.1	6,510.8	258.6	258.7	-78.99	1,167.8	9,160.6	345.2	-163.1	508.27	0.679	Level 1		
15,900.0	6,640.9	15,792.1	6,509.9	261.4	261.5	-78.98	1,167.8	9,260.6	345.2	-168.6	513.78	0.672	Level 1		
16,000.0	6,640.0	15,892.1	6,509.0	264.2	264.3	-78.98	1,167.8	9,360.6	345.2	-174.1	519.29	0.665	Level 1		
16,100.0	6,639.1	15,992.1	6,508.1	267.0	267.1	-78.98	1,167.8	9,460.6	345.2	-179.6	524.81	0.658	Level 1		
16,200.0	6,638.2	16,092.1	6,507.2	269.8	269.9	-78.98	1,167.8	9,560.6	345.2	-185.1	530.32	0.651	Level 1		
16,300.0	6,637.4	16,192.1	6,506.3	272.6	272.7	-78.97	1,167.8	9,660.6	345.2	-190.6	535.83	0.644	Level 1		
16,400.0	6,636.5	16,292.1	6,505.5	275.4	275.5	-78.97	1,167.8	9,760.6	345.2	-196.2	541.34	0.638	Level 1		
16,429.9	6,636.2	16,322.0	6,505.2	276.2	276.3	-78.97	1,167.8	9,790.4	345.2	-197.8	542.99	0.636	Level 1		
16,456.1	6,636.0	16,343.1	6,505.0	277.0	276.9	-78.97	1,167.8	9,811.6	345.2	-199.1	544.29	0.634	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Loloff Farms 26H-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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 @ 4702.0ft (RKB - 23')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Loloff Farms 26H-332
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-332
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4702.0ft (RKB - 23')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4702.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Loloff Farms 26H-332	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 @ 4702.0ft (RKB - 23')
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