

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Loloff Farms 26H-432**

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	1376854.32	3271570.21	40.363770	-104.525420	

RKB - 15' WELL @ 4693.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 236'FSL & 260'FWL, Sec. 26	1.0	0.0	0.0	Point
BHL 735'FSL & 2142'FWL, Sec.25	6750.0	507.4	7158.9	Point

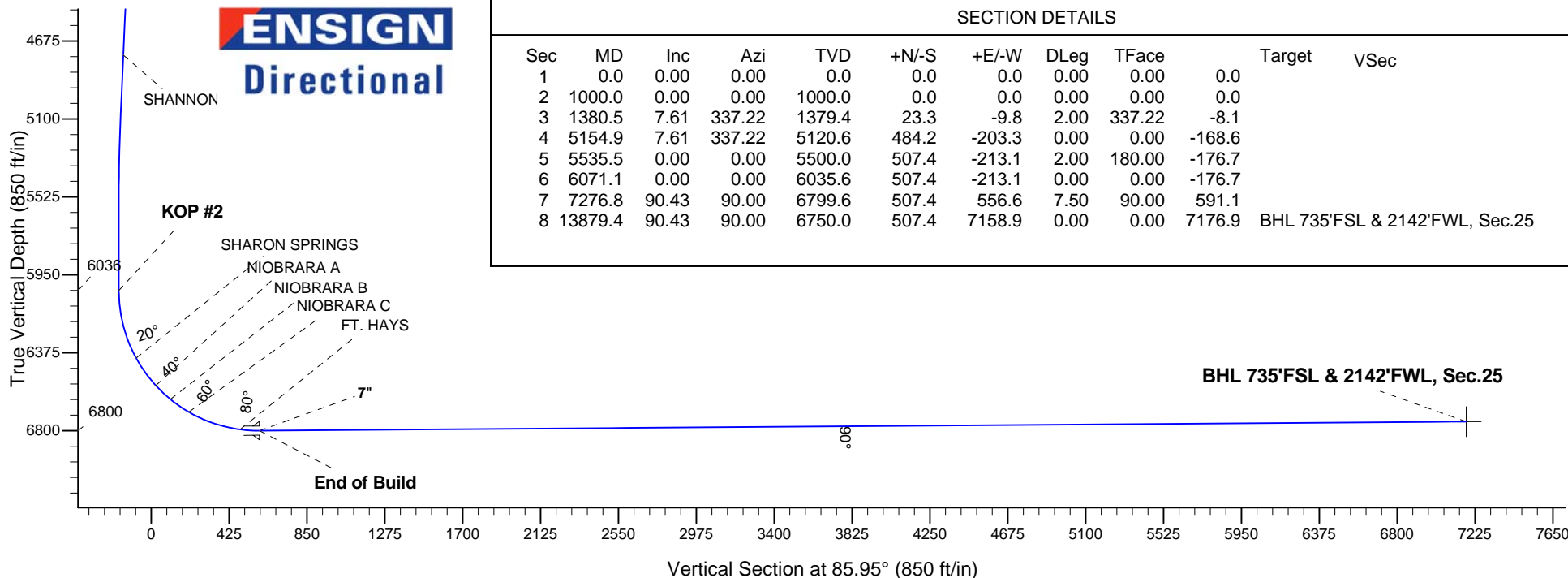
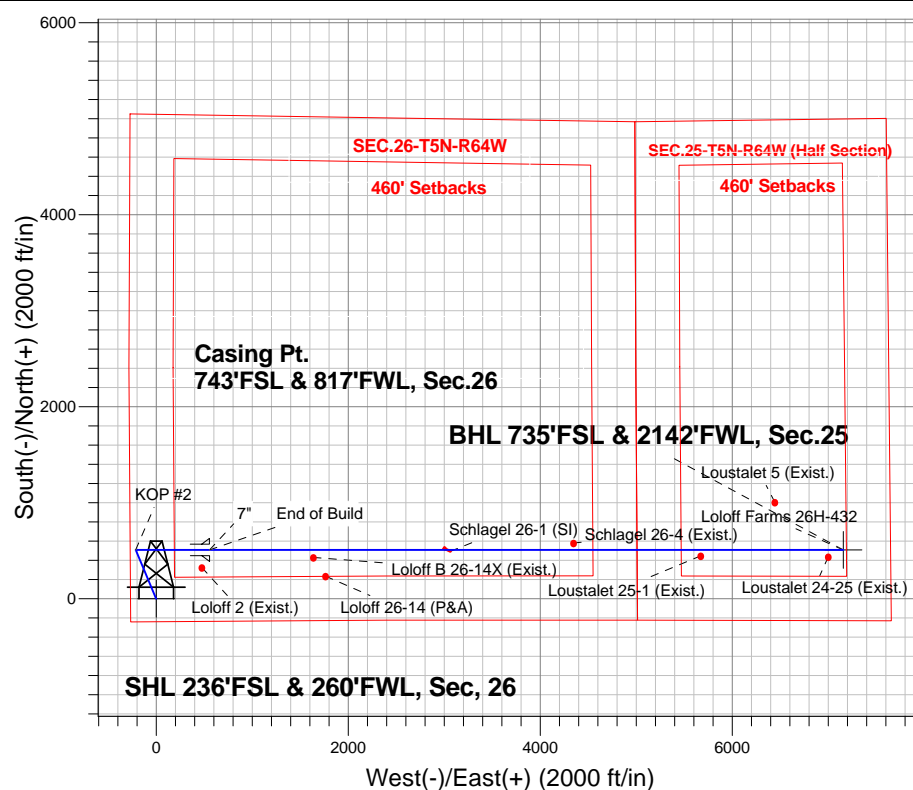


Azimuths to True North
 Magnetic North: 8.31°
 Magnetic Field
 Strength: 52805.3snT
 Dip Angle: 66.95°
 Date: 8/13/2014
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
6035.6	6071.1	KOP #2
6799.6	7276.8	End of Build

Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W
 Loloff Farms 26H-432
 Plan #1 (8-13-14)
 12:15, August 15 2014



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	Target	VSec
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	1380.5	7.61	337.22	1379.4	23.3	-9.8	2.00	337.22	-8.1	
4	5154.9	7.61	337.22	5120.6	484.2	-203.3	0.00	0.00	-168.6	
5	5535.5	0.00	0.00	5500.0	507.4	-213.1	2.00	180.00	-176.7	
6	6071.1	0.00	0.00	6035.6	507.4	-213.1	0.00	0.00	-176.7	
7	7276.8	90.43	90.00	6799.6	507.4	556.6	7.50	90.00	591.1	
8	13879.4	90.43	90.00	6750.0	507.4	7158.9	0.00	0.00	7176.9	BHL 735'FSL & 2142'FWL, Sec.25



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.26-T5N-R64W

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

Loloff Farms 26H-432

Wellbore #1

Plan: Plan #1 (8-13-14)

Standard Planning Report

15 August, 2014

Database:	Landmark	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-13-14)		

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 ft			Latitude:			40.363760		
From:			Lat/Long			Easting:			3,271,539.60 ft			Longitude:			-104.525530		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.63 °		

Well	Loloff Farms 26H-432					
Well Position	+N-S	3.6 ft	Northing:	1,376,854.32 ft	Latitude:	40.363770
	+E-W	30.7 ft	Easting:	3,271,570.21 ft	Longitude:	-104.525420
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,678.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/13/2014	8.31	66.95	52,805

Design	Plan #1 (8-13-14)			
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	85.95

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	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	
1,380.5	7.61	337.22	1,379.4	23.3	-9.8	2.00	2.00	0.00	337.22	
5,154.9	7.61	337.22	5,120.6	484.2	-203.3	0.00	0.00	0.00	0.00	
5,535.5	0.00	0.00	5,500.0	507.4	-213.1	2.00	-2.00	0.00	180.00	
6,071.1	0.00	0.00	6,035.6	507.4	-213.1	0.00	0.00	0.00	0.00	
7,276.8	90.43	90.00	6,799.6	507.4	556.6	7.50	7.50	0.00	90.00	
13,879.4	90.43	90.00	6,750.0	507.4	7,158.9	0.00	0.00	0.00	0.00	BHL 735'FSL & 214

Database:	Landmark	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-13-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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									
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 #1									
1,100.0	2.00	337.22	1,100.0	1.6	-0.7	-0.6	2.00	2.00	0.00
1,200.0	4.00	337.22	1,199.8	6.4	-2.7	-2.2	2.00	2.00	0.00
1,300.0	6.00	337.22	1,299.5	14.5	-6.1	-5.0	2.00	2.00	0.00
1,380.5	7.61	337.22	1,379.4	23.3	-9.8	-8.1	2.00	2.00	0.00
1,400.0	7.61	337.22	1,398.7	25.6	-10.8	-8.9	0.00	0.00	0.00
1,500.0	7.61	337.22	1,497.8	37.9	-15.9	-13.2	0.00	0.00	0.00
1,600.0	7.61	337.22	1,596.9	50.1	-21.0	-17.4	0.00	0.00	0.00
1,700.0	7.61	337.22	1,696.1	62.3	-26.2	-21.7	0.00	0.00	0.00
1,800.0	7.61	337.22	1,795.2	74.5	-31.3	-25.9	0.00	0.00	0.00
1,900.0	7.61	337.22	1,894.3	86.7	-36.4	-30.2	0.00	0.00	0.00
2,000.0	7.61	337.22	1,993.4	98.9	-41.5	-34.4	0.00	0.00	0.00
2,100.0	7.61	337.22	2,092.5	111.1	-46.7	-38.7	0.00	0.00	0.00
2,200.0	7.61	337.22	2,191.7	123.3	-51.8	-42.9	0.00	0.00	0.00
2,300.0	7.61	337.22	2,290.8	135.5	-56.9	-47.2	0.00	0.00	0.00
2,400.0	7.61	337.22	2,389.9	147.8	-62.1	-51.4	0.00	0.00	0.00
2,500.0	7.61	337.22	2,489.0	160.0	-67.2	-55.7	0.00	0.00	0.00
2,600.0	7.61	337.22	2,588.1	172.2	-72.3	-60.0	0.00	0.00	0.00
2,700.0	7.61	337.22	2,687.3	184.4	-77.4	-64.2	0.00	0.00	0.00
2,800.0	7.61	337.22	2,786.4	196.6	-82.6	-68.5	0.00	0.00	0.00
2,900.0	7.61	337.22	2,885.5	208.8	-87.7	-72.7	0.00	0.00	0.00
3,000.0	7.61	337.22	2,984.6	221.0	-92.8	-77.0	0.00	0.00	0.00
3,100.0	7.61	337.22	3,083.7	233.2	-97.9	-81.2	0.00	0.00	0.00
3,200.0	7.61	337.22	3,182.9	245.4	-103.1	-85.5	0.00	0.00	0.00
3,300.0	7.61	337.22	3,282.0	257.7	-108.2	-89.7	0.00	0.00	0.00
3,400.0	7.61	337.22	3,381.1	269.9	-113.3	-94.0	0.00	0.00	0.00
3,500.0	7.61	337.22	3,480.2	282.1	-118.5	-98.2	0.00	0.00	0.00
3,543.2	7.61	337.22	3,523.0	287.4	-120.7	-100.1	0.00	0.00	0.00
PARKMAN									
3,600.0	7.61	337.22	3,579.3	294.3	-123.6	-102.5	0.00	0.00	0.00
3,700.0	7.61	337.22	3,678.4	306.5	-128.7	-106.7	0.00	0.00	0.00
3,800.0	7.61	337.22	3,777.6	318.7	-133.8	-111.0	0.00	0.00	0.00
3,900.0	7.61	337.22	3,876.7	330.9	-139.0	-115.2	0.00	0.00	0.00
4,000.0	7.61	337.22	3,975.8	343.1	-144.1	-119.5	0.00	0.00	0.00
4,100.0	7.61	337.22	4,074.9	355.3	-149.2	-123.7	0.00	0.00	0.00
4,191.9	7.61	337.22	4,166.0	366.6	-153.9	-127.6	0.00	0.00	0.00
SUSSEX									
4,200.0	7.61	337.22	4,174.0	367.6	-154.4	-128.0	0.00	0.00	0.00
4,300.0	7.61	337.22	4,273.2	379.8	-159.5	-132.2	0.00	0.00	0.00

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Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-13-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,400.0	7.61	337.22	4,372.3	392.0	-164.6	-136.5	0.00	0.00	0.00
4,500.0	7.61	337.22	4,471.4	404.2	-169.7	-140.7	0.00	0.00	0.00
4,600.0	7.61	337.22	4,570.5	416.4	-174.9	-145.0	0.00	0.00	0.00
4,700.0	7.61	337.22	4,669.6	428.6	-180.0	-149.2	0.00	0.00	0.00
4,781.1	7.61	337.22	4,750.0	438.5	-184.2	-152.7	0.00	0.00	0.00
SHANNON									
4,800.0	7.61	337.22	4,768.8	440.8	-185.1	-153.5	0.00	0.00	0.00
4,900.0	7.61	337.22	4,867.9	453.0	-190.3	-157.7	0.00	0.00	0.00
5,000.0	7.61	337.22	4,967.0	465.2	-195.4	-162.0	0.00	0.00	0.00
5,100.0	7.61	337.22	5,066.1	477.5	-200.5	-166.3	0.00	0.00	0.00
5,154.9	7.61	337.22	5,120.6	484.2	-203.3	-168.6	0.00	0.00	0.00
5,200.0	6.71	337.22	5,165.3	489.3	-205.5	-170.4	2.00	-2.00	0.00
5,300.0	4.71	337.22	5,264.8	498.5	-209.4	-173.6	2.00	-2.00	0.00
5,400.0	2.71	337.22	5,364.6	504.5	-211.9	-175.7	2.00	-2.00	0.00
5,500.0	0.71	337.22	5,464.5	507.2	-213.0	-176.6	2.00	-2.00	0.00
5,535.5	0.00	0.00	5,500.0	507.4	-213.1	-176.7	2.00	-2.00	0.00
5,600.0	0.00	0.00	5,564.5	507.4	-213.1	-176.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,664.5	507.4	-213.1	-176.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,764.5	507.4	-213.1	-176.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,864.5	507.4	-213.1	-176.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,964.5	507.4	-213.1	-176.7	0.00	0.00	0.00
6,071.1	0.00	0.00	6,035.6	507.4	-213.1	-176.7	0.00	0.00	0.00
KOP #2									
6,100.0	2.17	90.00	6,064.5	507.4	-212.6	-176.1	7.50	7.50	0.00
6,200.0	9.67	90.00	6,163.9	507.4	-202.3	-165.9	7.50	7.50	0.00
6,300.0	17.17	90.00	6,261.1	507.4	-179.1	-142.7	7.50	7.50	0.00
6,400.0	24.67	90.00	6,354.4	507.4	-143.4	-107.2	7.50	7.50	0.00
6,454.4	28.74	90.00	6,403.0	507.4	-119.0	-82.8	7.50	7.50	0.00
SHARON SPRINGS									
6,500.0	32.17	90.00	6,442.3	507.4	-95.8	-59.7	7.50	7.50	0.00
6,600.0	39.67	90.00	6,523.3	507.4	-37.2	-1.2	7.50	7.50	0.00
6,639.5	42.63	90.00	6,553.0	507.4	-11.2	24.7	7.50	7.50	0.00
NIORARA A									
6,700.0	47.17	90.00	6,595.9	507.4	31.5	67.3	7.50	7.50	0.00
6,749.0	50.84	90.00	6,628.0	507.4	68.4	104.2	7.50	7.50	0.00
NIORARA B									
6,800.0	54.67	90.00	6,658.9	507.4	109.0	144.6	7.50	7.50	0.00
6,872.7	60.12	90.00	6,698.0	507.4	170.2	205.7	7.50	7.50	0.00
NIORARA C									
6,900.0	62.17	90.00	6,711.2	507.4	194.2	229.5	7.50	7.50	0.00
7,000.0	69.67	90.00	6,752.0	507.4	285.4	320.5	7.50	7.50	0.00
7,100.0	77.17	90.00	6,780.5	507.4	381.2	416.1	7.50	7.50	0.00
7,170.8	82.48	90.00	6,793.0	507.4	450.9	485.6	7.50	7.50	0.00
FT. HAYS									
7,200.0	84.67	90.00	6,796.3	507.4	479.8	514.5	7.50	7.50	0.00
7,276.8	90.43	90.00	6,799.6	507.4	556.5	591.0	7.50	7.50	0.00
End of Build - 7"									
7,300.0	90.43	90.00	6,799.4	507.4	579.7	614.2	0.02	0.02	0.00
7,400.0	90.43	90.00	6,798.6	507.4	679.7	713.9	0.00	0.00	0.00
7,500.0	90.43	90.00	6,797.9	507.4	779.7	813.6	0.00	0.00	0.00
7,600.0	90.43	90.00	6,797.1	507.4	879.7	913.4	0.00	0.00	0.00

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Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-13-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,700.0	90.43	90.00	6,796.4	507.4	979.7	1,013.1	0.00	0.00	0.00
7,800.0	90.43	90.00	6,795.6	507.4	1,079.7	1,112.9	0.00	0.00	0.00
7,900.0	90.43	90.00	6,794.9	507.4	1,179.7	1,212.6	0.00	0.00	0.00
8,000.0	90.43	90.00	6,794.1	507.4	1,279.7	1,312.4	0.00	0.00	0.00
8,100.0	90.43	90.00	6,793.4	507.4	1,379.7	1,412.1	0.00	0.00	0.00
8,200.0	90.43	90.00	6,792.6	507.4	1,479.7	1,511.9	0.00	0.00	0.00
8,300.0	90.43	90.00	6,791.9	507.4	1,579.7	1,611.6	0.00	0.00	0.00
8,400.0	90.43	90.00	6,791.1	507.4	1,679.7	1,711.4	0.00	0.00	0.00
8,500.0	90.43	90.00	6,790.4	507.4	1,779.7	1,811.1	0.00	0.00	0.00
8,600.0	90.43	90.00	6,789.6	507.4	1,879.7	1,910.9	0.00	0.00	0.00
8,700.0	90.43	90.00	6,788.9	507.4	1,979.7	2,010.6	0.00	0.00	0.00
8,800.0	90.43	90.00	6,788.1	507.4	2,079.7	2,110.4	0.00	0.00	0.00
8,900.0	90.43	90.00	6,787.4	507.4	2,179.7	2,210.1	0.00	0.00	0.00
9,000.0	90.43	90.00	6,786.6	507.4	2,279.7	2,309.9	0.00	0.00	0.00
9,100.0	90.43	90.00	6,785.9	507.4	2,379.7	2,409.6	0.00	0.00	0.00
9,200.0	90.43	90.00	6,785.1	507.4	2,479.7	2,509.3	0.00	0.00	0.00
9,300.0	90.43	90.00	6,784.4	507.4	2,579.7	2,609.1	0.00	0.00	0.00
9,400.0	90.43	90.00	6,783.6	507.4	2,679.7	2,708.8	0.00	0.00	0.00
9,500.0	90.43	90.00	6,782.9	507.4	2,779.7	2,808.6	0.00	0.00	0.00
9,600.0	90.43	90.00	6,782.1	507.4	2,879.7	2,908.3	0.00	0.00	0.00
9,700.0	90.43	90.00	6,781.4	507.4	2,979.7	3,008.1	0.00	0.00	0.00
9,800.0	90.43	90.00	6,780.6	507.4	3,079.7	3,107.8	0.00	0.00	0.00
9,900.0	90.43	90.00	6,779.9	507.4	3,179.7	3,207.6	0.00	0.00	0.00
10,000.0	90.43	90.00	6,779.1	507.4	3,279.7	3,307.3	0.00	0.00	0.00
10,100.0	90.43	90.00	6,778.4	507.4	3,379.6	3,407.1	0.00	0.00	0.00
10,200.0	90.43	90.00	6,777.6	507.4	3,479.6	3,506.8	0.00	0.00	0.00
10,300.0	90.43	90.00	6,776.9	507.4	3,579.6	3,606.6	0.00	0.00	0.00
10,400.0	90.43	90.00	6,776.1	507.4	3,679.6	3,706.3	0.00	0.00	0.00
10,500.0	90.43	90.00	6,775.4	507.4	3,779.6	3,806.1	0.00	0.00	0.00
10,600.0	90.43	90.00	6,774.6	507.4	3,879.6	3,905.8	0.00	0.00	0.00
10,700.0	90.43	90.00	6,773.9	507.4	3,979.6	4,005.6	0.00	0.00	0.00
10,800.0	90.43	90.00	6,773.1	507.4	4,079.6	4,105.3	0.00	0.00	0.00
10,900.0	90.43	90.00	6,772.4	507.4	4,179.6	4,205.0	0.00	0.00	0.00
11,000.0	90.43	90.00	6,771.6	507.4	4,279.6	4,304.8	0.00	0.00	0.00
11,100.0	90.43	90.00	6,770.9	507.4	4,379.6	4,404.5	0.00	0.00	0.00
11,200.0	90.43	90.00	6,770.1	507.4	4,479.6	4,504.3	0.00	0.00	0.00
11,300.0	90.43	90.00	6,769.4	507.4	4,579.6	4,604.0	0.00	0.00	0.00
11,400.0	90.43	90.00	6,768.6	507.4	4,679.6	4,703.8	0.00	0.00	0.00
11,500.0	90.43	90.00	6,767.9	507.4	4,779.6	4,803.5	0.00	0.00	0.00
11,600.0	90.43	90.00	6,767.1	507.4	4,879.6	4,903.3	0.00	0.00	0.00
11,700.0	90.43	90.00	6,766.4	507.4	4,979.6	5,003.0	0.00	0.00	0.00
11,800.0	90.43	90.00	6,765.6	507.4	5,079.6	5,102.8	0.00	0.00	0.00
11,900.0	90.43	90.00	6,764.9	507.4	5,179.6	5,202.5	0.00	0.00	0.00
12,000.0	90.43	90.00	6,764.1	507.4	5,279.6	5,302.3	0.00	0.00	0.00
12,100.0	90.43	90.00	6,763.4	507.4	5,379.6	5,402.0	0.00	0.00	0.00
12,200.0	90.43	90.00	6,762.6	507.4	5,479.6	5,501.8	0.00	0.00	0.00
12,300.0	90.43	90.00	6,761.9	507.4	5,579.6	5,601.5	0.00	0.00	0.00
12,400.0	90.43	90.00	6,761.1	507.4	5,679.6	5,701.2	0.00	0.00	0.00
12,500.0	90.43	90.00	6,760.4	507.4	5,779.6	5,801.0	0.00	0.00	0.00
12,600.0	90.43	90.00	6,759.6	507.4	5,879.6	5,900.7	0.00	0.00	0.00
12,700.0	90.43	90.00	6,758.9	507.4	5,979.6	6,000.5	0.00	0.00	0.00
12,800.0	90.43	90.00	6,758.1	507.4	6,079.6	6,100.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Project:	SEC.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	North Reference:	True
Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-13-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,900.0	90.43	90.00	6,757.4	507.4	6,179.6	6,200.0	0.00	0.00	0.00	
13,000.0	90.43	90.00	6,756.6	507.4	6,279.6	6,299.7	0.00	0.00	0.00	
13,100.0	90.43	90.00	6,755.8	507.4	6,379.6	6,399.5	0.00	0.00	0.00	
13,200.0	90.43	90.00	6,755.1	507.4	6,479.6	6,499.2	0.00	0.00	0.00	
13,300.0	90.43	90.00	6,754.3	507.4	6,579.6	6,599.0	0.00	0.00	0.00	
13,400.0	90.43	90.00	6,753.6	507.4	6,679.6	6,698.7	0.00	0.00	0.00	
13,500.0	90.43	90.00	6,752.8	507.4	6,779.6	6,798.5	0.00	0.00	0.00	
13,600.0	90.43	90.00	6,752.1	507.4	6,879.6	6,898.2	0.00	0.00	0.00	
13,700.0	90.43	90.00	6,751.3	507.4	6,979.5	6,998.0	0.00	0.00	0.00	
13,800.0	90.43	90.00	6,750.6	507.4	7,079.5	7,097.7	0.00	0.00	0.00	
13,879.4	90.43	90.00	6,750.0	507.4	7,158.9	7,176.9	0.00	0.00	0.00	
BHL 735'FSL & 2142'FWL, Sec.25										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,276.8	6,799.6	7"	7	7-1/2	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,543.2	3,523.0	PARKMAN		0.00		
4,191.9	4,166.0	SUSSEX		0.00		
4,781.1	4,750.0	SHANNON		0.00		
6,454.4	6,403.0	SHARON SPRINGS		0.00		
6,639.5	6,553.0	NIOBRARA A		0.00		
6,749.0	6,628.0	NIOBRARA B		0.00		
6,872.7	6,698.0	NIOBRARA C		0.00		
7,170.8	6,793.0	FT. HAYS		0.00		
	6,815.0	CODELL		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 #1	
6,071.1	6,035.6	507.4	-213.1	KOP #2	
7,276.8	6,799.6	507.4	556.5	End of Build	



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.26-T5N-R64W

Loloff Farms 5N64W26l Pad Sec.26-T5N-R64W

Loloff Farms 26H-432

Wellbore #1

Plan #1 (8-13-14)

Anticollision Report

15 August, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (8-13-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/15/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,879.4	Plan #1 (8-13-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Pad Sec.26-T5N-R64W						
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,196.6	6,770.9	183.2	26.2	1.167	Level 2, CC
Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1	7,200.0	6,771.3	183.2	26.1	1.166	Level 2, ES, SF
Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1	8,484.3	6,742.5	274.2	86.2	1.459	Level 3, CC, ES
Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1	8,500.0	6,742.4	274.7	86.3	1.458	Level 3, SF
Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1	8,358.8	6,757.4	77.5	-107.4	0.419	Level 1, CC, ES, SF
Loustalet 24-25 (Exist.) - Wellbore #1 - Wellbore #1	13,720.6	6,646.2	72.9	-258.4	0.220	Level 1, CC, ES, SF
Loustalet 25-1 (Exist.) - Wellbore #1 - Wellbore #1	12,394.1	6,659.1	62.3	-232.1	0.212	Level 1, CC, ES, SF
Loustalet 5 (Exist.) - Wellbore #1 - Wellbore #1	13,165.8	6,646.4	495.3	179.5	1.568	CC, ES
Loustalet 5 (Exist.) - Wellbore #1 - Wellbore #1	13,200.0	6,646.1	496.4	179.7	1.567	SF
Schlagel 26-1 (SI) - Wellbore #1 - Wellbore #1	9,781.4	6,699.8	13.8	-86.7	0.137	Level 1, CC, ES, SF
Schlagel 26-4 (Exist.) - Wellbore #1 - Wellbore #1	11,070.3	6,668.1	72.2	-185.5	0.280	Level 1, CC, ES, SF
Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W						
Loloff Farms 26H-332 - Wellbore #1 - Plan #1 (8-13-14)	166.3	167.3	30.9	30.3	58.777	CC
Loloff Farms 26H-332 - Wellbore #1 - Plan #1 (8-13-14)	13,879.4	13,835.6	346.9	-43.4	0.889	Level 1, ES, SF
Loloff Farms 26I-212 - Wellbore #1 - Plan #1 (8-13-14)	1,000.0	1,000.0	30.7	26.4	7.178	CC, ES
Loloff Farms 26I-212 - Wellbore #1 - Plan #1 (8-13-14)	13,879.4	13,722.7	380.4	28.0	1.079	Level 2, SF
Loloff Farms 26I-402 - Wellbore #1 - Plan #1 (8-13-14)	1,000.0	999.0	58.5	54.3	13.711	CC, ES
Loloff Farms 26I-402 - Wellbore #1 - Plan #1 (8-13-14)	13,879.4	13,859.7	659.4	254.8	1.630	SF

Offset Design	Existing Wells Pad Sec.26-T5N-R64W - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program:	6870-UNKNOWN											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)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	55.77	324.2	476.5	576.9				
100.0	100.0	75.0	75.0	0.1	1.5	55.77	324.2	476.5	576.4	574.8	1.61	357.422	
200.0	200.0	175.0	175.0	0.3	3.5	55.77	324.2	476.5	576.4	572.5	3.84	150.201	
300.0	300.0	275.0	275.0	0.6	5.5	55.77	324.2	476.5	576.4	570.3	6.06	95.078	
400.0	400.0	375.0	375.0	0.8	7.5	55.77	324.2	476.5	576.4	568.1	8.29	69.552	
500.0	500.0	475.0	475.0	1.0	9.5	55.77	324.2	476.5	576.4	565.9	10.51	54.832	
600.0	600.0	575.0	575.0	1.2	11.5	55.77	324.2	476.5	576.4	563.6	12.74	45.254	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Pad Sec.26-T5N-R64W - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 6870-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
700.0	700.0	675.0	675.0	1.5	13.5	55.77	324.2	476.5	576.4	561.4	14.96	38.525				
800.0	800.0	775.0	775.0	1.7	15.5	55.77	324.2	476.5	576.4	559.2	17.19	33.537				
900.0	900.0	875.0	875.0	1.9	17.5	55.77	324.2	476.5	576.4	557.0	19.41	29.694				
1,000.0	1,000.0	975.0	975.0	2.1	19.5	55.77	324.2	476.5	576.4	554.7	21.64	26.640				
1,100.0	1,100.0	1,075.0	1,075.0	2.4	21.5	78.72	324.2	476.5	576.0	552.2	23.86	24.144				
1,200.0	1,199.8	1,174.8	1,174.8	2.6	23.5	79.25	324.2	476.5	575.0	548.9	26.08	22.051				
1,300.0	1,299.5	1,274.5	1,274.5	2.8	25.5	80.14	324.2	476.5	573.5	545.2	28.30	20.265				
1,400.0	1,398.7	1,373.7	1,373.7	3.1	27.5	81.36	324.2	476.5	571.5	541.0	30.53	18.720				
1,500.0	1,497.8	1,472.8	1,472.8	3.3	29.5	82.66	324.2	476.5	569.6	536.9	32.78	17.380				
1,600.0	1,596.9	1,571.9	1,571.9	3.6	31.4	83.98	324.2	476.5	568.1	533.1	35.03	16.216				
1,700.0	1,696.1	1,671.1	1,671.1	3.9	33.4	85.30	324.2	476.5	566.8	529.5	37.30	15.197				
1,800.0	1,795.2	1,770.2	1,770.2	4.2	35.4	86.62	324.2	476.5	565.9	526.3	39.57	14.300				
1,900.0	1,894.3	1,869.3	1,869.3	4.5	37.4	87.95	324.2	476.5	565.3	523.4	41.85	13.507				
2,000.0	1,993.4	1,968.4	1,968.4	4.8	39.4	89.28	324.2	476.5	564.9	520.8	44.13	12.801				
2,054.1	2,047.0	2,022.0	2,022.0	4.9	40.4	90.00	324.2	476.5	564.9	519.5	45.37	12.451				
2,100.0	2,092.5	2,067.5	2,067.5	5.1	41.4	90.61	324.2	476.5	564.9	518.5	46.42	12.170				
2,200.0	2,191.7	2,166.7	2,166.7	5.4	43.3	91.94	324.2	476.5	565.2	516.5	48.71	11.604				
2,300.0	2,290.8	2,265.8	2,265.8	5.7	45.3	93.27	324.2	476.5	565.8	514.8	51.00	11.095				
2,400.0	2,389.9	2,364.9	2,364.9	6.0	47.3	94.60	324.2	476.5	566.8	513.5	53.29	10.636				
2,500.0	2,489.0	2,464.0	2,464.0	6.3	49.3	95.92	324.2	476.5	568.0	512.4	55.58	10.220				
2,600.0	2,588.1	2,563.1	2,563.1	6.6	51.3	97.23	324.2	476.5	569.5	511.6	57.87	9.842				
2,700.0	2,687.3	2,662.3	2,662.3	7.0	53.2	98.54	324.2	476.5	571.3	511.2	60.15	9.498				
2,800.0	2,786.4	2,761.4	2,761.4	7.3	55.2	99.83	324.2	476.5	573.5	511.0	62.44	9.184				
2,900.0	2,885.5	2,860.5	2,860.5	7.6	57.2	101.12	324.2	476.5	575.9	511.2	64.73	8.897				
3,000.0	2,984.6	2,959.6	2,959.6	7.9	59.2	102.40	324.2	476.5	578.6	511.6	67.01	8.635				
3,100.0	3,083.7	3,058.7	3,058.7	8.2	61.2	103.66	324.2	476.5	581.6	512.3	69.29	8.394				
3,200.0	3,182.9	3,157.9	3,157.9	8.6	63.2	104.91	324.2	476.5	584.9	513.4	71.57	8.173				
3,300.0	3,282.0	3,257.0	3,257.0	8.9	65.1	106.15	324.2	476.5	588.5	514.7	73.85	7.969				
3,400.0	3,381.1	3,356.1	3,356.1	9.2	67.1	107.37	324.2	476.5	592.4	516.2	76.12	7.782				
3,500.0	3,480.2	3,455.2	3,455.2	9.5	69.1	108.57	324.2	476.5	596.5	518.1	78.39	7.609				
3,600.0	3,579.3	3,554.3	3,554.3	9.9	71.1	109.76	324.2	476.5	600.9	520.2	80.66	7.449				
3,700.0	3,678.4	3,653.4	3,653.4	10.2	73.1	110.93	324.2	476.5	605.5	522.6	82.92	7.302				
3,800.0	3,777.6	3,752.6	3,752.6	10.5	75.1	112.08	324.2	476.5	610.4	525.2	85.19	7.165				
3,900.0	3,876.7	3,851.7	3,851.7	10.8	77.0	113.22	324.2	476.5	615.5	528.1	87.44	7.039				
4,000.0	3,975.8	3,950.8	3,950.8	11.2	79.0	114.33	324.2	476.5	620.9	531.2	89.70	6.922				
4,100.0	4,074.9	4,049.9	4,049.9	11.5	81.0	115.43	324.2	476.5	626.5	534.6	91.95	6.814				
4,200.0	4,174.0	4,149.0	4,149.0	11.8	83.0	116.51	324.2	476.5	632.4	538.2	94.20	6.713				
4,300.0	4,273.2	4,248.2	4,248.2	12.1	85.0	117.56	324.2	476.5	638.4	542.0	96.45	6.620				
4,400.0	4,372.3	4,347.3	4,347.3	12.5	86.9	118.60	324.2	476.5	644.7	546.0	98.69	6.533				
4,500.0	4,471.4	4,446.4	4,446.4	12.8	88.9	119.61	324.2	476.5	651.2	550.3	100.93	6.452				
4,600.0	4,570.5	4,545.5	4,545.5	13.1	90.9	120.61	324.2	476.5	657.9	554.7	103.17	6.377				
4,700.0	4,669.6	4,644.6	4,644.6	13.4	92.9	121.59	324.2	476.5	664.8	559.4	105.40	6.307				
4,800.0	4,768.8	4,743.8	4,743.8	13.8	94.9	122.54	324.2	476.5	671.8	564.2	107.63	6.242				
4,900.0	4,867.9	4,842.9	4,842.9	14.1	96.9	123.48	324.2	476.5	679.1	569.2	109.86	6.182				
5,000.0	4,967.0	4,942.0	4,942.0	14.4	98.8	124.40	324.2	476.5	686.5	574.5	112.09	6.125				
5,100.0	5,066.1	5,041.1	5,041.1	14.8	100.8	125.29	324.2	476.5	694.2	579.8	114.31	6.073				
5,200.0	5,165.3	5,140.3	5,140.3	15.1	102.8	126.20	324.2	476.5	701.7	585.1	116.59	6.019				
5,300.0	5,264.8	5,239.8	5,239.8	15.3	104.8	126.94	324.2	476.5	707.7	588.8	118.87	5.953				
5,400.0	5,364.6	5,339.6	5,339.6	15.5	106.8	127.42	324.2	476.5	711.6	590.5	121.12	5.875				
5,500.0	5,464.5	5,439.5	5,439.5	15.7	108.8	127.64	324.2	476.5	713.4	590.1	123.31	5.786				
5,600.0	5,564.5	5,539.5	5,539.5	15.8	110.8	104.88	324.2	476.5	713.5	588.7	124.85	5.715				

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Pad Sec.26-T5N-R64W - Loloff 2 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft
Survey Program: 6870-UNKNOWN													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,700.0	5,664.5	5,639.5	5,639.5	16.0	112.8	104.88	324.2	476.5	713.5	586.5	127.04	5.617	
5,800.0	5,764.5	5,739.5	5,739.5	16.2	114.8	104.88	324.2	476.5	713.5	584.3	129.24	5.521	
5,900.0	5,864.5	5,839.5	5,839.5	16.3	116.8	104.88	324.2	476.5	713.5	582.1	131.43	5.429	
6,000.0	5,964.5	5,939.5	5,939.5	16.5	118.8	104.88	324.2	476.5	713.5	579.9	133.63	5.340	
6,100.0	6,064.5	6,039.5	6,039.5	16.7	120.8	14.90	324.2	476.5	713.0	576.7	136.27	5.232	
6,200.0	6,163.9	6,138.9	6,138.9	16.8	122.8	15.31	324.2	476.5	703.1	566.4	136.62	5.146	
6,300.0	6,261.1	6,236.1	6,236.1	16.9	124.7	16.30	324.2	476.5	680.7	545.9	134.76	5.051	
6,400.0	6,354.4	6,329.4	6,329.4	16.9	126.6	18.01	324.2	476.5	646.4	515.6	130.81	4.942	
6,500.0	6,442.3	6,417.3	6,417.3	16.9	128.3	20.71	324.2	476.5	601.0	475.7	125.25	4.798	
6,600.0	6,523.3	6,498.3	6,498.3	17.0	130.0	24.86	324.2	476.5	545.4	426.2	119.19	4.576	
6,700.0	6,595.9	6,570.9	6,570.9	17.0	131.4	31.19	324.2	476.5	481.3	366.2	115.12	4.181	
6,800.0	6,658.9	6,633.9	6,633.9	17.1	132.7	40.76	324.2	476.5	410.6	293.3	117.37	3.499	
6,900.0	6,711.2	6,686.2	6,686.2	17.6	133.7	54.26	324.2	476.5	336.6	207.5	129.14	2.606	
7,000.0	6,752.0	6,727.0	6,727.0	18.7	134.5	70.07	324.2	476.5	264.8	120.1	144.69	1.830	
7,100.0	6,780.5	6,755.5	6,755.5	20.2	135.1	83.40	324.2	476.5	206.5	52.6	153.90	1.342 Level 3	
7,196.6	6,795.9	6,770.9	6,770.9	22.0	135.4	90.00	324.2	476.5	183.2	26.2	157.03	1.167 Level 2, CC	
7,200.0	6,796.3	6,771.3	6,771.3	22.0	135.4	90.10	324.2	476.5	183.2	26.1	157.10	1.166 Level 2, ES, SF	
7,300.0	6,799.4	6,774.4	6,774.4	24.0	135.5	89.76	324.2	476.5	210.3	51.1	159.15	1.321 Level 3	
7,400.0	6,798.6	6,773.6	6,773.6	26.1	135.5	89.52	324.2	476.5	273.6	112.3	161.26	1.697	
7,500.0	6,797.9	6,772.9	6,772.9	28.4	135.5	89.29	324.2	476.5	354.2	190.8	163.48	2.167	
7,600.0	6,797.1	6,772.1	6,772.1	30.7	135.4	89.05	324.2	476.5	442.9	277.1	165.80	2.671	
7,700.0	6,796.4	6,771.4	6,771.4	33.1	135.4	88.82	324.2	476.5	535.5	367.3	168.18	3.184	
7,800.0	6,795.6	6,770.6	6,770.6	35.6	135.4	88.58	324.2	476.5	630.4	459.8	170.62	3.695	
7,900.0	6,794.9	6,769.9	6,769.9	38.1	135.4	88.35	324.2	476.5	726.7	553.6	173.11	4.198	
8,000.0	6,794.1	6,769.1	6,769.1	40.6	135.4	88.12	324.2	476.5	823.8	648.2	175.62	4.691	
8,100.0	6,793.4	6,768.4	6,768.4	43.2	135.4	87.88	324.2	476.5	921.6	743.4	178.17	5.172	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Pad Sec.26-T5N-R64W - Loloff 26-14 (P&A) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 6970-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (")	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
							+N/-S (ft)	+E/-W (ft)								
7,600.0	6,797.1	6,749.1	6,749.1	30.7	135.0	91.39	233.2	1,764.0	925.8	760.4	165.37	5.598				
7,700.0	6,796.4	6,748.4	6,748.4	33.1	135.0	91.23	233.2	1,764.0	830.8	663.0	167.78	4.952				
7,800.0	6,795.6	6,747.6	6,747.6	35.6	135.0	91.07	233.2	1,764.0	737.2	566.9	170.25	4.330				
7,900.0	6,794.9	6,746.9	6,746.9	38.1	134.9	90.92	233.2	1,764.0	645.4	472.7	172.76	3.736				
8,000.0	6,794.1	6,746.1	6,746.1	40.6	134.9	90.76	233.2	1,764.0	556.5	381.2	175.31	3.174				
8,100.0	6,793.4	6,745.4	6,745.4	43.2	134.9	90.60	233.2	1,764.0	472.1	294.2	177.89	2.654				
8,200.0	6,792.6	6,744.6	6,744.6	45.8	134.9	90.45	233.2	1,764.0	395.0	214.5	180.49	2.188				
8,300.0	6,791.9	6,743.9	6,743.9	48.5	134.9	90.29	233.2	1,764.0	330.4	147.3	183.11	1.804				
8,400.0	6,791.1	6,743.1	6,743.1	51.1	134.9	90.13	233.2	1,764.0	286.9	101.1	185.75	1.544				
8,484.3	6,790.5	6,742.5	6,742.5	53.3	134.8	90.00	233.2	1,764.0	274.2	86.2	187.99	1.459 Level 3, CC, ES				
8,500.0	6,790.4	6,742.4	6,742.4	53.8	134.8	89.98	233.2	1,764.0	274.7	86.3	188.41	1.458 Level 3, SF				
8,600.0	6,789.6	6,741.6	6,741.6	56.4	134.8	89.82	233.2	1,764.0	297.6	106.6	191.07	1.558				
8,700.0	6,788.9	6,740.9	6,740.9	59.1	134.8	89.66	233.2	1,764.0	348.9	155.1	193.75	1.801				
8,800.0	6,788.1	6,740.1	6,740.1	61.8	134.8	89.50	233.2	1,764.0	418.2	221.7	196.44	2.129				
8,900.0	6,787.4	6,739.4	6,739.4	64.5	134.8	89.35	233.2	1,764.0	498.0	298.9	199.13	2.501				
9,000.0	6,786.6	6,738.6	6,738.6	67.3	134.8	89.19	233.2	1,764.0	584.1	382.3	201.83	2.894				
9,100.0	6,785.9	6,737.9	6,737.9	70.0	134.8	89.03	233.2	1,764.0	674.0	469.5	204.53	3.295				
9,200.0	6,785.1	6,737.1	6,737.1	72.7	134.7	88.88	233.2	1,764.0	766.4	559.2	207.24	3.698				
9,300.0	6,784.4	6,736.4	6,736.4	75.5	134.7	88.72	233.2	1,764.0	860.6	650.6	209.95	4.099				
9,400.0	6,783.6	6,735.6	6,735.6	78.2	134.7	88.56	233.2	1,764.0	955.9	743.2	212.66	4.495				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Pad Sec.26-T5N-R64W - Loloff B 26-14X (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 6927-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
							+N/-S (ft)	+E/-W (ft)								
7,400.0	6,798.6	6,764.6	6,764.6	26.1	135.3	95.30	429.9	1,638.6	962.0	801.4	160.56	5.991				
7,500.0	6,797.9	6,763.9	6,763.9	28.4	135.3	94.75	429.9	1,638.6	862.3	699.4	162.91	5.293				
7,600.0	6,797.1	6,763.1	6,763.1	30.7	135.3	94.20	429.9	1,638.6	762.8	597.4	165.34	4.614				
7,700.0	6,796.4	6,762.4	6,762.4	33.1	135.2	93.65	429.9	1,638.6	663.4	495.6	167.83	3.953				
7,800.0	6,795.6	6,761.6	6,761.6	35.6	135.2	93.10	429.9	1,638.6	564.2	393.8	170.36	3.312				
7,900.0	6,794.9	6,760.9	6,760.9	38.1	135.2	92.54	429.9	1,638.6	465.3	292.4	172.94	2.691				
8,000.0	6,794.1	6,760.1	6,760.1	40.6	135.2	91.99	429.9	1,638.6	367.1	191.6	175.53	2.092				
8,100.0	6,793.4	6,759.4	6,759.4	43.2	135.2	91.44	429.9	1,638.6	270.2	92.1	178.14	1.517				
8,200.0	6,792.6	6,758.6	6,758.6	45.8	135.2	90.88	429.9	1,638.6	176.8	-4.0	180.76	0.978 Level 1				
8,300.0	6,791.9	6,757.9	6,757.9	48.5	135.2	90.33	429.9	1,638.6	97.3	-86.1	183.39	0.531 Level 1				
8,358.8	6,791.4	6,757.4	6,757.4	50.0	135.1	90.00	429.9	1,638.6	77.5	-107.4	184.94	0.419 Level 1, CC, ES, SF				
8,400.0	6,791.1	6,757.1	6,757.1	51.1	135.1	89.77	429.9	1,638.6	87.7	-98.3	186.02	0.472 Level 1				
8,500.0	6,790.4	6,756.4	6,756.4	53.8	135.1	89.22	429.9	1,638.6	161.0	-27.6	188.65	0.853 Level 1				
8,600.0	6,789.6	6,755.6	6,755.6	56.4	135.1	88.66	429.9	1,638.6	253.3	62.0	191.28	1.324 Level 3				
8,700.0	6,788.9	6,754.9	6,754.9	59.1	135.1	88.11	429.9	1,638.6	349.8	155.9	193.89	1.804				
8,800.0	6,788.1	6,754.1	6,754.1	61.8	135.1	87.55	429.9	1,638.6	447.9	251.4	196.50	2.279				
8,900.0	6,787.4	6,753.4	6,753.4	64.5	135.1	87.00	429.9	1,638.6	546.6	347.5	199.10	2.746				
9,000.0	6,786.6	6,752.6	6,752.6	67.3	135.1	86.45	429.9	1,638.6	645.8	444.1	201.68	3.202				
9,100.0	6,785.9	6,751.9	6,751.9	70.0	135.0	85.90	429.9	1,638.6	745.2	540.9	204.25	3.648				
9,200.0	6,785.1	6,751.1	6,751.1	72.7	135.0	85.34	429.9	1,638.6	844.7	637.9	206.81	4.084				
9,300.0	6,784.4	6,750.4	6,750.4	75.5	135.0	84.79	429.9	1,638.6	944.3	735.0	209.34	4.511				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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: 6959-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
12,800.0	6,758.1	6,653.1	6,653.1	172.7	133.1	95.41	434.5	7,000.1	923.4	618.9	304.52	3.032				
12,900.0	6,757.4	6,652.4	6,652.4	175.5	133.0	94.83	434.5	7,000.1	823.8	516.2	307.55	2.678				
13,000.0	6,756.6	6,651.6	6,651.6	178.3	133.0	94.24	434.5	7,000.1	724.2	413.7	310.55	2.332				
13,100.0	6,755.8	6,650.8	6,650.8	181.1	133.0	93.65	434.5	7,000.1	624.8	311.3	313.52	1.993				
13,200.0	6,755.1	6,650.1	6,650.1	183.9	133.0	93.07	434.5	7,000.1	525.6	209.1	316.47	1.661				
13,300.0	6,754.3	6,649.3	6,649.3	186.7	133.0	92.48	434.5	7,000.1	426.8	107.4	319.39	1.336	Level 3			
13,400.0	6,753.6	6,648.6	6,648.6	189.5	133.0	91.89	434.5	7,000.1	328.7	6.5	322.27	1.020	Level 2			
13,500.0	6,752.8	6,647.8	6,647.8	192.3	133.0	91.30	434.5	7,000.1	232.3	-92.8	325.13	0.714	Level 1			
13,600.0	6,752.1	6,647.1	6,647.1	195.1	132.9	90.71	434.5	7,000.1	140.9	-187.1	327.96	0.430	Level 1			
13,700.0	6,751.3	6,646.3	6,646.3	197.9	132.9	90.12	434.5	7,000.1	75.8	-255.0	330.75	0.229	Level 1			
13,720.6	6,751.2	6,646.2	6,646.2	198.5	132.9	90.00	434.5	7,000.1	72.9	-258.4	331.32	0.220	Level 1, CC, ES, SF			
13,800.0	6,750.6	6,645.6	6,645.6	200.7	132.9	89.53	434.5	7,000.1	107.8	-225.7	333.51	0.323	Level 1			
13,879.4	6,750.0	6,645.0	6,645.0	202.9	132.9	89.06	434.5	7,000.1	174.8	-160.9	335.67	0.521	Level 1			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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: 0.0ft
Survey Program: 6848-UNKNOWN														Offset Well Error: 0.0ft
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		
11,400.0	6,768.6	6,666.6	6,666.6	133.6	133.3	96.83	445.1	5,673.6	996.0	730.8	265.20	3.756		
11,500.0	6,767.9	6,665.9	6,665.9	136.4	133.3	96.14	445.1	5,673.6	896.2	627.9	268.29	3.340		
11,600.0	6,767.1	6,665.1	6,665.1	139.2	133.3	95.46	445.1	5,673.6	796.5	525.1	271.35	2.935		
11,700.0	6,766.4	6,664.4	6,664.4	142.0	133.3	94.78	445.1	5,673.6	696.8	422.5	274.38	2.540		
11,800.0	6,765.6	6,663.6	6,663.6	144.8	133.3	94.09	445.1	5,673.6	597.3	319.9	277.38	2.153		
11,900.0	6,764.9	6,662.9	6,662.9	147.6	133.3	93.40	445.1	5,673.6	498.0	217.6	280.35	1.776		
12,000.0	6,764.1	6,662.1	6,662.1	150.4	133.2	92.72	445.1	5,673.6	398.9	115.7	283.28	1.408 Level 3		
12,100.0	6,763.4	6,661.4	6,661.4	153.1	133.2	92.03	445.1	5,673.6	300.6	14.4	286.17	1.050 Level 2		
12,200.0	6,762.6	6,660.6	6,660.6	155.9	133.2	91.34	445.1	5,673.6	203.8	-85.2	289.03	0.705 Level 1		
12,300.0	6,761.9	6,659.9	6,659.9	158.7	133.2	90.65	445.1	5,673.6	112.8	-179.0	291.85	0.387 Level 1		
12,394.1	6,761.1	6,659.1	6,659.1	161.4	133.2	90.00	445.1	5,673.6	62.3	-232.1	294.47	0.212 Level 1, CC, ES, SF		
12,400.0	6,761.1	6,659.1	6,659.1	161.5	133.2	89.96	445.1	5,673.6	62.6	-232.0	294.63	0.212 Level 1		
12,500.0	6,760.4	6,658.4	6,658.4	164.3	133.2	89.27	445.1	5,673.6	122.9	-174.5	297.37	0.413 Level 1		
12,600.0	6,759.6	6,657.6	6,657.6	167.1	133.2	88.58	445.1	5,673.6	215.2	-84.9	300.07	0.717 Level 1		
12,700.0	6,758.9	6,656.9	6,656.9	169.9	133.1	87.89	445.1	5,673.6	312.2	9.5	302.72	1.031 Level 2		
12,800.0	6,758.1	6,656.1	6,656.1	172.7	133.1	87.20	445.1	5,673.6	410.7	105.4	305.34	1.345 Level 3		
12,900.0	6,757.4	6,655.4	6,655.4	175.5	133.1	86.51	445.1	5,673.6	509.8	201.8	307.90	1.656		
13,000.0	6,756.6	6,654.6	6,654.6	178.3	133.1	85.83	445.1	5,673.6	609.1	298.7	310.42	1.962		
13,100.0	6,755.8	6,653.8	6,653.8	181.1	133.1	85.14	445.1	5,673.6	708.7	395.8	312.90	2.265		
13,200.0	6,755.1	6,653.1	6,653.1	183.9	133.1	84.46	445.1	5,673.6	808.3	493.0	315.33	2.563		
13,300.0	6,754.3	6,652.3	6,652.3	186.7	133.0	83.77	445.1	5,673.6	908.1	590.4	317.70	2.858		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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: 6958-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
12,300.0	6,761.9	6,652.9	6,652.9	158.7	133.1	-90.75	1,002.7	6,445.4	997.5	705.8	291.67	3.420		
12,400.0	6,761.1	6,652.1	6,652.1	161.5	133.0	-90.66	1,002.7	6,445.4	912.0	617.6	294.46	3.097		
12,500.0	6,760.4	6,651.4	6,651.4	164.3	133.0	-90.58	1,002.7	6,445.4	829.8	532.6	297.24	2.792		
12,600.0	6,759.6	6,650.6	6,650.6	167.1	133.0	-90.49	1,002.7	6,445.4	752.0	451.9	300.03	2.506		
12,700.0	6,758.9	6,649.9	6,649.9	169.9	133.0	-90.40	1,002.7	6,445.4	679.9	377.1	302.82	2.245		
12,800.0	6,758.1	6,649.1	6,649.1	172.7	133.0	-90.32	1,002.7	6,445.4	615.7	310.1	305.60	2.015		
12,900.0	6,757.4	6,648.4	6,648.4	175.5	133.0	-90.23	1,002.7	6,445.4	562.1	253.7	308.39	1.823		
13,000.0	6,756.6	6,647.6	6,647.6	178.3	133.0	-90.14	1,002.7	6,445.4	522.3	211.1	311.18	1.678		
13,100.0	6,755.8	6,646.8	6,646.8	181.1	132.9	-90.06	1,002.7	6,445.4	499.6	185.7	313.96	1.591		
13,165.8	6,755.4	6,646.4	6,646.4	182.9	132.9	-90.00	1,002.7	6,445.4	495.3	179.5	315.80	1.568 CC, ES		
13,200.0	6,755.1	6,646.1	6,646.1	183.9	132.9	-89.97	1,002.7	6,445.4	496.4	179.7	316.75	1.567 SF		
13,300.0	6,754.3	6,645.3	6,645.3	186.7	132.9	-89.88	1,002.7	6,445.4	513.1	193.6	319.53	1.606		
13,400.0	6,753.6	6,644.6	6,644.6	189.5	132.9	-89.80	1,002.7	6,445.4	547.8	225.5	322.32	1.700		
13,500.0	6,752.8	6,643.8	6,643.8	192.3	132.9	-89.71	1,002.7	6,445.4	597.4	272.3	325.10	1.838		
13,600.0	6,752.1	6,643.1	6,643.1	195.1	132.9	-89.62	1,002.7	6,445.4	658.6	330.7	327.88	2.009		
13,700.0	6,751.3	6,642.3	6,642.3	197.9	132.8	-89.54	1,002.7	6,445.4	728.4	397.7	330.67	2.203		
13,800.0	6,750.6	6,641.6	6,641.6	200.7	132.8	-89.45	1,002.7	6,445.4	804.6	471.2	333.45	2.413		
13,879.4	6,750.0	6,641.0	6,641.0	202.9	132.8	-89.38	1,002.7	6,445.4	868.6	532.9	335.66	2.588		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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		Highside Toolface (°)	Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8,800.0	6,788.1	6,680.4	6,679.1	61.8	11.9	34.58	493.9	3,060.4	981.1	936.9	44.26	22.166			
8,900.0	6,787.4	6,682.4	6,681.1	64.5	11.9	37.53	493.9	3,060.4	881.2	832.5	48.64	18.115			
9,000.0	6,786.6	6,684.3	6,683.1	67.3	11.9	40.93	493.9	3,060.5	781.2	727.6	53.57	14.583			
9,100.0	6,785.9	6,686.3	6,685.1	70.0	11.9	44.85	493.8	3,060.5	681.2	622.2	59.08	11.531			
9,200.0	6,785.1	6,688.3	6,687.1	72.7	11.9	49.37	493.8	3,060.6	581.3	516.1	65.17	8.919			
9,300.0	6,784.4	6,690.3	6,689.0	75.5	11.9	54.57	493.8	3,060.6	481.3	409.6	71.77	6.706			
9,400.0	6,783.6	6,692.3	6,691.0	78.2	11.9	60.52	493.7	3,060.7	381.4	302.7	78.70	4.847			
9,500.0	6,782.9	6,694.2	6,693.0	80.9	11.9	67.22	493.7	3,060.7	281.5	195.9	85.61	3.288			
9,600.0	6,782.1	6,696.2	6,695.0	83.7	11.9	74.62	493.7	3,060.8	181.7	89.7	92.01	1.975			
9,700.0	6,781.4	6,698.2	6,697.0	86.4	12.0	82.55	493.7	3,060.8	82.4	-15.0	97.33	0.846 Level 1			
9,781.4	6,780.8	6,699.8	6,698.6	88.7	12.0	89.21	493.6	3,060.9	13.8	-86.7	100.49	0.137 Level 1, CC, ES, SF			
9,800.0	6,780.6	6,700.2	6,698.9	89.2	12.0	90.74	493.6	3,060.9	23.3	-77.7	101.04	0.231 Level 1			
9,900.0	6,779.9	6,702.2	6,700.9	92.0	12.0	98.87	493.6	3,061.0	119.5	16.7	102.85	1.162 Level 2			
10,000.0	6,779.1	6,704.1	6,702.9	94.7	12.0	106.62	493.6	3,061.0	219.2	116.3	102.83	2.131			
10,100.0	6,778.4	6,706.1	6,704.9	97.5	12.0	113.77	493.5	3,061.1	319.0	217.7	101.31	3.149			
10,200.0	6,777.6	6,708.1	6,706.9	100.3	12.0	120.20	493.5	3,061.1	418.9	320.1	98.78	4.241			
10,300.0	6,776.9	6,710.1	6,708.8	103.0	12.0	125.86	493.5	3,061.2	518.8	423.2	95.68	5.423			
10,400.0	6,776.1	6,712.1	6,710.8	105.8	12.0	130.80	493.5	3,061.2	618.8	526.4	92.37	6.699			
10,500.0	6,775.4	6,714.0	6,712.8	108.6	12.0	135.08	493.4	3,061.3	718.8	629.7	89.10	8.067			
10,600.0	6,774.6	6,716.0	6,714.8	111.4	12.0	138.79	493.4	3,061.3	818.7	732.7	86.00	9.520			
10,700.0	6,773.9	6,718.0	6,716.8	114.1	12.0	142.01	493.4	3,061.4	918.7	835.5	83.15	11.048			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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: 6838-UNKNOWN													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,100.0	6,778.4	6,675.4	6,675.4	97.5	133.5	-95.76	579.6	4,350.0	973.0	743.4	229.62	4.237	
10,200.0	6,777.6	6,674.6	6,674.6	100.3	133.5	-95.17	579.6	4,350.0	873.3	640.7	232.60	3.755	
10,300.0	6,776.9	6,673.9	6,673.9	103.0	133.5	-94.58	579.6	4,350.0	773.7	538.1	235.56	3.284	
10,400.0	6,776.1	6,673.1	6,673.1	105.8	133.5	-93.99	579.6	4,350.0	674.2	435.7	238.50	2.827	
10,500.0	6,775.4	6,672.4	6,672.4	108.6	133.4	-93.39	579.6	4,350.0	574.9	333.4	241.43	2.381	
10,600.0	6,774.6	6,671.6	6,671.6	111.4	133.4	-92.80	579.6	4,350.0	475.8	231.5	244.34	1.947	
10,700.0	6,773.9	6,670.9	6,670.9	114.1	133.4	-92.20	579.6	4,350.0	377.3	130.1	247.22	1.526	
10,800.0	6,773.1	6,670.1	6,670.1	116.9	133.4	-91.61	579.6	4,350.0	279.8	29.7	250.08	1.119	Level 2
10,900.0	6,772.4	6,669.4	6,669.4	119.7	133.4	-91.01	579.6	4,350.0	185.0	-67.9	252.92	0.731	Level 1
11,000.0	6,771.6	6,668.6	6,668.6	122.5	133.4	-90.42	579.6	4,350.0	100.8	-154.9	255.74	0.394	Level 1
11,070.3	6,771.1	6,668.1	6,668.1	124.4	133.4	-90.00	579.6	4,350.0	72.2	-185.5	257.70	0.280	Level 1, CC, ES, SF
11,100.0	6,770.9	6,667.9	6,667.9	125.3	133.4	-89.82	579.6	4,350.0	78.1	-180.5	258.53	0.302	Level 1
11,200.0	6,770.1	6,667.1	6,667.1	128.0	133.3	-89.23	579.6	4,350.0	148.4	-112.9	261.29	0.568	Level 1
11,300.0	6,769.4	6,666.4	6,666.4	130.8	133.3	-88.63	579.6	4,350.0	240.7	-23.3	264.03	0.912	Level 1
11,400.0	6,768.6	6,665.6	6,665.6	133.6	133.3	-88.04	579.6	4,350.0	337.5	70.7	266.74	1.265	Level 3
11,500.0	6,767.9	6,664.9	6,664.9	136.4	133.3	-87.44	579.6	4,350.0	435.7	166.3	269.42	1.617	
11,600.0	6,767.1	6,664.1	6,664.1	139.2	133.3	-86.85	579.6	4,350.0	534.5	262.5	272.07	1.965	
11,700.0	6,766.4	6,663.4	6,663.4	142.0	133.3	-86.26	579.6	4,350.0	633.8	359.1	274.69	2.307	
11,800.0	6,765.6	6,662.6	6,662.6	144.8	133.3	-85.66	579.6	4,350.0	733.2	455.9	277.28	2.644	
11,900.0	6,764.9	6,661.9	6,661.9	147.6	133.2	-85.07	579.6	4,350.0	832.8	552.9	279.84	2.976	
12,000.0	6,764.1	6,661.1	6,661.1	150.4	133.2	-84.48	579.6	4,350.0	932.4	650.1	282.37	3.302	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26H-332 - Wellbore #1 - Plan #1 (8-13-1										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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
							+N/-S (ft)	+E/-W (ft)								
0.0	0.0	1.0	1.0	0.0	0.0	-96.77	-3.6	-30.7	30.9	30.9	0.00	N/A				
100.0	100.0	101.0	101.0	0.1	0.1	-96.77	-3.6	-30.7	30.9	30.6	0.23	135.979				
166.3	166.3	167.3	167.3	0.3	0.3	-96.77	-3.6	-30.7	30.9	30.3	0.53	58.777 CC				
200.0	200.0	201.0	201.0	0.3	0.3	-96.77	-3.6	-30.7	30.9	30.2	0.68	45.628				
300.0	300.0	300.9	300.8	0.6	0.6	-93.51	-1.9	-31.0	31.1	30.0	1.13	27.616				
400.0	400.0	400.5	400.3	0.8	0.8	-84.30	3.2	-32.2	32.3	30.7	1.58	20.422				
500.0	500.0	499.6	499.0	1.0	1.0	-71.10	11.6	-34.0	36.0	34.0	2.05	17.563				
600.0	600.0	598.0	596.7	1.2	1.3	-57.49	23.3	-36.6	43.6	41.1	2.52	17.298				
700.0	700.0	695.8	693.3	1.5	1.6	-46.27	38.1	-39.8	55.7	52.7	2.99	18.599				
800.0	800.0	794.4	790.5	1.7	2.0	-38.71	54.1	-43.4	70.1	66.7	3.45	20.339				
900.0	900.0	893.0	887.8	1.9	2.3	-33.77	70.1	-46.9	85.4	81.4	3.91	21.847				
1,000.0	1,000.0	991.6	985.0	2.1	2.7	-30.34	86.1	-50.4	101.0	96.7	4.37	23.100				
1,100.0	1,100.0	1,090.5	1,082.5	2.4	3.1	-5.10	102.1	-53.9	115.3	110.4	4.87	23.687				
1,200.0	1,199.8	1,189.8	1,180.5	2.6	3.4	-3.28	118.3	-57.5	126.2	120.8	5.33	23.689				
1,300.0	1,299.5	1,289.4	1,278.7	2.8	3.8	-1.81	134.4	-61.0	133.7	127.9	5.79	23.108				
1,400.0	1,398.7	1,389.3	1,377.2	3.1	4.2	-0.51	150.6	-64.6	137.9	131.7	6.25	22.064				
1,500.0	1,497.8	1,489.2	1,475.7	3.3	4.5	0.72	166.8	-68.1	141.1	134.3	6.73	20.969				
1,600.0	1,596.9	1,589.1	1,574.2	3.6	4.9	1.89	183.1	-71.7	144.3	137.1	7.21	20.021				
1,700.0	1,696.1	1,689.0	1,672.7	3.9	5.3	3.01	199.3	-75.3	147.5	139.9	7.69	19.193				
1,800.0	1,795.2	1,788.9	1,771.3	4.2	5.7	4.09	215.5	-78.8	150.9	142.7	8.17	18.465				
1,900.0	1,894.3	1,888.8	1,869.8	4.5	6.0	5.11	231.7	-82.4	154.2	145.6	8.66	17.819				
2,000.0	1,993.4	1,988.7	1,968.3	4.8	6.4	6.09	247.9	-86.0	157.7	148.5	9.14	17.242				
2,100.0	2,092.5	2,088.6	2,066.8	5.1	6.8	7.03	264.1	-89.5	161.1	151.5	9.63	16.724				
2,200.0	2,191.7	2,188.5	2,165.3	5.4	7.2	7.93	280.3	-93.1	164.6	154.5	10.13	16.256				
2,300.0	2,290.8	2,288.5	2,263.9	5.7	7.6	8.79	296.5	-96.7	168.2	157.5	10.62	15.832				
2,400.0	2,389.9	2,388.4	2,362.4	6.0	7.9	9.62	312.7	-100.2	171.7	160.6	11.12	15.445				
2,500.0	2,489.0	2,488.3	2,460.9	6.3	8.3	10.41	329.0	-103.8	175.3	163.7	11.62	15.091				
2,600.0	2,588.1	2,588.2	2,559.4	6.6	8.7	11.17	345.2	-107.4	179.0	166.9	12.12	14.766				
2,700.0	2,687.3	2,688.1	2,657.9	7.0	9.1	11.90	361.4	-110.9	182.7	170.0	12.63	14.466				
2,800.0	2,786.4	2,788.0	2,756.4	7.3	9.4	12.60	377.6	-114.5	186.4	173.2	13.14	14.188				
2,900.0	2,885.5	2,887.9	2,855.0	7.6	9.8	13.28	393.8	-118.1	190.1	176.4	13.65	13.931				
3,000.0	2,984.6	2,987.8	2,953.5	7.9	10.2	13.93	410.0	-121.6	193.8	179.7	14.16	13.691				
3,100.0	3,083.7	3,087.7	3,052.0	8.2	10.6	14.55	426.2	-125.2	197.6	183.0	14.67	13.468				
3,200.0	3,182.9	3,187.6	3,150.5	8.6	11.0	15.15	442.4	-128.8	201.4	186.2	15.19	13.259				
3,300.0	3,282.0	3,287.5	3,249.0	8.9	11.3	15.73	458.6	-132.3	205.3	189.5	15.71	13.063				
3,400.0	3,381.1	3,387.4	3,347.5	9.2	11.7	16.28	474.9	-135.9	209.1	192.9	16.23	12.880				
3,500.0	3,480.2	3,487.3	3,446.1	9.5	12.1	16.82	491.1	-139.4	213.0	196.2	16.76	12.707				
3,600.0	3,579.3	3,587.2	3,544.6	9.9	12.5	17.34	507.3	-143.0	216.8	199.5	17.29	12.544				
3,700.0	3,678.4	3,687.1	3,643.1	10.2	12.9	17.83	523.5	-146.6	220.7	202.9	17.81	12.391				
3,800.0	3,777.6	3,787.0	3,741.6	10.5	13.2	18.32	539.7	-150.1	224.6	206.3	18.34	12.246				
3,900.0	3,876.7	3,886.9	3,840.1	10.8	13.6	18.78	555.9	-153.7	228.6	209.7	18.88	12.108				
4,000.0	3,975.8	3,986.9	3,938.7	11.2	14.0	19.23	572.1	-157.3	232.5	213.1	19.41	11.978				
4,100.0	4,074.9	4,086.8	4,037.2	11.5	14.4	19.66	588.3	-160.8	236.5	216.5	19.95	11.855				
4,200.0	4,174.0	4,186.7	4,135.7	11.8	14.7	20.08	604.5	-164.4	240.4	220.0	20.49	11.737				
4,300.0	4,273.2	4,286.6	4,234.2	12.1	15.1	20.49	620.7	-168.0	244.4	223.4	21.02	11.625				
4,400.0	4,372.3	4,386.5	4,332.7	12.5	15.5	20.88	637.0	-171.5	248.4	226.8	21.57	11.519				
4,500.0	4,471.4	4,486.4	4,431.2	12.8	15.9	21.26	653.2	-175.1	252.4	230.3	22.11	11.417				
4,600.0	4,570.5	4,586.3	4,529.8	13.1	16.3	21.63	669.4	-178.7	256.4	233.8	22.65	11.320				
4,700.0	4,669.6	4,686.2	4,628.3	13.4	16.6	21.99	685.6	-182.2	260.5	237.3	23.20	11.227				
4,800.0	4,768.8	4,786.1	4,726.8	13.8	17.0	22.34	701.8	-185.8	264.5	240.7	23.75	11.139				
4,900.0	4,867.9	4,886.0	4,825.3	14.1	17.4	22.67	718.0	-189.4	268.5	244.2	24.29	11.054				

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26H-332 - Wellbore #1 - Plan #1 (8-13-1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,967.0	4,985.9	4,923.8	14.4	17.8	23.00	734.2	-192.9	272.6	247.7	24.84	10.973		
5,100.0	5,066.1	5,085.8	5,022.3	14.8	18.2	23.32	750.4	-196.5	276.7	251.3	25.39	10.895		
5,200.0	5,165.3	5,185.7	5,120.8	15.1	18.5	23.61	766.6	-200.0	281.0	255.1	25.92	10.841		
5,300.0	5,264.8	5,285.5	5,219.2	15.3	18.9	23.70	782.8	-203.6	288.2	261.8	26.36	10.932		
5,400.0	5,364.6	5,384.9	5,317.3	15.5	19.3	23.54	799.0	-207.2	298.5	271.7	26.73	11.164		
5,500.0	5,464.5	5,494.9	5,426.0	15.7	19.6	23.18	815.0	-210.7	310.3	283.3	27.02	11.485		
5,600.0	5,564.5	5,606.3	5,536.7	15.8	19.9	-0.04	827.1	-213.3	321.0	286.0	34.95	9.184		
5,700.0	5,664.5	5,718.4	5,648.6	16.0	20.1	-0.35	835.1	-215.1	328.1	292.7	35.36	9.277		
5,800.0	5,764.5	5,831.1	5,761.1	16.2	20.3	-0.48	838.7	-215.9	331.3	295.6	35.72	9.275		
5,900.0	5,864.5	5,935.5	5,865.5	16.3	20.4	-0.49	839.0	-216.0	331.5	295.5	36.03	9.201		
6,000.0	5,964.5	6,035.5	5,965.5	16.5	20.5	-0.49	839.0	-215.9	331.5	295.2	36.35	9.121		
6,063.0	6,027.5	6,098.6	6,028.6	16.6	20.6	-90.09	839.0	-212.9	331.5	302.4	29.12	11.385		
6,100.0	6,064.5	6,135.2	6,065.0	16.7	20.6	-89.33	839.0	-208.7	331.6	302.2	29.32	11.309		
6,200.0	6,163.9	6,233.6	6,161.3	16.8	20.7	-87.63	839.0	-188.9	331.8	302.1	29.74	11.156		
6,300.0	6,261.1	6,330.8	6,253.1	16.9	20.8	-85.98	839.0	-157.5	332.4	302.3	30.10	11.043		
6,400.0	6,354.4	6,426.8	6,339.3	16.9	20.8	-84.41	839.0	-115.1	333.1	302.7	30.41	10.956		
6,500.0	6,442.3	6,521.9	6,418.6	16.9	20.9	-82.95	839.0	-62.9	334.1	303.3	30.74	10.868		
6,600.0	6,523.3	6,616.0	6,490.2	17.0	20.9	-81.61	839.0	-1.9	335.1	303.9	31.20	10.742		
6,700.0	6,595.9	6,709.3	6,553.3	17.0	21.0	-80.42	839.0	66.8	336.2	304.3	31.97	10.517		
6,800.0	6,658.9	6,802.0	6,607.1	17.1	21.2	-79.39	839.0	142.1	337.3	304.2	33.17	10.170		
6,900.0	6,711.2	6,894.0	6,651.2	17.6	21.4	-78.53	839.0	222.8	338.3	303.4	34.93	9.684		
7,000.0	6,752.0	6,985.6	6,685.2	18.7	21.9	-77.85	839.0	307.8	339.1	301.8	37.33	9.086		
7,100.0	6,780.5	7,076.8	6,708.6	20.2	22.8	-77.36	839.0	396.0	339.8	299.4	40.32	8.427		
7,200.0	6,796.3	7,167.8	6,721.4	22.0	24.1	-77.07	839.0	486.0	340.2	296.3	43.83	7.761		
7,300.0	6,799.4	7,260.8	6,723.6	24.0	25.7	-76.96	839.0	578.9	340.3	292.6	47.71	7.132		
7,400.0	6,798.6	7,360.8	6,722.5	26.1	27.6	-76.90	839.0	678.9	340.4	288.5	51.86	6.564		
7,500.0	6,797.9	7,460.8	6,721.3	28.4	29.8	-76.83	839.0	778.8	340.5	284.3	56.22	6.056		
7,600.0	6,797.1	7,560.8	6,720.2	30.7	32.0	-76.77	839.0	878.8	340.6	279.8	60.77	5.605		
7,700.0	6,796.4	7,660.8	6,719.0	33.1	34.3	-76.71	839.0	978.8	340.7	275.2	65.45	5.205		
7,800.0	6,795.6	7,760.8	6,717.9	35.6	36.7	-76.64	839.0	1,078.8	340.7	270.5	70.24	4.851		
7,900.0	6,794.9	7,860.8	6,716.8	38.1	39.2	-76.58	839.0	1,178.8	340.8	265.7	75.13	4.537		
8,000.0	6,794.1	7,960.8	6,715.6	40.6	41.7	-76.52	839.0	1,278.8	340.9	260.8	80.09	4.257		
8,100.0	6,793.4	8,060.7	6,714.5	43.2	44.2	-76.46	839.0	1,378.8	341.0	255.9	85.10	4.007		
8,200.0	6,792.6	8,160.7	6,713.4	45.8	46.8	-76.39	839.0	1,478.8	341.1	250.9	90.17	3.783		
8,300.0	6,791.9	8,260.7	6,712.2	48.5	49.4	-76.33	839.0	1,578.8	341.2	245.9	95.28	3.581		
8,400.0	6,791.1	8,360.7	6,711.1	51.1	52.0	-76.27	839.0	1,678.8	341.3	240.9	100.42	3.399		
8,500.0	6,790.4	8,460.7	6,710.0	53.8	54.6	-76.20	839.0	1,778.8	341.4	235.8	105.59	3.233		
8,600.0	6,789.6	8,560.7	6,708.8	56.4	57.3	-76.14	839.0	1,878.8	341.5	230.7	110.78	3.082		
8,700.0	6,788.9	8,660.7	6,707.7	59.1	59.9	-76.08	839.0	1,978.8	341.6	225.6	115.99	2.945		
8,800.0	6,788.1	8,760.7	6,706.6	61.8	62.6	-76.02	839.0	2,078.8	341.7	220.4	121.23	2.818		
8,900.0	6,787.4	8,860.7	6,705.4	64.5	65.3	-75.95	839.0	2,178.7	341.7	215.3	126.47	2.702		
9,000.0	6,786.6	8,960.7	6,704.3	67.3	68.0	-75.89	839.0	2,278.7	341.8	210.1	131.73	2.595		
9,100.0	6,785.9	9,060.7	6,703.2	70.0	70.7	-75.83	839.0	2,378.7	341.9	204.9	137.00	2.496		
9,200.0	6,785.1	9,160.7	6,702.0	72.7	73.4	-75.77	839.0	2,478.7	342.0	199.7	142.28	2.404		
9,300.0	6,784.4	9,260.7	6,700.9	75.5	76.2	-75.71	839.0	2,578.7	342.1	194.6	147.57	2.318		
9,400.0	6,783.6	9,360.7	6,699.8	78.2	78.9	-75.64	839.0	2,678.7	342.2	189.4	152.86	2.239		
9,500.0	6,782.9	9,460.7	6,698.6	80.9	81.6	-75.58	839.0	2,778.7	342.3	184.1	158.16	2.164		
9,600.0	6,782.1	9,560.7	6,697.5	83.7	84.4	-75.52	839.0	2,878.7	342.4	178.9	163.47	2.095		
9,700.0	6,781.4	9,660.7	6,696.4	86.4	87.1	-75.46	839.0	2,978.7	342.5	173.7	168.78	2.029		
9,800.0	6,780.6	9,760.7	6,695.2	89.2	89.8	-75.39	839.0	3,078.7	342.6	168.5	174.09	1.968		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design										Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26H-332 - Wellbore #1 - Plan #1 (8-13-1)			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		
9,900.0	6,779.9	9,860.7	6,694.1	92.0	92.6	-75.33	839.0	3,178.7	342.7	163.3	179.41	1.910			
10,000.0	6,779.1	9,960.7	6,693.0	94.7	95.4	-75.27	839.0	3,278.7	342.8	158.1	184.73	1.856			
10,100.0	6,778.4	10,060.7	6,691.8	97.5	98.1	-75.21	839.0	3,378.7	342.9	152.8	190.05	1.804			
10,200.0	6,777.6	10,160.7	6,690.7	100.3	100.9	-75.15	839.0	3,478.6	343.0	147.6	195.37	1.756			
10,300.0	6,776.9	10,260.7	6,689.6	103.0	103.6	-75.08	839.0	3,578.6	343.1	142.4	200.69	1.710			
10,400.0	6,776.1	10,360.7	6,688.4	105.8	106.4	-75.02	839.0	3,678.6	343.2	137.2	206.02	1.666			
10,500.0	6,775.4	10,460.7	6,687.3	108.6	109.2	-74.96	839.0	3,778.6	343.3	131.9	211.34	1.624			
10,600.0	6,774.6	10,560.7	6,686.2	111.4	111.9	-74.90	839.0	3,878.6	343.4	126.7	216.67	1.585			
10,700.0	6,773.9	10,660.7	6,685.0	114.1	114.7	-74.84	839.0	3,978.6	343.5	121.5	221.99	1.547			
10,800.0	6,773.1	10,760.7	6,683.9	116.9	117.5	-74.77	839.0	4,078.6	343.6	116.3	227.31	1.512			
10,900.0	6,772.4	10,860.7	6,682.7	119.7	120.3	-74.71	839.0	4,178.6	343.7	111.1	232.64	1.477	Level 3		
11,000.0	6,771.6	10,960.7	6,681.6	122.5	123.0	-74.65	839.0	4,278.6	343.8	105.8	237.96	1.445	Level 3		
11,100.0	6,770.9	11,060.7	6,680.5	125.3	125.8	-74.59	839.0	4,378.6	343.9	100.6	243.28	1.414	Level 3		
11,200.0	6,770.1	11,160.7	6,679.3	128.0	128.6	-74.53	839.0	4,478.6	344.0	95.4	248.60	1.384	Level 3		
11,300.0	6,769.4	11,260.7	6,678.2	130.8	131.4	-74.47	839.0	4,578.6	344.1	90.2	253.92	1.355	Level 3		
11,400.0	6,768.6	11,360.7	6,677.1	133.6	134.1	-74.40	839.0	4,678.6	344.2	85.0	259.24	1.328	Level 3		
11,500.0	6,767.9	11,460.7	6,675.9	136.4	136.9	-74.34	839.0	4,778.6	344.3	79.7	264.56	1.301	Level 3		
11,600.0	6,767.1	11,560.7	6,674.8	139.2	139.7	-74.28	839.0	4,878.5	344.4	74.5	269.88	1.276	Level 3		
11,700.0	6,766.4	11,660.7	6,673.7	142.0	142.5	-74.22	839.0	4,978.5	344.5	69.3	275.19	1.252	Level 3		
11,800.0	6,765.6	11,760.7	6,672.5	144.8	145.3	-74.16	839.0	5,078.5	344.6	64.1	280.50	1.229	Level 2		
11,900.0	6,764.9	11,860.7	6,671.4	147.6	148.1	-74.10	839.0	5,178.5	344.7	58.9	285.81	1.206	Level 2		
12,000.0	6,764.1	11,960.7	6,670.3	150.4	150.9	-74.04	839.0	5,278.5	344.8	53.7	291.12	1.184	Level 2		
12,100.0	6,763.4	12,060.7	6,669.1	153.1	153.6	-73.97	839.0	5,378.5	344.9	48.5	296.43	1.164	Level 2		
12,200.0	6,762.6	12,160.7	6,668.0	155.9	156.4	-73.91	839.0	5,478.5	345.0	43.3	301.73	1.144	Level 2		
12,300.0	6,761.9	12,260.7	6,666.9	158.7	159.2	-73.85	839.0	5,578.5	345.1	38.1	307.03	1.124	Level 2		
12,400.0	6,761.1	12,360.7	6,665.7	161.5	162.0	-73.79	839.0	5,678.5	345.3	32.9	312.33	1.105	Level 2		
12,500.0	6,760.4	12,460.7	6,664.6	164.3	164.8	-73.73	839.0	5,778.5	345.4	27.7	317.63	1.087	Level 2		
12,600.0	6,759.6	12,560.7	6,663.5	167.1	167.6	-73.67	839.0	5,878.5	345.5	22.5	322.93	1.070	Level 2		
12,700.0	6,758.9	12,660.7	6,662.3	169.9	170.4	-73.61	839.0	5,978.5	345.6	17.4	328.22	1.053	Level 2		
12,800.0	6,758.1	12,760.7	6,661.2	172.7	173.2	-73.55	839.0	6,078.5	345.7	12.2	333.51	1.037	Level 2		
12,900.0	6,757.4	12,860.7	6,660.1	175.5	176.0	-73.49	839.0	6,178.5	345.8	7.0	338.79	1.021	Level 2		
13,000.0	6,756.6	12,960.7	6,658.9	178.3	178.8	-73.42	839.0	6,278.4	345.9	1.8	344.08	1.005	Level 2		
13,100.0	6,755.8	13,060.7	6,657.8	181.1	181.6	-73.36	839.0	6,378.4	346.0	-3.3	349.36	0.990	Level 1		
13,200.0	6,755.1	13,160.7	6,656.7	183.9	184.4	-73.30	839.0	6,478.4	346.1	-8.5	354.64	0.976	Level 1		
13,300.0	6,754.3	13,260.7	6,655.5	186.7	187.2	-73.24	839.0	6,578.4	346.2	-13.7	359.92	0.962	Level 1		
13,400.0	6,753.6	13,360.7	6,654.4	189.5	189.9	-73.18	839.0	6,678.4	346.3	-18.8	365.19	0.948	Level 1		
13,500.0	6,752.8	13,460.7	6,653.3	192.3	192.7	-73.12	839.0	6,778.4	346.5	-24.0	370.46	0.935	Level 1		
13,600.0	6,752.1	13,560.7	6,652.1	195.1	195.5	-73.06	839.0	6,878.4	346.6	-29.2	375.73	0.922	Level 1		
13,700.0	6,751.3	13,660.7	6,651.0	197.9	198.3	-73.00	839.0	6,978.4	346.7	-34.3	380.99	0.910	Level 1		
13,800.0	6,750.6	13,760.7	6,649.8	200.7	201.1	-72.94	839.0	7,078.4	346.8	-39.5	386.26	0.898	Level 1		
13,841.7	6,750.3	13,802.4	6,649.4	201.8	202.3	-72.91	839.0	7,120.1	346.8	-41.6	388.45	0.893	Level 1		
13,879.4	6,750.0	13,835.6	6,649.0	202.9	203.2	-72.89	839.0	7,153.2	346.9	-43.4	390.31	0.889	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design										Survey Program: 0-MWD				Offset Site Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance								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		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	30.7	30.7						
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	30.7	30.7	30.4	0.22	136.381			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	30.7	30.7	30.0	0.67	45.460			
300.0	300.0	300.0	300.0	0.6	0.6	90.00	0.0	30.7	30.7	29.5	1.12	27.276			
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	30.7	30.7	29.1	1.57	19.483			
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	30.7	30.7	28.6	2.02	15.153			
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	30.7	30.7	28.2	2.47	12.398			
700.0	700.0	700.0	700.0	1.5	1.5	90.00	0.0	30.7	30.7	27.7	2.92	10.491			
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	30.7	30.7	27.3	3.37	9.092			
900.0	900.0	900.0	900.0	1.9	1.9	90.00	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	90.00	0.0	30.7	30.7	26.4	4.27	7.178 CC, ES			
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	115.71	0.0	30.7	31.4	26.7	4.72	6.649			
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	123.63	0.0	30.7	34.0	28.8	5.16	6.579			
1,300.0	1,299.5	1,299.5	1,299.5	2.8	2.8	134.12	0.0	30.7	39.5	33.9	5.61	7.041			
1,400.0	1,398.7	1,398.7	1,398.7	3.1	3.0	144.30	0.0	30.7	48.7	42.7	6.05	8.055			
1,500.0	1,497.8	1,497.8	1,497.8	3.3	3.3	151.69	0.0	30.7	60.0	53.5	6.50	9.234			
1,600.0	1,596.9	1,596.9	1,596.9	3.6	3.5	156.69	0.0	30.7	72.0	65.0	6.95	10.356			
1,700.0	1,696.1	1,696.1	1,696.1	3.9	3.7	160.25	0.0	30.7	84.3	76.9	7.40	11.390			
1,800.0	1,795.2	1,795.2	1,795.2	4.2	3.9	162.90	0.0	30.7	96.9	89.0	7.85	12.334			
1,900.0	1,894.3	1,897.9	1,897.9	4.5	4.1	165.24	1.0	29.3	108.1	99.8	8.31	13.005			
2,000.0	1,993.4	2,001.3	2,001.2	4.8	4.4	167.69	4.2	25.0	116.0	107.2	8.76	13.238			
2,100.0	2,092.5	2,105.1	2,104.5	5.1	4.6	170.45	9.7	17.6	120.7	111.5	9.22	13.092			
2,200.0	2,191.7	2,207.3	2,206.0	5.4	4.8	173.57	17.1	7.7	122.6	112.9	9.68	12.664			
2,300.0	2,290.8	2,307.1	2,304.9	5.7	5.1	176.66	24.7	-2.5	124.3	114.1	10.15	12.247			
2,400.0	2,389.9	2,406.8	2,403.9	6.0	5.4	179.65	32.3	-12.8	126.3	115.7	10.62	11.888			
2,500.0	2,489.0	2,506.6	2,502.8	6.3	5.6	-177.45	40.0	-23.0	128.6	117.5	11.11	11.578			
2,600.0	2,588.1	2,606.4	2,601.8	6.6	5.9	-174.67	47.6	-33.2	131.3	119.7	11.61	11.310			
2,700.0	2,687.3	2,706.1	2,700.7	7.0	6.2	-172.01	55.2	-43.4	134.3	122.2	12.12	11.077			
2,800.0	2,786.4	2,805.9	2,799.7	7.3	6.4	-169.46	62.8	-53.6	137.5	124.9	12.65	10.873			
2,900.0	2,885.5	2,905.7	2,898.6	7.6	6.7	-167.04	70.4	-63.9	141.0	127.9	13.19	10.696			
3,000.0	2,984.6	3,005.4	2,997.6	7.9	7.0	-164.73	78.0	-74.1	144.8	131.0	13.74	10.541			
3,100.0	3,083.7	3,105.2	3,096.5	8.2	7.3	-162.55	85.7	-84.3	148.8	134.5	14.30	10.405			
3,200.0	3,182.9	3,205.0	3,195.4	8.6	7.6	-160.48	93.3	-94.5	152.9	138.1	14.87	10.285			
3,300.0	3,282.0	3,304.7	3,294.4	8.9	7.9	-158.52	100.9	-104.8	157.3	141.8	15.45	10.181			
3,400.0	3,381.1	3,404.5	3,393.3	9.2	8.2	-156.68	108.5	-115.0	161.8	145.8	16.04	10.089			
3,500.0	3,480.2	3,504.3	3,492.3	9.5	8.5	-154.93	116.1	-125.2	166.5	149.9	16.64	10.009			
3,600.0	3,579.3	3,604.0	3,591.2	9.9	8.8	-153.28	123.7	-135.4	171.4	154.1	17.24	9.939			
3,700.0	3,678.4	3,703.8	3,690.2	10.2	9.1	-151.72	131.4	-145.7	176.4	158.5	17.85	9.878			
3,800.0	3,777.6	3,803.5	3,789.1	10.5	9.4	-150.25	139.0	-155.9	181.5	163.0	18.47	9.824			
3,900.0	3,876.7	3,903.3	3,888.1	10.8	9.7	-148.86	146.6	-166.1	186.7	167.6	19.09	9.778			
4,000.0	3,975.8	4,003.1	3,987.0	11.2	10.0	-147.55	154.2	-176.3	192.0	172.3	19.72	9.737			
4,100.0	4,074.9	4,102.8	4,086.0	11.5	10.3	-146.31	161.8	-186.6	197.4	177.1	20.35	9.702			
4,200.0	4,174.0	4,200.0	4,182.4	11.8	10.6	-145.27	169.0	-196.2	203.1	182.1	20.94	9.697			
4,300.0	4,273.2	4,297.9	4,279.9	12.1	10.8	-145.01	174.5	-203.6	210.1	188.6	21.44	9.799			
4,400.0	4,372.3	4,394.5	4,376.3	12.5	11.0	-145.55	178.0	-208.2	218.5	196.6	21.87	9.990			
4,500.0	4,471.4	4,490.7	4,472.4	12.8	11.2	-146.79	179.5	-210.2	228.3	206.1	22.24	10.268			
4,600.0	4,570.5	4,588.8	4,570.5	13.1	11.4	-148.48	179.5	-210.3	239.5	216.9	22.58	10.605			
4,700.0	4,669.6	4,687.9	4,669.6	13.4	11.6	-150.05	179.5	-210.3	250.9	228.0	22.96	10.930			
4,800.0	4,768.8	4,787.0	4,768.8	13.8	11.7	-151.49	179.5	-210.3	262.5	239.2	23.33	11.249			
4,900.0	4,867.9	4,886.2	4,867.9	14.1	11.9	-152.81	179.5	-210.3	274.2	250.5	23.72	11.561			
5,000.0	4,967.0	4,985.3	4,967.0	14.4	12.1	-154.02	179.5	-210.3	286.1	262.0	24.11	11.866			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26I-212 - Wellbore #1 - Plan #1 (8-13-14)										Offset Site Error:		0.0 ft
Survey Program:		0-MWMD										Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,066.1	5,084.4	5,066.1	14.8	12.3	-155.14	179.5	-210.3	298.1	273.6	24.51	12.163		
5,200.0	5,165.3	5,183.6	5,165.3	15.1	12.5	-156.18	179.5	-210.3	309.8	284.9	24.90	12.441		
5,300.0	5,264.8	5,283.1	5,264.8	15.3	12.7	-156.97	179.5	-210.3	319.0	293.7	25.26	12.626		
5,400.0	5,364.6	5,382.8	5,364.6	15.5	12.9	-157.46	179.5	-210.3	324.9	299.3	25.61	12.687		
5,500.0	5,464.5	5,482.8	5,464.5	15.7	13.1	-157.68	179.5	-210.3	327.7	301.7	25.95	12.630		
5,600.0	5,564.5	5,582.8	5,564.5	15.8	13.3	179.52	179.5	-210.3	327.9	300.0	27.93	11.739		
5,700.0	5,664.5	5,682.8	5,664.5	16.0	13.5	179.52	179.5	-210.3	327.9	299.6	28.32	11.579		
5,800.0	5,764.5	5,782.8	5,764.5	16.2	13.7	179.52	179.5	-210.3	327.9	299.2	28.71	11.423		
5,900.0	5,864.5	5,882.8	5,864.5	16.3	13.9	179.52	179.5	-210.3	327.9	298.8	29.09	11.270		
5,931.0	5,895.5	5,913.8	5,895.5	16.4	14.0	179.52	179.5	-210.3	327.9	298.7	29.22	11.223		
6,000.0	5,964.5	5,982.4	5,964.1	16.5	14.1	179.07	179.5	-207.8	327.9	298.4	29.49	11.119		
6,100.0	6,064.5	6,079.9	6,060.5	16.7	14.2	86.67	179.5	-193.6	328.5	300.4	28.11	11.685		
6,200.0	6,163.9	6,175.0	6,152.0	16.8	14.3	83.79	179.5	-168.1	329.9	301.7	28.19	11.702		
6,300.0	6,261.1	6,268.3	6,238.1	16.9	14.4	81.05	179.5	-132.1	332.0	303.8	28.26	11.750		
6,400.0	6,354.4	6,360.0	6,317.7	16.9	14.4	78.51	179.5	-86.9	334.7	306.4	28.37	11.800		
6,500.0	6,442.3	6,450.0	6,390.1	16.9	14.6	76.20	179.5	-33.5	337.8	309.2	28.58	11.818		
6,600.0	6,523.3	6,539.2	6,455.2	17.0	14.8	74.13	179.5	27.4	341.1	312.1	29.00	11.761		
6,700.0	6,595.9	6,627.2	6,512.0	17.0	15.3	72.34	179.5	94.5	344.3	314.6	29.70	11.592		
6,800.0	6,658.9	6,714.2	6,560.2	17.1	16.1	70.84	179.5	166.9	347.3	316.5	30.76	11.288		
6,900.0	6,711.2	6,800.0	6,599.4	17.6	17.1	69.63	179.5	243.2	349.9	317.6	32.27	10.843		
7,000.0	6,752.0	6,886.3	6,630.0	18.7	18.3	68.71	179.5	323.9	352.0	317.7	34.28	10.268		
7,100.0	6,780.5	6,971.7	6,651.0	20.2	19.8	68.09	179.5	406.5	353.4	316.7	36.75	9.617		
7,200.0	6,796.3	7,056.8	6,662.7	22.0	21.4	67.78	179.5	490.8	354.2	314.6	39.64	8.935		
7,300.0	6,799.4	7,143.6	6,665.0	24.0	23.1	67.72	179.5	577.5	354.3	311.4	42.96	8.248		
7,400.0	6,798.6	7,243.6	6,663.4	26.1	25.3	67.58	179.5	677.5	354.7	307.8	46.90	7.562		
7,500.0	6,797.9	7,343.6	6,661.8	28.4	27.6	67.45	179.5	777.5	355.0	304.0	51.05	6.954		
7,600.0	6,797.1	7,443.6	6,660.1	30.7	29.9	67.32	179.5	877.5	355.4	300.0	55.37	6.418		
7,700.0	6,796.4	7,543.6	6,658.5	33.1	32.4	67.19	179.5	977.5	355.7	295.9	59.81	5.947		
7,800.0	6,795.6	7,643.6	6,656.8	35.6	34.8	67.06	179.5	1,077.4	356.1	291.7	64.35	5.533		
7,900.0	6,794.9	7,743.6	6,655.2	38.1	37.4	66.92	179.5	1,177.4	356.4	287.4	68.97	5.167		
8,000.0	6,794.1	7,843.6	6,653.5	40.6	40.0	66.79	179.5	1,277.4	356.8	283.1	73.65	4.844		
8,100.0	6,793.4	7,943.6	6,651.9	43.2	42.6	66.66	179.5	1,377.4	357.1	278.7	78.38	4.556		
8,200.0	6,792.6	8,043.5	6,650.3	45.8	45.2	66.53	179.5	1,477.4	357.5	274.3	83.14	4.299		
8,300.0	6,791.9	8,143.5	6,648.6	48.5	47.8	66.40	179.5	1,577.4	357.8	269.9	87.94	4.069		
8,400.0	6,791.1	8,243.5	6,647.0	51.1	50.5	66.27	179.5	1,677.3	358.2	265.4	92.75	3.862		
8,500.0	6,790.4	8,343.5	6,645.3	53.8	53.2	66.14	179.5	1,777.3	358.5	260.9	97.59	3.674		
8,600.0	6,789.6	8,443.5	6,643.7	56.4	55.9	66.01	179.5	1,877.3	358.9	256.5	102.44	3.503		
8,700.0	6,788.9	8,543.5	6,642.1	59.1	58.6	65.88	179.5	1,977.3	359.3	252.0	107.30	3.348		
8,800.0	6,788.1	8,643.5	6,640.4	61.8	61.3	65.75	179.5	2,077.3	359.6	247.5	112.17	3.206		
8,900.0	6,787.4	8,743.5	6,638.8	64.5	64.0	65.62	179.5	2,177.2	360.0	242.9	117.05	3.076		
9,000.0	6,786.6	8,843.5	6,637.1	67.3	66.7	65.49	179.5	2,277.2	360.4	238.4	121.93	2.955		
9,100.0	6,785.9	8,943.5	6,635.5	70.0	69.5	65.36	179.5	2,377.2	360.7	233.9	126.81	2.845		
9,200.0	6,785.1	9,043.5	6,633.9	72.7	72.2	65.23	179.5	2,477.2	361.1	229.4	131.69	2.742		
9,300.0	6,784.4	9,143.5	6,632.2	75.5	74.9	65.11	179.5	2,577.2	361.5	224.9	136.58	2.647		
9,400.0	6,783.6	9,243.5	6,630.6	78.2	77.7	64.98	179.5	2,677.2	361.9	220.4	141.46	2.558		
9,500.0	6,782.9	9,343.5	6,628.9	80.9	80.4	64.85	179.5	2,777.1	362.2	215.9	146.33	2.475		
9,600.0	6,782.1	9,443.5	6,627.3	83.7	83.2	64.72	179.5	2,877.1	362.6	211.4	151.21	2.398		
9,700.0	6,781.4	9,543.5	6,625.7	86.4	86.0	64.60	179.5	2,977.1	363.0	206.9	156.08	2.326		
9,800.0	6,780.6	9,643.5	6,624.0	89.2	88.7	64.47	179.5	3,077.1	363.4	202.4	160.95	2.258		
9,900.0	6,779.9	9,743.5	6,622.4	92.0	91.5	64.34	179.5	3,177.1	363.8	197.9	165.81	2.194		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	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
10,000.0	6,779.1	9,843.5	6,620.7	94.7	94.3	64.22	179.5	3,277.1	364.1	193.5	170.66	2.134	
10,100.0	6,778.4	9,943.5	6,619.1	97.5	97.0	64.09	179.5	3,377.0	364.5	189.0	175.51	2.077	
10,200.0	6,777.6	10,043.5	6,617.5	100.3	99.8	63.96	179.5	3,477.0	364.9	184.6	180.36	2.023	
10,300.0	6,776.9	10,143.5	6,615.8	103.0	102.6	63.84	179.5	3,577.0	365.3	180.1	185.19	1.973	
10,400.0	6,776.1	10,243.5	6,614.2	105.8	105.4	63.71	179.5	3,677.0	365.7	175.7	190.02	1.925	
10,500.0	6,775.4	10,343.5	6,612.5	108.6	108.1	63.59	179.5	3,777.0	366.1	171.3	194.85	1.879	
10,600.0	6,774.6	10,443.5	6,610.9	111.4	110.9	63.46	179.5	3,876.9	366.5	166.8	199.66	1.836	
10,700.0	6,773.9	10,543.4	6,609.3	114.1	113.7	63.34	179.5	3,976.9	366.9	162.4	204.47	1.794	
10,800.0	6,773.1	10,643.4	6,607.6	116.9	116.5	63.22	179.5	4,076.9	367.3	158.0	209.26	1.755	
10,900.0	6,772.4	10,743.4	6,606.0	119.7	119.3	63.09	179.5	4,176.9	367.7	153.6	214.06	1.718	
11,000.0	6,771.6	10,843.4	6,604.3	122.5	122.0	62.97	179.5	4,276.9	368.1	149.3	218.84	1.682	
11,100.0	6,770.9	10,943.4	6,602.7	125.3	124.8	62.85	179.5	4,376.9	368.5	144.9	223.61	1.648	
11,200.0	6,770.1	11,043.4	6,601.1	128.0	127.6	62.72	179.5	4,476.8	368.9	140.5	228.37	1.615	
11,300.0	6,769.4	11,143.4	6,599.4	130.8	130.4	62.60	179.5	4,576.8	369.3	136.2	233.13	1.584	
11,400.0	6,768.6	11,243.4	6,597.8	133.6	133.2	62.48	179.5	4,676.8	369.7	131.9	237.88	1.554	
11,500.0	6,767.9	11,343.4	6,596.1	136.4	136.0	62.36	179.5	4,776.8	370.1	127.5	242.61	1.526	
11,600.0	6,767.1	11,443.4	6,594.5	139.2	138.8	62.23	179.5	4,876.8	370.6	123.2	247.34	1.498 Level 3	
11,700.0	6,766.4	11,543.4	6,592.9	142.0	141.6	62.11	179.5	4,976.8	371.0	118.9	252.06	1.472 Level 3	
11,800.0	6,765.6	11,643.4	6,591.2	144.8	144.4	61.99	179.5	5,076.7	371.4	114.6	256.77	1.446 Level 3	
11,900.0	6,764.9	11,743.4	6,589.6	147.6	147.1	61.87	179.5	5,176.7	371.8	110.3	261.47	1.422 Level 3	
12,000.0	6,764.1	11,843.4	6,587.9	150.4	149.9	61.75	179.5	5,276.7	372.2	106.1	266.16	1.399 Level 3	
12,100.0	6,763.4	11,943.4	6,586.3	153.1	152.7	61.63	179.5	5,376.7	372.7	101.8	270.84	1.376 Level 3	
12,200.0	6,762.6	12,043.4	6,584.6	155.9	155.5	61.51	179.5	5,476.7	373.1	97.6	275.51	1.354 Level 3	
12,300.0	6,761.9	12,143.4	6,583.0	158.7	158.3	61.39	179.5	5,576.7	373.5	93.3	280.17	1.333 Level 3	
12,400.0	6,761.1	12,243.4	6,581.4	161.5	161.1	61.27	179.5	5,676.6	373.9	89.1	284.82	1.313 Level 3	
12,500.0	6,760.4	12,343.4	6,579.7	164.3	163.9	61.15	179.5	5,776.6	374.4	84.9	289.46	1.293 Level 3	
12,600.0	6,759.6	12,443.4	6,578.1	167.1	166.7	61.03	179.5	5,876.6	374.8	80.7	294.09	1.274 Level 3	
12,700.0	6,758.9	12,543.4	6,576.4	169.9	169.5	60.91	179.5	5,976.6	375.2	76.5	298.71	1.256 Level 3	
12,800.0	6,758.1	12,643.4	6,574.8	172.7	172.3	60.79	179.5	6,076.6	375.7	72.3	303.33	1.238 Level 2	
12,900.0	6,757.4	12,743.4	6,573.2	175.5	175.1	60.67	179.5	6,176.5	376.1	68.2	307.93	1.221 Level 2	
13,000.0	6,756.6	12,843.4	6,571.5	178.3	177.9	60.56	179.5	6,276.5	376.5	64.0	312.52	1.205 Level 2	
13,100.0	6,755.8	12,943.4	6,569.9	181.1	180.7	60.44	179.5	6,376.5	377.0	59.9	317.10	1.189 Level 2	
13,200.0	6,755.1	13,043.3	6,568.2	183.9	183.5	60.32	179.5	6,476.5	377.4	55.7	321.67	1.173 Level 2	
13,300.0	6,754.3	13,143.3	6,566.6	186.7	186.3	60.20	179.5	6,576.5	377.8	51.6	326.22	1.158 Level 2	
13,400.0	6,753.6	13,243.3	6,565.0	189.5	189.1	60.09	179.5	6,676.5	378.3	47.5	330.77	1.144 Level 2	
13,500.0	6,752.8	13,343.3	6,563.3	192.3	191.9	59.97	179.5	6,776.4	378.7	43.4	335.31	1.129 Level 2	
13,600.0	6,752.1	13,443.3	6,561.7	195.1	194.7	59.85	179.5	6,876.4	379.2	39.3	339.84	1.116 Level 2	
13,700.0	6,751.3	13,543.3	6,560.0	197.9	197.5	59.74	179.5	6,976.4	379.6	35.3	344.36	1.102 Level 2	
13,800.0	6,750.6	13,643.3	6,558.4	200.7	200.3	59.62	179.5	7,076.4	380.1	31.2	348.86	1.089 Level 2	
13,879.4	6,750.0	13,722.7	6,557.1	202.9	202.5	59.53	179.5	7,155.8	380.4	28.0	352.43	1.079 Level 2, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design										Survey Program: 0-MWD				Offset Site Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance								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		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	58.5	58.5						
100.0	100.0	99.0	99.0	0.1	0.1	90.00	0.0	58.5	58.5	58.3	0.22	261.670			
200.0	200.0	199.0	199.0	0.3	0.3	90.00	0.0	58.5	58.5	57.8	0.67	87.078			
300.0	300.0	299.0	299.0	0.6	0.6	90.00	0.0	58.5	58.5	57.4	1.12	52.177			
400.0	400.0	399.0	399.0	0.8	0.8	90.00	0.0	58.5	58.5	56.9	1.57	37.248			
500.0	500.0	499.0	499.0	1.0	1.0	90.00	0.0	58.5	58.5	56.5	2.02	28.962			
600.0	600.0	599.0	599.0	1.2	1.2	90.00	0.0	58.5	58.5	56.1	2.47	23.691			
700.0	700.0	699.0	699.0	1.5	1.5	90.00	0.0	58.5	58.5	55.6	2.92	20.043			
800.0	800.0	799.0	799.0	1.7	1.7	90.00	0.0	58.5	58.5	55.2	3.37	17.369			
900.0	900.0	899.0	899.0	1.9	1.9	90.00	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	90.00	0.0	58.5	58.5	54.3	4.27	13.711 CC, ES			
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	114.32	0.0	58.5	59.2	54.5	4.72	12.558			
1,200.0	1,199.8	1,198.8	1,198.8	2.6	2.6	118.72	0.0	58.5	61.6	56.4	5.16	11.927			
1,300.0	1,299.5	1,298.5	1,298.5	2.8	2.8	125.26	0.0	58.5	66.2	60.6	5.61	11.804			
1,400.0	1,398.7	1,397.7	1,397.7	3.1	3.0	132.84	0.0	58.5	73.9	67.8	6.06	12.199			
1,500.0	1,497.8	1,496.8	1,496.8	3.3	3.3	139.49	0.0	58.5	83.5	77.0	6.51	12.823			
1,600.0	1,596.9	1,595.9	1,595.9	3.6	3.5	144.73	0.0	58.5	94.0	87.0	6.97	13.490			
1,700.0	1,696.1	1,695.1	1,695.1	3.9	3.7	148.89	0.0	58.5	105.1	97.7	7.42	14.159			
1,800.0	1,795.2	1,794.2	1,794.2	4.2	3.9	152.25	0.0	58.5	116.7	108.8	7.88	14.807			
1,900.0	1,894.3	1,893.3	1,893.3	4.5	4.1	154.99	0.0	58.5	128.6	120.2	8.34	15.422			
2,000.0	1,993.4	1,992.4	1,992.4	4.8	4.4	157.27	0.0	58.5	140.7	131.9	8.79	16.001			
2,100.0	2,092.5	2,091.5	2,091.5	5.1	4.6	159.18	0.0	58.5	153.0	143.8	9.25	16.542			
2,200.0	2,191.7	2,190.7	2,190.7	5.4	4.8	160.81	0.0	58.5	165.5	155.8	9.71	17.046			
2,300.0	2,290.8	2,289.8	2,289.8	5.7	5.0	162.21	0.0	58.5	178.0	167.9	10.17	17.515			
2,400.0	2,389.9	2,388.9	2,388.9	6.0	5.3	163.43	0.0	58.5	190.7	180.1	10.62	17.952			
2,500.0	2,489.0	2,488.0	2,488.0	6.3	5.5	164.49	0.0	58.5	203.4	192.4	11.08	18.359			
2,600.0	2,588.1	2,588.0	2,588.0	6.6	5.7	165.79	-0.7	57.3	216.1	204.5	11.52	18.753			
2,700.0	2,687.3	2,687.8	2,687.7	7.0	5.9	167.82	-3.0	53.2	228.4	216.5	11.94	19.134			
2,800.0	2,786.4	2,787.0	2,786.6	7.3	6.1	170.44	-7.1	46.0	240.9	228.5	12.36	19.491			
2,900.0	2,885.5	2,885.5	2,884.3	7.6	6.3	173.53	-12.7	36.1	253.7	240.9	12.79	19.841			
3,000.0	2,984.6	2,983.6	2,981.7	7.9	6.5	176.51	-18.8	25.3	267.3	254.1	13.23	20.198			
3,100.0	3,083.7	3,081.8	3,079.1	8.2	6.7	179.21	-24.8	14.6	281.6	267.9	13.70	20.558			
3,200.0	3,182.9	3,179.9	3,176.4	8.6	6.9	-178.36	-30.9	3.9	296.4	282.2	14.17	20.916			
3,300.0	3,282.0	3,278.0	3,273.8	8.9	7.2	-176.15	-37.0	-6.9	311.6	297.0	14.65	21.266			
3,400.0	3,381.1	3,376.2	3,371.1	9.2	7.4	-174.16	-43.0	-17.6	327.3	312.2	15.15	21.609			
3,500.0	3,480.2	3,474.3	3,468.5	9.5	7.7	-172.34	-49.1	-28.3	343.4	327.7	15.65	21.942			
3,600.0	3,579.3	3,572.5	3,565.9	9.9	7.9	-170.69	-55.2	-39.1	359.7	343.6	16.16	22.263			
3,700.0	3,678.4	3,670.6	3,663.2	10.2	8.2	-169.18	-61.2	-49.8	376.4	359.7	16.67	22.574			
3,800.0	3,777.6	3,768.7	3,760.6	10.5	8.4	-167.80	-67.3	-60.6	393.2	376.0	17.19	22.872			
3,900.0	3,876.7	3,866.9	3,858.0	10.8	8.7	-166.53	-73.4	-71.3	410.3	392.6	17.72	23.159			
4,000.0	3,975.8	3,965.0	3,955.3	11.2	9.0	-165.37	-79.4	-82.0	427.6	409.3	18.24	23.435			
4,100.0	4,074.9	4,063.2	4,052.7	11.5	9.3	-164.29	-85.5	-92.8	445.0	426.2	18.77	23.700			
4,200.0	4,174.0	4,161.3	4,150.0	11.8	9.5	-163.29	-91.6	-103.5	462.5	443.2	19.31	23.954			
4,300.0	4,273.2	4,259.4	4,247.4	12.1	9.8	-162.37	-97.6	-114.2	480.2	460.3	19.84	24.198			
4,400.0	4,372.3	4,357.6	4,344.8	12.5	10.1	-161.51	-103.7	-125.0	498.0	477.6	20.38	24.433			
4,500.0	4,471.4	4,455.7	4,442.1	12.8	10.4	-160.71	-109.8	-135.7	515.9	494.9	20.92	24.657			
4,600.0	4,570.5	4,553.9	4,539.5	13.1	10.7	-159.97	-115.8	-146.4	533.9	512.4	21.46	24.873			
4,700.0	4,669.6	4,652.0	4,636.8	13.4	11.0	-159.27	-121.9	-157.2	551.9	529.9	22.01	25.080			
4,800.0	4,768.8	4,750.1	4,734.2	13.8	11.3	-158.62	-128.0	-167.9	570.1	547.5	22.55	25.279			
4,900.0	4,867.9	4,848.3	4,831.6	14.1	11.6	-158.01	-134.0	-178.7	588.3	565.2	23.10	25.470			
5,000.0	4,967.0	4,946.4	4,928.9	14.4	11.9	-157.43	-140.1	-189.4	606.5	582.9	23.64	25.654			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26I-402 - Wellbore #1 - Plan #1 (8-13-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,066.1	5,055.0	5,036.9	14.8	12.1	-156.97	-146.0	-199.8	624.1	599.9	24.17	25.818		
5,200.0	5,165.3	5,165.9	5,147.4	15.1	12.4	-156.89	-150.0	-206.8	639.5	614.9	24.68	25.914		
5,300.0	5,264.8	5,277.7	5,259.2	15.3	12.6	-157.07	-151.8	-210.1	650.4	625.3	25.12	25.893		
5,400.0	5,364.6	5,382.1	5,363.6	15.5	12.8	-157.33	-152.0	-210.4	656.5	631.0	25.50	25.747		
5,500.0	5,464.5	5,482.0	5,463.5	15.7	13.0	-157.45	-152.0	-210.4	659.2	633.4	25.85	25.503		
5,600.0	5,564.5	5,582.0	5,563.5	15.8	13.2	179.76	-152.0	-210.4	659.4	631.9	27.56	23.927		
5,700.0	5,664.5	5,682.0	5,663.5	16.0	13.4	179.76	-152.0	-210.4	659.4	631.5	27.94	23.602		
5,800.0	5,764.5	5,782.0	5,763.5	16.2	13.6	179.76	-152.0	-210.4	659.4	631.1	28.32	23.284		
5,900.0	5,864.5	5,882.0	5,863.5	16.3	13.8	179.76	-152.0	-210.4	659.4	630.7	28.70	22.974		
6,000.0	5,964.5	5,982.0	5,963.5	16.5	14.0	179.76	-152.0	-210.4	659.4	630.3	29.09	22.670		
6,100.0	6,064.5	6,081.9	6,063.4	16.7	14.1	89.77	-152.0	-209.9	659.4	631.2	28.23	23.363		
6,200.0	6,163.9	6,181.6	6,162.5	16.8	14.3	89.78	-152.0	-199.8	659.4	630.9	28.50	23.137		
6,300.0	6,261.1	6,281.3	6,259.4	16.9	14.4	89.80	-152.0	-176.9	659.4	630.7	28.69	22.984		
6,400.0	6,354.4	6,381.0	6,352.6	16.9	14.4	89.82	-152.0	-141.5	659.4	630.6	28.85	22.856		
6,500.0	6,442.3	6,480.8	6,440.4	16.9	14.5	89.85	-152.0	-94.3	659.4	630.3	29.07	22.682		
6,600.0	6,523.3	6,580.5	6,521.3	17.0	14.6	89.87	-152.0	-36.1	659.4	629.9	29.48	22.368		
6,700.0	6,595.9	6,680.4	6,594.0	17.0	14.9	89.90	-152.0	32.2	659.4	629.2	30.23	21.813		
6,800.0	6,658.9	6,780.3	6,657.2	17.1	15.4	89.94	-152.0	109.5	659.4	627.9	31.48	20.948		
6,900.0	6,711.2	6,880.2	6,709.9	17.6	16.3	89.97	-152.0	194.3	659.4	626.1	33.34	19.779		
6,997.9	6,751.2	6,978.0	6,750.2	18.7	17.5	90.00	-152.0	283.4	659.4	623.6	35.80	18.419		
7,000.0	6,752.0	6,980.2	6,751.0	18.7	17.6	90.00	-152.0	285.4	659.4	623.6	35.86	18.390		
7,100.0	6,780.5	7,080.2	6,779.9	20.2	19.1	90.03	-152.0	381.1	659.4	620.4	38.99	16.912		
7,200.0	6,796.3	7,180.3	6,796.0	22.0	21.0	90.07	-152.0	479.8	659.4	616.8	42.63	15.469		
7,300.0	6,799.4	7,280.4	6,799.4	24.0	23.0	90.09	-152.0	579.7	659.4	612.8	46.62	14.144		
7,400.0	6,798.6	7,380.4	6,798.7	26.1	25.1	90.09	-152.0	679.7	659.4	608.5	50.91	12.954		
7,500.0	6,797.9	7,480.4	6,797.9	28.4	27.4	90.09	-152.0	779.7	659.4	604.0	55.42	11.898		
7,600.0	6,797.1	7,580.4	6,797.2	30.7	29.7	90.09	-152.0	879.7	659.4	599.3	60.12	10.968		
7,700.0	6,796.4	7,680.4	6,796.4	33.1	32.2	90.09	-152.0	979.7	659.4	594.4	64.97	10.149		
7,800.0	6,795.6	7,780.4	6,795.7	35.6	34.7	90.09	-152.0	1,079.7	659.4	589.5	69.94	9.429		
7,900.0	6,794.9	7,880.4	6,794.9	38.1	37.2	90.09	-152.0	1,179.7	659.4	584.4	74.99	8.793		
8,000.0	6,794.1	7,980.4	6,794.2	40.6	39.8	90.09	-152.0	1,279.7	659.4	579.3	80.12	8.230		
8,100.0	6,793.4	8,080.4	6,793.4	43.2	42.4	90.09	-152.0	1,379.7	659.4	574.1	85.32	7.729		
8,200.0	6,792.6	8,180.4	6,792.7	45.8	45.0	90.09	-152.0	1,479.7	659.4	568.9	90.56	7.282		
8,300.0	6,791.9	8,280.4	6,791.9	48.5	47.6	90.09	-152.0	1,579.7	659.4	563.6	95.84	6.880		
8,400.0	6,791.1	8,380.4	6,791.2	51.1	50.3	90.09	-152.0	1,679.7	659.4	558.3	101.17	6.518		
8,500.0	6,790.4	8,480.4	6,790.4	53.8	53.0	90.09	-152.0	1,779.7	659.4	552.9	106.52	6.191		
8,600.0	6,789.6	8,580.4	6,789.7	56.4	55.7	90.09	-152.0	1,879.7	659.4	547.5	111.90	5.893		
8,700.0	6,788.9	8,680.4	6,788.9	59.1	58.4	90.09	-152.0	1,979.7	659.4	542.1	117.30	5.622		
8,800.0	6,788.1	8,780.4	6,788.2	61.8	61.1	90.09	-152.0	2,079.7	659.4	536.7	122.72	5.373		
8,900.0	6,787.4	8,880.4	6,787.4	64.5	63.8	90.09	-152.0	2,179.7	659.4	531.3	128.15	5.145		
9,000.0	6,786.6	8,980.4	6,786.7	67.3	66.5	90.09	-152.0	2,279.7	659.4	525.8	133.61	4.936		
9,100.0	6,785.9	9,080.4	6,785.9	70.0	69.3	90.09	-152.0	2,379.7	659.4	520.3	139.07	4.742		
9,200.0	6,785.1	9,180.4	6,785.2	72.7	72.0	90.09	-152.0	2,479.7	659.4	514.9	144.55	4.562		
9,300.0	6,784.4	9,280.4	6,784.4	75.5	74.7	90.09	-152.0	2,579.7	659.4	509.4	150.04	4.395		
9,400.0	6,783.6	9,380.4	6,783.7	78.2	77.5	90.09	-152.0	2,679.7	659.4	503.9	155.53	4.240		
9,500.0	6,782.9	9,480.4	6,782.9	80.9	80.2	90.09	-152.0	2,779.7	659.4	498.4	161.04	4.095		
9,600.0	6,782.1	9,580.4	6,782.2	83.7	83.0	90.09	-152.0	2,879.7	659.4	492.9	166.55	3.959		
9,700.0	6,781.4	9,680.4	6,781.4	86.4	85.8	90.09	-152.0	2,979.7	659.4	487.3	172.07	3.832		
9,800.0	6,780.6	9,780.4	6,780.7	89.2	88.5	90.09	-152.0	3,079.7	659.4	481.8	177.60	3.713		
9,900.0	6,779.9	9,880.4	6,779.9	92.0	91.3	90.09	-152.0	3,179.7	659.4	476.3	183.13	3.601		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Offset Design		Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W - Loloff Farms 26I-402 - Wellbore #1 - Plan #1 (8-13-14)										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)				
10,000.0	6,779.1	9,980.4	6,779.2	94.7	94.1	90.09	-152.0	3,279.7	659.4	470.8	188.66	3.495			
10,100.0	6,778.4	10,080.4	6,778.4	97.5	96.8	90.09	-152.0	3,379.7	659.4	465.2	194.21	3.395			
10,200.0	6,777.6	10,180.4	6,777.7	100.3	99.6	90.09	-152.0	3,479.7	659.4	459.7	199.75	3.301			
10,300.0	6,776.9	10,280.4	6,776.9	103.0	102.4	90.09	-152.0	3,579.7	659.4	454.1	205.30	3.212			
10,400.0	6,776.1	10,380.4	6,776.2	105.8	105.2	90.09	-152.0	3,679.6	659.4	448.6	210.85	3.127			
10,500.0	6,775.4	10,480.4	6,775.4	108.6	107.9	90.09	-152.0	3,779.6	659.4	443.0	216.41	3.047			
10,600.0	6,774.6	10,580.4	6,774.7	111.4	110.7	90.09	-152.0	3,879.6	659.4	437.4	221.97	2.971			
10,700.0	6,773.9	10,680.4	6,773.9	114.1	113.5	90.09	-152.0	3,979.6	659.4	431.9	227.53	2.898			
10,800.0	6,773.1	10,780.4	6,773.2	116.9	116.3	90.09	-152.0	4,079.6	659.4	426.3	233.10	2.829			
10,900.0	6,772.4	10,880.4	6,772.4	119.7	119.1	90.09	-152.0	4,179.6	659.4	420.8	238.66	2.763			
11,000.0	6,771.6	10,980.4	6,771.7	122.5	121.9	90.09	-152.0	4,279.6	659.4	415.2	244.23	2.700			
11,100.0	6,770.9	11,080.4	6,770.9	125.3	124.6	90.09	-152.0	4,379.6	659.4	409.6	249.81	2.640			
11,200.0	6,770.1	11,180.4	6,770.2	128.0	127.4	90.09	-152.0	4,479.6	659.4	404.0	255.38	2.582			
11,300.0	6,769.4	11,280.4	6,769.4	130.8	130.2	90.09	-152.0	4,579.6	659.4	398.5	260.96	2.527			
11,400.0	6,768.6	11,380.4	6,768.7	133.6	133.0	90.09	-152.0	4,679.6	659.4	392.9	266.53	2.474			
11,500.0	6,767.9	11,480.4	6,767.9	136.4	135.8	90.09	-152.0	4,779.6	659.4	387.3	272.11	2.423			
11,600.0	6,767.1	11,580.4	6,767.1	139.2	138.6	90.09	-152.0	4,879.6	659.4	381.7	277.69	2.375			
11,700.0	6,766.4	11,680.4	6,766.4	142.0	141.4	90.09	-152.0	4,979.6	659.4	376.1	283.28	2.328			
11,800.0	6,765.6	11,780.4	6,765.6	144.8	144.2	90.09	-152.0	5,079.6	659.4	370.6	288.86	2.283			
11,900.0	6,764.9	11,880.4	6,764.9	147.6	147.0	90.09	-152.0	5,179.6	659.4	365.0	294.45	2.240			
12,000.0	6,764.1	11,980.4	6,764.1	150.4	149.8	90.09	-152.0	5,279.6	659.4	359.4	300.03	2.198			
12,100.0	6,763.4	12,080.4	6,763.4	153.1	152.6	90.09	-152.0	5,379.6	659.4	353.8	305.62	2.158			
12,200.0	6,762.6	12,180.4	6,762.6	155.9	155.4	90.09	-152.0	5,479.6	659.4	348.2	311.21	2.119			
12,300.0	6,761.9	12,280.4	6,761.9	158.7	158.1	90.09	-152.0	5,579.6	659.4	342.6	316.80	2.082			
12,400.0	6,761.1	12,380.4	6,761.1	161.5	160.9	90.09	-152.0	5,679.6	659.4	337.0	322.39	2.045			
12,500.0	6,760.4	12,480.4	6,760.4	164.3	163.7	90.09	-152.0	5,779.6	659.4	331.4	327.98	2.011			
12,600.0	6,759.6	12,580.4	6,759.6	167.1	166.5	90.09	-152.0	5,879.6	659.4	325.8	333.57	1.977			
12,700.0	6,758.9	12,680.4	6,758.9	169.9	169.3	90.09	-152.0	5,979.6	659.4	320.3	339.17	1.944			
12,800.0	6,758.1	12,780.4	6,758.1	172.7	172.1	90.09	-152.0	6,079.6	659.4	314.7	344.76	1.913			
12,900.0	6,757.4	12,880.4	6,757.4	175.5	174.9	90.09	-152.0	6,179.6	659.4	309.1	350.35	1.882			
13,000.0	6,756.6	12,980.4	6,756.6	178.3	177.7	90.09	-152.0	6,279.6	659.4	303.5	355.95	1.853			
13,100.0	6,755.8	13,080.4	6,755.9	181.1	180.5	90.09	-152.0	6,379.6	659.4	297.9	361.55	1.824			
13,200.0	6,755.1	13,180.4	6,755.1	183.9	183.3	90.09	-152.0	6,479.6	659.4	292.3	367.14	1.796			
13,300.0	6,754.3	13,280.4	6,754.4	186.7	186.1	90.09	-152.0	6,579.6	659.4	286.7	372.74	1.769			
13,400.0	6,753.6	13,380.4	6,753.6	189.5	188.9	90.09	-152.0	6,679.6	659.4	281.1	378.34	1.743			
13,500.0	6,752.8	13,480.4	6,752.9	192.3	191.7	90.09	-152.0	6,779.6	659.4	275.5	383.94	1.718			
13,600.0	6,752.1	13,580.4	6,752.1	195.1	194.5	90.09	-152.0	6,879.6	659.4	269.9	389.54	1.693			
13,700.0	6,751.3	13,680.4	6,751.4	197.9	197.3	90.09	-152.0	6,979.6	659.4	264.3	395.14	1.669			
13,800.0	6,750.6	13,780.4	6,750.6	200.7	200.1	90.09	-152.0	7,079.6	659.4	258.7	400.74	1.646			
13,879.4	6,750.0	13,859.7	6,750.0	202.9	201.7	90.09	-152.0	7,158.9	659.4	254.8	404.59	1.630 SF			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4693.0ft (RKB - 15')

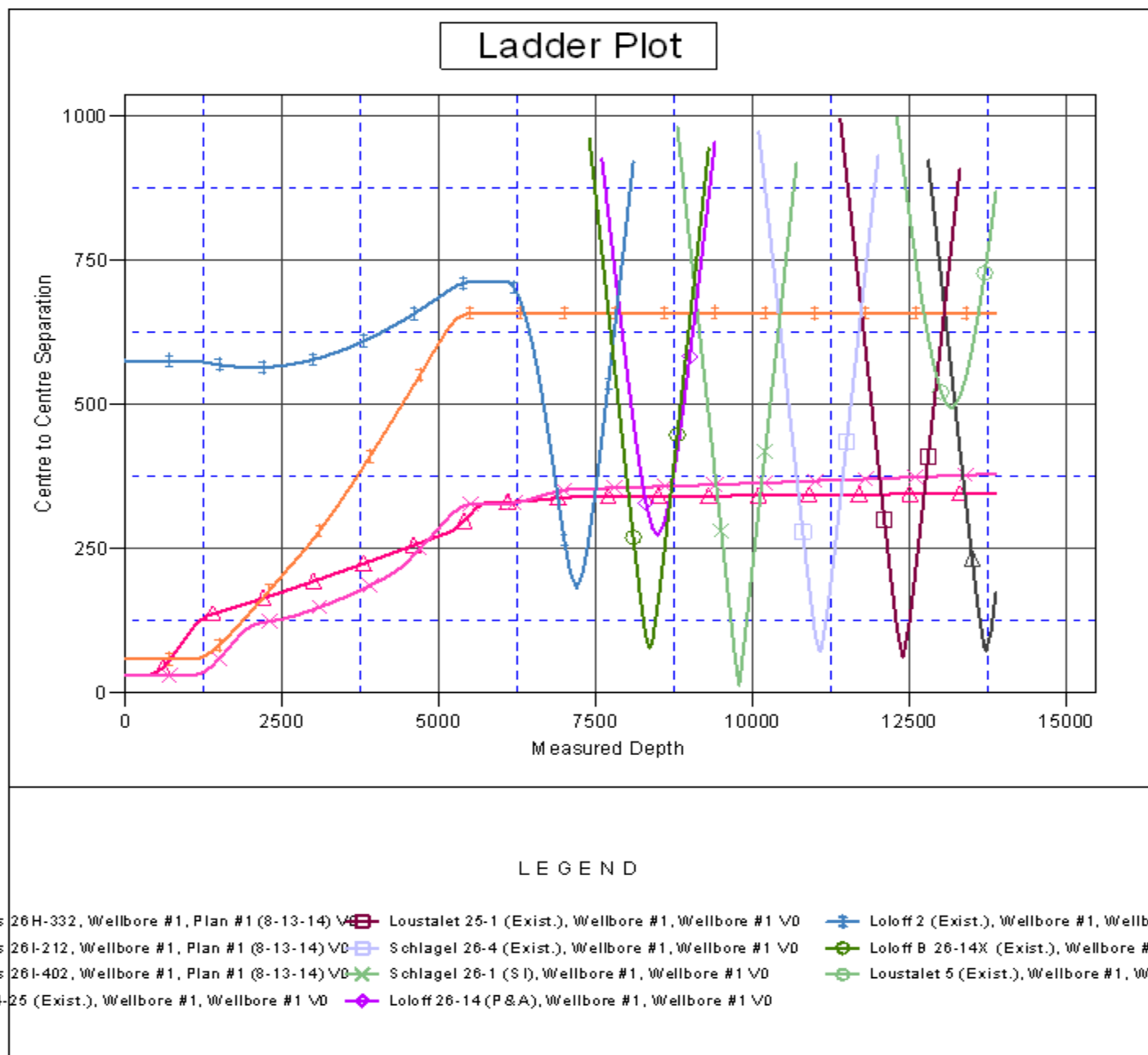
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Loloff Farms 26H-432

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Loloff Farms 26H-432
Project:	SEC.26-T5N-R64W	TVD Reference:	WELL @ 4693.0ft (RKB - 15')
Reference Site:	Loloff Farms 5N64W26I Pad Sec.26-T5N-R64W	MD Reference:	WELL @ 4693.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Loloff Farms 26H-432	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-13-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4693.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Loloff Farms 26H-432
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.63°

