

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Lajco 17R-303**

Surface Location: Lajco 4N67W17R Pad Sec.17-T4N-R67W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4794.0

+N/-S

+E/-W

Northing

Easting

Latitude

Longitude

Slot

0.0

0.0

1359727.63

3163452.97

40.319370

-104.913810

RKB - 13'

WELL @ 4807.0ft (RKB - 13')

WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
50'E/W Hardline (17R-303)	1.0	-2542.1	1093.3	Rectangle (Sides: L3870.3 W100.0)
SHL 325'FNL & 2186'FEL	1.0	0.0	0.0	Point
BHL 500'FSL & 1170'FEL	7020.0	-4477.3	1093.3	Point

T

M

Azimuths to True North

Magnetic North: 8.39°

Magnetic Field

Strength: 52646.2snT

Dip Angle: 66.82°

Date: 7/7/2015

Model: IGRF2010

ANNOTATIONS

TVD

MD

Annotation

1000.0

1000.0

Start Build 1.00

6280.7

6372.1

Start DLS 7.50 TFO 99.58

7055.0

7604.7

Start 3870.4 hold at 7604.7 MD

7020.8

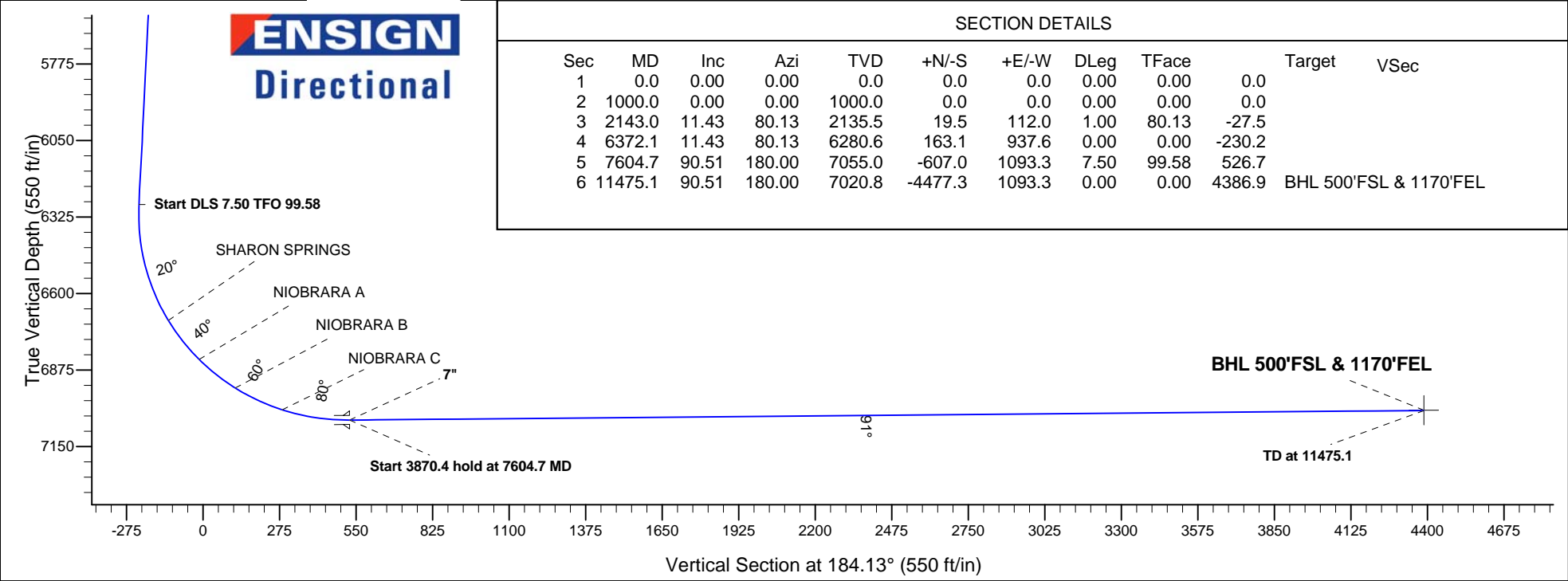
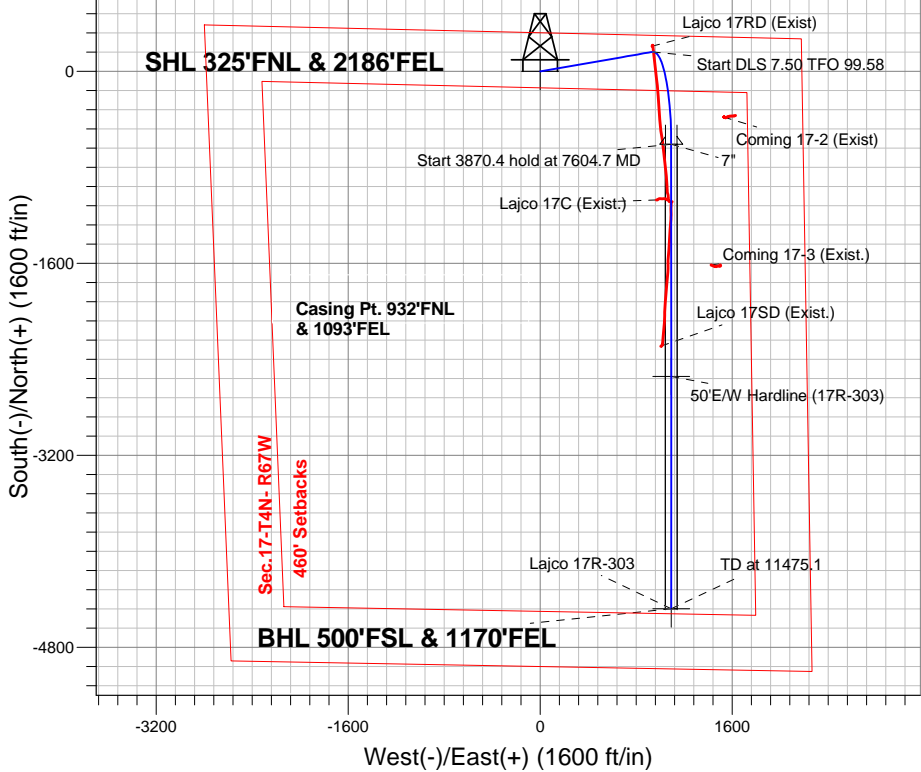
11475.1

TD at 11475.1

Lajco 4N67W17R Pad Sec.17-T4N-R67W

Lajco 17R-303

Plan #2 (7-7-15)





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.17-T4N-R67W

Lajco 4N67W17R Pad Sec.17-T4N-R67W

Lajco 17R-303

Wellbore #1

Plan: Plan #2 (7-7-15)

Standard Planning Report

08 July, 2015

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Lajco 17R-303
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Project:	SEC.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	North Reference:	True
Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-7-15)		

Project	SEC.17-T4N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Lajco 4N67W17R Pad Sec.17-T4N-R67W											
Site Position:						Northing:			1,359,711.77 ft			Latitude:			40.319300		
From:			Lat/Long			Easting:			3,164,903.08 ft			Longitude:			-104.908610		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.38 °		

Well	Lajco 17R-303					
Well Position	+N-S	25.4 ft	Northing:	1,359,727.63 ft	Latitude:	40.319370
	+E-W	-1,450.0 ft	Easting:	3,163,452.97 ft	Longitude:	-104.913810
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,794.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/7/2015	8.39	66.82	52,646

Design	Plan #2 (7-7-15)			
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	184.13

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	
2,143.0	11.43	80.13	2,135.5	19.5	112.0	1.00	1.00	0.00	80.13	
6,372.1	11.43	80.13	6,280.6	163.1	937.6	0.00	0.00	0.00	0.00	
7,604.7	90.51	180.00	7,055.0	-607.0	1,093.3	7.50	6.42	8.10	99.58	
11,475.1	90.51	180.00	7,020.8	-4,477.3	1,093.3	0.00	0.00	0.00	0.00	BHL 500'FSL & 117

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Project:	SEC.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	North Reference:	True
Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-7-15)		

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
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
Start Build 1.00									
1,100.0	1.00	80.13	1,100.0	0.1	0.9	-0.2	1.00	1.00	0.00
1,200.0	2.00	80.13	1,200.0	0.6	3.4	-0.8	1.00	1.00	0.00
1,300.0	3.00	80.13	1,299.9	1.3	7.7	-1.9	1.00	1.00	0.00
1,400.0	4.00	80.13	1,399.7	2.4	13.8	-3.4	1.00	1.00	0.00
1,500.0	5.00	80.13	1,499.4	3.7	21.5	-5.3	1.00	1.00	0.00
1,600.0	6.00	80.13	1,598.9	5.4	30.9	-7.6	1.00	1.00	0.00
1,700.0	7.00	80.13	1,698.3	7.3	42.1	-10.3	1.00	1.00	0.00
1,800.0	8.00	80.13	1,797.4	9.6	54.9	-13.5	1.00	1.00	0.00
1,900.0	9.00	80.13	1,896.3	12.1	69.5	-17.1	1.00	1.00	0.00
2,000.0	10.00	80.13	1,994.9	14.9	85.8	-21.1	1.00	1.00	0.00
2,100.0	11.00	80.13	2,093.3	18.0	103.7	-25.5	1.00	1.00	0.00
2,143.0	11.43	80.13	2,135.5	19.5	112.0	-27.5	1.00	1.00	0.00
2,200.0	11.43	80.13	2,191.3	21.4	123.1	-30.2	0.00	0.00	0.00
2,300.0	11.43	80.13	2,289.3	24.8	142.6	-35.0	0.00	0.00	0.00
2,400.0	11.43	80.13	2,387.3	28.2	162.1	-39.8	0.00	0.00	0.00
2,500.0	11.43	80.13	2,485.4	31.6	181.7	-44.6	0.00	0.00	0.00
2,600.0	11.43	80.13	2,583.4	35.0	201.2	-49.4	0.00	0.00	0.00
2,700.0	11.43	80.13	2,681.4	38.4	220.7	-54.2	0.00	0.00	0.00
2,800.0	11.43	80.13	2,779.4	41.8	240.2	-59.0	0.00	0.00	0.00
2,900.0	11.43	80.13	2,877.4	45.2	259.7	-63.8	0.00	0.00	0.00
3,000.0	11.43	80.13	2,975.4	48.6	279.3	-68.6	0.00	0.00	0.00
3,100.0	11.43	80.13	3,073.5	52.0	298.8	-73.4	0.00	0.00	0.00
3,200.0	11.43	80.13	3,171.5	55.4	318.3	-78.2	0.00	0.00	0.00
3,300.0	11.43	80.13	3,269.5	58.8	337.8	-83.0	0.00	0.00	0.00
3,400.0	11.43	80.13	3,367.5	62.2	357.4	-87.8	0.00	0.00	0.00
3,499.5	11.43	80.13	3,465.0	65.6	376.8	-92.5	0.00	0.00	0.00
PARKMAN									
3,500.0	11.43	80.13	3,465.5	65.6	376.9	-92.5	0.00	0.00	0.00
3,600.0	11.43	80.13	3,563.5	69.0	396.4	-97.3	0.00	0.00	0.00
3,700.0	11.43	80.13	3,661.6	72.4	415.9	-102.1	0.00	0.00	0.00
3,800.0	11.43	80.13	3,759.6	75.8	435.5	-106.9	0.00	0.00	0.00
3,900.0	11.43	80.13	3,857.6	79.2	455.0	-111.7	0.00	0.00	0.00
4,000.0	11.43	80.13	3,955.6	82.6	474.5	-116.5	0.00	0.00	0.00
4,035.1	11.43	80.13	3,990.0	83.7	481.4	-118.2	0.00	0.00	0.00
SUSSEX									
4,100.0	11.43	80.13	4,053.6	86.0	494.0	-121.3	0.00	0.00	0.00
4,200.0	11.43	80.13	4,151.6	89.3	513.6	-126.1	0.00	0.00	0.00
4,300.0	11.43	80.13	4,249.7	92.7	533.1	-130.9	0.00	0.00	0.00
4,400.0	11.43	80.13	4,347.7	96.1	552.6	-135.7	0.00	0.00	0.00
4,500.0	11.43	80.13	4,445.7	99.5	572.1	-140.5	0.00	0.00	0.00
4,575.8	11.43	80.13	4,520.0	102.1	586.9	-144.1	0.00	0.00	0.00

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Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-7-15)		

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)
SHANNON									
4,600.0	11.43	80.13	4,543.7	102.9	591.7	-145.3	0.00	0.00	0.00
4,700.0	11.43	80.13	4,641.7	106.3	611.2	-150.1	0.00	0.00	0.00
4,800.0	11.43	80.13	4,739.7	109.7	630.7	-154.9	0.00	0.00	0.00
4,900.0	11.43	80.13	4,837.8	113.1	650.2	-159.7	0.00	0.00	0.00
5,000.0	11.43	80.13	4,935.8	116.5	669.8	-164.5	0.00	0.00	0.00
5,100.0	11.43	80.13	5,033.8	119.9	689.3	-169.3	0.00	0.00	0.00
5,200.0	11.43	80.13	5,131.8	123.3	708.8	-174.1	0.00	0.00	0.00
5,300.0	11.43	80.13	5,229.8	126.7	728.3	-178.8	0.00	0.00	0.00
5,400.0	11.43	80.13	5,327.8	130.1	747.9	-183.6	0.00	0.00	0.00
5,500.0	11.43	80.13	5,425.9	133.5	767.4	-188.4	0.00	0.00	0.00
5,600.0	11.43	80.13	5,523.9	136.9	786.9	-193.2	0.00	0.00	0.00
5,700.0	11.43	80.13	5,621.9	140.3	806.4	-198.0	0.00	0.00	0.00
5,800.0	11.43	80.13	5,719.9	143.7	826.0	-202.8	0.00	0.00	0.00
5,900.0	11.43	80.13	5,817.9	147.1	845.5	-207.6	0.00	0.00	0.00
6,000.0	11.43	80.13	5,915.9	150.5	865.0	-212.4	0.00	0.00	0.00
6,100.0	11.43	80.13	6,014.0	153.9	884.5	-217.2	0.00	0.00	0.00
6,200.0	11.43	80.13	6,112.0	157.3	904.1	-222.0	0.00	0.00	0.00
6,300.0	11.43	80.13	6,210.0	160.7	923.6	-226.8	0.00	0.00	0.00
6,372.1	11.43	80.13	6,280.7	163.1	937.7	-230.2	0.00	0.00	0.00
Start DLS 7.50 TFO 99.58									
6,400.0	11.27	90.76	6,308.0	163.6	943.1	-231.1	7.51	-0.57	38.10
6,500.0	13.60	124.47	6,405.8	156.8	962.6	-225.7	7.50	2.33	33.71
6,600.0	18.82	144.11	6,501.8	137.0	981.8	-207.4	7.50	5.21	19.65
6,700.0	25.18	154.82	6,594.6	104.7	1,000.3	-176.4	7.50	6.36	10.71
6,800.0	32.02	161.32	6,682.3	60.2	1,017.9	-133.4	7.50	6.84	6.49
6,817.4	33.24	162.20	6,697.0	51.3	1,020.8	-124.7	7.50	6.99	5.04
SHARON SPRINGS									
6,900.0	39.08	165.69	6,763.6	4.5	1,034.2	-79.0	7.50	7.07	4.24
6,999.8	46.24	168.90	6,837.0	-61.4	1,048.9	-14.3	7.50	7.18	3.21
NIORARA A									
7,000.0	46.26	168.91	6,837.1	-61.6	1,048.9	-14.1	7.50	7.22	2.81
7,100.0	53.51	171.42	6,901.5	-136.9	1,061.9	60.0	7.50	7.25	2.52
7,168.8	58.52	172.89	6,940.0	-193.4	1,069.7	115.8	7.50	7.29	2.14
NIORARA B									
7,200.0	60.80	173.51	6,955.8	-220.1	1,072.8	142.3	7.50	7.31	1.97
7,300.0	68.12	175.31	6,998.8	-309.9	1,081.6	231.1	7.50	7.32	1.80
7,356.6	72.27	176.25	7,018.0	-362.9	1,085.5	283.8	7.50	7.34	1.66
NIORARA C									
7,400.0	75.46	176.94	7,030.1	-404.6	1,088.0	325.1	7.50	7.34	1.59
7,500.0	82.81	178.46	7,048.9	-502.6	1,091.9	422.7	7.50	7.35	1.52
7,600.0	90.16	179.93	7,055.0	-602.3	1,093.3	522.0	7.50	7.35	1.47
7,604.7	90.51	180.00	7,055.0	-607.0	1,093.3	526.7	7.42	7.28	1.45
Start 3870.4 hold at 7604.7 MD - 7"									
7,700.0	90.51	180.00	7,054.2	-702.3	1,093.3	621.8	0.00	0.00	0.00
7,800.0	90.51	180.00	7,053.3	-802.3	1,093.3	721.5	0.00	0.00	0.00
7,900.0	90.51	180.00	7,052.4	-902.3	1,093.3	821.2	0.00	0.00	0.00
8,000.0	90.51	180.00	7,051.5	-1,002.3	1,093.3	921.0	0.00	0.00	0.00
8,100.0	90.51	180.00	7,050.6	-1,102.3	1,093.3	1,020.7	0.00	0.00	0.00
8,200.0	90.51	180.00	7,049.7	-1,202.3	1,093.3	1,120.5	0.00	0.00	0.00
8,300.0	90.51	180.00	7,048.8	-1,302.3	1,093.3	1,220.2	0.00	0.00	0.00
8,400.0	90.51	180.00	7,048.0	-1,402.3	1,093.3	1,319.9	0.00	0.00	0.00

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Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-7-15)		

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)
8,500.0	90.51	180.00	7,047.1	-1,502.3	1,093.3	1,419.7	0.00	0.00	0.00
8,600.0	90.51	180.00	7,046.2	-1,602.3	1,093.3	1,519.4	0.00	0.00	0.00
8,700.0	90.51	180.00	7,045.3	-1,702.3	1,093.3	1,619.1	0.00	0.00	0.00
8,800.0	90.51	180.00	7,044.4	-1,802.3	1,093.3	1,718.9	0.00	0.00	0.00
8,900.0	90.51	180.00	7,043.5	-1,902.3	1,093.3	1,818.6	0.00	0.00	0.00
9,000.0	90.51	180.00	7,042.7	-2,002.3	1,093.3	1,918.3	0.00	0.00	0.00
9,100.0	90.51	180.00	7,041.8	-2,102.3	1,093.3	2,018.1	0.00	0.00	0.00
9,200.0	90.51	180.00	7,040.9	-2,202.3	1,093.3	2,117.8	0.00	0.00	0.00
9,300.0	90.51	180.00	7,040.0	-2,302.3	1,093.3	2,217.6	0.00	0.00	0.00
9,400.0	90.51	180.00	7,039.1	-2,402.3	1,093.3	2,317.3	0.00	0.00	0.00
9,500.0	90.51	180.00	7,038.2	-2,502.3	1,093.3	2,417.0	0.00	0.00	0.00
9,600.0	90.51	180.00	7,037.3	-2,602.3	1,093.3	2,516.8	0.00	0.00	0.00
9,700.0	90.51	180.00	7,036.5	-2,702.3	1,093.3	2,616.5	0.00	0.00	0.00
9,800.0	90.51	180.00	7,035.6	-2,802.3	1,093.3	2,716.2	0.00	0.00	0.00
9,900.0	90.51	180.00	7,034.7	-2,902.3	1,093.3	2,816.0	0.00	0.00	0.00
10,000.0	90.51	180.00	7,033.8	-3,002.3	1,093.3	2,915.7	0.00	0.00	0.00
10,100.0	90.51	180.00	7,032.9	-3,102.3	1,093.3	3,015.4	0.00	0.00	0.00
10,200.0	90.51	180.00	7,032.0	-3,202.2	1,093.3	3,115.2	0.00	0.00	0.00
10,300.0	90.51	180.00	7,031.2	-3,302.2	1,093.3	3,214.9	0.00	0.00	0.00
10,400.0	90.51	180.00	7,030.3	-3,402.2	1,093.3	3,314.7	0.00	0.00	0.00
10,500.0	90.51	180.00	7,029.4	-3,502.2	1,093.3	3,414.4	0.00	0.00	0.00
10,600.0	90.51	180.00	7,028.5	-3,602.2	1,093.3	3,514.1	0.00	0.00	0.00
10,700.0	90.51	180.00	7,027.6	-3,702.2	1,093.3	3,613.9	0.00	0.00	0.00
10,800.0	90.51	180.00	7,026.7	-3,802.2	1,093.3	3,713.6	0.00	0.00	0.00
10,900.0	90.51	180.00	7,025.8	-3,902.2	1,093.3	3,813.3	0.00	0.00	0.00
11,000.0	90.51	180.00	7,025.0	-4,002.2	1,093.3	3,913.1	0.00	0.00	0.00
11,100.0	90.51	180.00	7,024.1	-4,102.2	1,093.3	4,012.8	0.00	0.00	0.00
11,200.0	90.51	180.00	7,023.2	-4,202.2	1,093.3	4,112.5	0.00	0.00	0.00
11,300.0	90.51	180.00	7,022.3	-4,302.2	1,093.3	4,212.3	0.00	0.00	0.00
11,400.0	90.51	180.00	7,021.4	-4,402.2	1,093.3	4,312.0	0.00	0.00	0.00
11,475.1	90.51	180.00	7,020.8	-4,477.3	1,093.3	4,386.9	0.00	0.00	0.00

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 325'FNL & 2186'	0.00	0.00	1.0	0.0	0.0	1,359,727.64	3,163,452.97	40.319370	-104.913810
- plan hits target center									
- Point									
BHL 500'FSL & 1170'	0.00	0.00	7,020.0	-4,477.3	1,093.3	1,355,257.86	3,164,575.80	40.307080	-104.909890
- plan misses target center by 0.8ft at 11475.1ft MD (7020.8 TVD, -4477.3 N, 1093.3 E)									
- Point									
50'E/W Hardline (17R	0.00	0.00	1.0	-2,542.1	1,093.3	1,357,192.88	3,164,563.00	40.312392	-104.909890
- plan misses target center by 2767.3ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W3,870.3 H100.0 D0.0)									
	7,604.7	7,055.0	7"					7	7-1/2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Lajco 17R-303
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Project:	SEC.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	North Reference:	True
Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-7-15)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,499.5	3,465.0	PARKMAN		0.00		
4,035.1	3,990.0	SUSSEX		0.00		
4,575.8	4,520.0	SHANNON		0.00		
6,817.4	6,697.0	SHARON SPRINGS		0.00		
6,999.8	6,837.0	NIOBRARA A		0.00		
7,168.8	6,940.0	NIOBRARA B		0.00		
7,356.6	7,018.0	NIOBRARA C		0.00		
	7,142.0	FORT HAYS		0.00		
	7,163.0	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	Start Build 1.00	
6,372.1	6,280.7	163.1	937.7	Start DLS 7.50 TFO 99.58	
7,604.7	7,055.0	-607.0	1,093.3	Start 3870.4 hold at 7604.7 MD	
11,475.1	7,020.8	-4,477.3	1,093.3	TD at 11475.1	



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.17-T4N-R67W

Lajco 4N67W17R Pad Sec.17-T4N-R67W

Lajco 17R-303

Wellbore #1

Plan #2 (7-7-15)

Anticollision Report

08 July, 2015



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (7-7-15)
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,000.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	7/8/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,475.1	Plan #2 (7-7-15) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Lajco 4N67W17R Pad Sec.17-T4N-R67W						
Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)	1,000.0	1,000.0	47.4	43.2	11.109	CC
Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)	1,200.0	1,200.0	48.0	42.8	9.331	ES
Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)	11,475.1	11,460.2	984.7	809.2	5.611	SF
Lajco 17M-423 - Wellbore #1 - Plan #2 (7-2-15)	1,338.4	1,338.2	57.4	51.7	9.993	CC
Lajco 17M-423 - Wellbore #1 - Plan #2 (7-2-15)	1,400.0	1,399.7	57.6	51.5	9.563	ES
Lajco 17M-423 - Wellbore #1 - Plan #2 (7-2-15)	1,600.0	1,598.9	61.3	54.4	8.852	SF
Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)	800.0	800.0	14.6	11.2	4.322	CC
Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)	900.0	900.0	14.7	10.9	3.867	ES
Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)	11,475.1	11,448.6	243.0	73.7	1.436	Level 3, SF
Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)	1,000.0	1,000.0	32.9	28.6	7.705	CC
Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)	1,200.0	1,200.0	33.4	28.3	6.497	ES
Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)	11,475.1	11,376.4	596.2	423.9	3.461	SF
Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)	1,053.6	1,053.6	14.8	10.3	3.292	CC
Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)	1,200.0	1,200.0	15.2	10.0	2.953	ES
Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)	11,475.1	11,604.8	348.9	180.1	2.067	SF
Lajco 17U-203 - Wellbore #1 - Plan #2 (7-7-15)	200.0	200.0	43.7	43.0	64.839	CC
Lajco 17U-203 - Wellbore #1 - Plan #2 (7-7-15)	300.0	299.9	43.9	42.8	39.370	ES
Lajco 17U-203 - Wellbore #1 - Plan #2 (7-7-15)	800.0	794.5	67.1	63.6	19.227	SF
Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)	400.0	400.0	29.1	27.6	18.526	CC
Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)	500.0	499.9	29.3	27.3	14.586	ES
Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)	11,475.1	11,700.0	722.4	544.7	4.066	SF
Lajco Pad Sec.17-T4N-R67W						
Coming 17-2 (Exist) - Wellbore #1 - Wellbore #1	7,400.1	7,009.0	443.7	408.1	12.472	CC, ES, SF
Coming 17-3 (Exist.) - Wellbore #1 - Wellbore #1	8,612.0	7,046.7	332.1	281.0	6.492	CC, ES, SF
Lajco 17C (Exist.) - Wellbore #1 - Wellbore #1	8,068.6	7,047.2	124.1	82.9	3.012	CC, ES, SF
Lajco 17RD (Exist) - Wellbore #1 - Wellbore #1	6,400.0	6,512.8	50.7	12.5	1.326	Level 3, CC, ES, SF
Lajco 17SD (Exist.) - Wellbore #1 - Wellbore #1	9,287.9	7,213.1	86.0	13.0	1.177	Level 2, CC, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis 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	176.63	-47.4	2.8	47.4					
100.0	100.0	100.0	100.0	0.1	0.1	176.63	-47.4	2.8	47.4	47.2	0.22	211.073		
200.0	200.0	200.0	200.0	0.3	0.3	176.63	-47.4	2.8	47.4	46.8	0.67	70.358		
300.0	300.0	300.0	300.0	0.6	0.6	176.63	-47.4	2.8	47.4	46.3	1.12	42.215		
400.0	400.0	400.0	400.0	0.8	0.8	176.63	-47.4	2.8	47.4	45.9	1.57	30.153		
500.0	500.0	500.0	500.0	1.0	1.0	176.63	-47.4	2.8	47.4	45.4	2.02	23.453		
600.0	600.0	600.0	600.0	1.2	1.2	176.63	-47.4	2.8	47.4	45.0	2.47	19.188		
700.0	700.0	700.0	700.0	1.5	1.5	176.63	-47.4	2.8	47.4	44.5	2.92	16.236		
800.0	800.0	800.0	800.0	1.7	1.7	176.63	-47.4	2.8	47.4	44.1	3.37	14.072		
900.0	900.0	900.0	900.0	1.9	1.9	176.63	-47.4	2.8	47.4	43.6	3.82	12.416		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	176.63	-47.4	2.8	47.4	43.2	4.27	11.109 CC		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	97.54	-47.4	2.8	47.5	42.8	4.71	10.098		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	100.64	-47.4	2.8	48.0	42.8	5.14	9.331 ES		
1,300.0	1,299.9	1,299.9	1,299.9	2.8	2.8	105.65	-47.4	2.8	49.0	43.4	5.58	8.779		
1,400.0	1,399.7	1,399.7	1,399.7	3.0	3.0	112.25	-47.4	2.8	50.9	44.9	6.02	8.464		
1,500.0	1,499.4	1,499.4	1,499.4	3.2	3.3	119.87	-47.4	2.8	54.4	47.9	6.47	8.414		
1,600.0	1,598.9	1,598.9	1,598.9	3.5	3.5	127.79	-47.4	2.8	59.8	52.9	6.92	8.643		
1,700.0	1,698.3	1,698.3	1,698.3	3.7	3.7	135.35	-47.4	2.8	67.3	60.0	7.36	9.144		
1,800.0	1,797.4	1,797.4	1,797.4	4.0	3.9	142.09	-47.4	2.8	77.2	69.4	7.81	9.886		
1,900.0	1,896.3	1,896.3	1,896.3	4.3	4.1	147.84	-47.4	2.8	89.4	81.1	8.25	10.832		
2,000.0	1,994.9	1,994.9	1,994.9	4.6	4.4	152.62	-47.4	2.8	103.7	95.1	8.69	11.943		
2,100.0	2,093.3	2,094.7	2,094.7	4.9	4.6	156.84	-46.6	3.0	119.7	110.6	9.12	13.122		
2,200.0	2,191.3	2,194.6	2,194.5	5.3	4.8	160.83	-44.2	3.7	136.3	126.7	9.56	14.256		
2,300.0	2,289.3	2,294.6	2,294.4	5.7	5.0	164.47	-40.1	4.8	152.4	142.4	10.00	15.233		
2,400.0	2,387.3	2,394.7	2,394.4	6.0	5.3	167.87	-34.3	6.4	167.9	157.5	10.45	16.071		
2,500.0	2,485.4	2,494.4	2,493.8	6.4	5.5	171.12	-26.9	8.5	183.0	172.1	10.90	16.794		
2,600.0	2,583.4	2,592.8	2,591.9	6.8	5.7	173.96	-19.1	10.6	198.3	186.9	11.35	17.470		
2,700.0	2,681.4	2,691.2	2,689.9	7.2	5.9	176.39	-11.3	12.8	213.9	202.1	11.81	18.116		
2,800.0	2,779.4	2,789.6	2,788.0	7.6	6.2	178.49	-3.5	14.9	229.9	217.7	12.28	18.729		
2,900.0	2,877.4	2,888.0	2,886.0	8.0	6.4	-179.69	4.3	17.1	246.2	233.5	12.75	19.307		
3,000.0	2,975.4	2,986.3	2,984.1	8.4	6.7	-178.09	12.1	19.3	262.7	249.5	13.23	19.849		
3,100.0	3,073.5	3,084.7	3,082.1	8.9	6.9	-176.68	19.9	21.4	279.4	265.6	13.72	20.358		
3,200.0	3,171.5	3,183.1	3,180.2	9.3	7.1	-175.43	27.7	23.6	296.2	282.0	14.22	20.834		
3,300.0	3,269.5	3,281.5	3,278.2	9.7	7.4	-174.32	35.5	25.7	313.1	298.4	14.71	21.279		
3,400.0	3,367.5	3,379.9	3,376.3	10.1	7.6	-173.32	43.3	27.9	330.1	314.9	15.22	21.695		
3,500.0	3,465.5	3,478.2	3,474.3	10.5	7.9	-172.42	51.1	30.1	347.3	331.5	15.72	22.085		
3,600.0	3,563.5	3,576.6	3,572.4	11.0	8.1	-171.60	58.9	32.2	364.5	348.2	16.23	22.450		
3,700.0	3,661.6	3,675.0	3,670.4	11.4	8.4	-170.85	66.6	34.4	381.7	365.0	16.75	22.793		
3,800.0	3,759.6	3,773.4	3,768.5	11.8	8.6	-170.17	74.4	36.5	399.0	381.8	17.26	23.114		
3,900.0	3,857.6	3,871.8	3,866.5	12.3	8.9	-169.55	82.2	38.7	416.4	398.6	17.78	23.415		
4,000.0	3,955.6	3,970.2	3,964.6	12.7	9.1	-168.98	90.0	40.9	433.8	415.5	18.31	23.699		
4,100.0	4,053.6	4,068.5	4,062.6	13.1	9.4	-168.45	97.8	43.0	451.3	432.4	18.83	23.966		
4,200.0	4,151.6	4,166.9	4,160.7	13.5	9.6	-167.96	105.6	45.2	468.8	449.4	19.36	24.218		
4,300.0	4,249.7	4,265.3	4,258.7	14.0	9.9	-167.50	113.4	47.3	486.3	466.4	19.88	24.456		
4,400.0	4,347.7	4,363.7	4,356.8	14.4	10.1	-167.08	121.2	49.5	503.8	483.4	20.41	24.681		
4,500.0	4,445.7	4,462.1	4,454.8	14.8	10.4	-166.68	129.0	51.6	521.4	500.5	20.95	24.893		
4,600.0	4,543.7	4,560.5	4,552.9	15.3	10.6	-166.31	136.8	53.8	539.0	517.5	21.48	25.094		
4,700.0	4,641.7	4,658.8	4,650.9	15.7	10.9	-165.97	144.6	56.0	556.6	534.6	22.01	25.285		
4,800.0	4,739.7	4,757.2	4,749.0	16.1	11.1	-165.64	152.4	58.1	574.2	551.7	22.55	25.466		
4,900.0	4,837.8	4,855.6	4,847.0	16.6	11.4	-165.34	160.2	60.3	591.9	568.8	23.09	25.638		
5,000.0	4,935.8	4,954.0	4,945.1	17.0	11.6	-165.05	167.9	62.4	609.6	585.9	23.62	25.802		

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,033.8	5,052.4	5,043.1	17.4	11.9	-164.78		175.7	64.6	627.2	603.1	24.16	25.958	
5,200.0	5,131.8	5,150.7	5,141.2	17.9	12.1	-164.52		183.5	66.8	644.9	620.2	24.70	26.107	
5,300.0	5,229.8	5,249.1	5,239.2	18.3	12.4	-164.28		191.3	68.9	662.6	637.4	25.25	26.248	
5,400.0	5,327.8	5,347.5	5,337.3	18.8	12.7	-164.05		199.1	71.1	680.4	654.6	25.79	26.384	
5,500.0	5,425.9	5,445.9	5,435.3	19.2	12.9	-163.83		206.9	73.2	698.1	671.8	26.33	26.513	
5,600.0	5,523.9	5,544.3	5,533.4	19.6	13.2	-163.63		214.7	75.4	715.8	688.9	26.87	26.637	
5,700.0	5,621.9	5,642.7	5,631.4	20.1	13.4	-163.43		222.5	77.6	733.6	706.1	27.42	26.755	
5,800.0	5,719.9	5,741.0	5,729.5	20.5	13.7	-163.24		230.3	79.7	751.3	723.3	27.96	26.869	
5,900.0	5,817.9	5,839.4	5,827.5	20.9	14.0	-163.06		238.1	81.9	769.1	740.6	28.51	26.977	
6,000.0	5,915.9	5,937.8	5,925.6	21.4	14.2	-162.89		245.9	84.0	786.8	757.8	29.05	27.082	
6,100.0	6,014.0	6,036.2	6,023.6	21.8	14.5	-162.72		253.7	86.2	804.6	775.0	29.60	27.182	
6,200.0	6,112.0	6,134.6	6,121.7	22.2	14.7	-162.57		261.5	88.3	822.4	792.2	30.15	27.278	
6,300.0	6,210.0	6,233.1	6,219.9	22.7	15.0	-162.42		269.3	90.5	840.2	809.5	30.70	27.371	
6,400.0	6,308.0	6,347.8	6,334.4	23.1	15.2	-173.57		269.6	93.0	857.1	826.0	31.08	27.575	
6,500.0	6,405.8	6,461.3	6,446.5	23.5	15.3	-151.49		253.0	95.5	873.4	842.2	31.17	28.022	
6,600.0	6,501.8	6,573.2	6,553.5	23.8	15.3	130.57		220.6	97.9	889.4	858.2	31.18	28.523	
6,700.0	6,594.6	6,683.5	6,653.3	24.1	15.2	118.59		173.7	100.1	904.8	873.6	31.21	28.992	
6,800.0	6,682.3	6,792.1	6,743.8	24.4	15.2	110.89		114.0	102.1	919.4	888.1	31.34	29.337	
6,900.0	6,763.6	6,898.9	6,823.8	24.7	15.2	105.39		43.3	103.9	933.1	901.4	31.65	29.477	
7,000.0	6,837.1	7,003.9	6,892.0	25.0	15.3	101.20		-36.4	105.4	945.5	913.3	32.20	29.359	
7,100.0	6,901.5	7,107.2	6,947.9	25.3	15.6	97.86		-123.1	106.6	956.5	923.5	33.02	28.969	
7,200.0	6,955.8	7,208.6	6,990.9	25.7	16.1	95.15		-214.9	107.6	965.9	931.8	34.10	28.330	
7,300.0	6,998.8	7,308.3	7,020.9	26.2	16.8	92.96		-309.9	108.3	973.6	938.2	35.41	27.492	
7,400.0	7,030.1	7,406.3	7,038.2	26.7	17.6	91.20		-406.3	108.7	979.4	942.4	36.93	26.518	
7,500.0	7,048.9	7,502.8	7,043.0	27.3	18.6	89.85		-502.6	108.8	983.2	944.5	38.61	25.463	
7,600.0	7,055.0	7,602.5	7,042.2	28.0	19.7	89.25		-602.3	108.8	984.6	944.1	40.50	24.313	
7,700.0	7,054.2	7,702.5	7,041.5	28.9	20.9	89.26		-702.2	108.8	984.6	941.7	42.88	22.963	
7,800.0	7,053.3	7,802.5	7,040.7	29.8	22.2	89.27		-802.2	108.8	984.6	939.1	45.47	21.655	
7,900.0	7,052.4	7,902.5	7,039.9	30.8	23.6	89.28		-902.2	108.8	984.6	936.4	48.22	20.417	
8,000.0	7,051.5	8,002.5	7,039.2	31.9	25.1	89.28		-1,002.2	108.8	984.6	933.5	51.12	19.261	
8,100.0	7,050.6	8,102.5	7,038.4	33.1	26.6	89.29		-1,102.2	108.8	984.6	930.5	54.13	18.188	
8,200.0	7,049.7	8,202.5	7,037.7	34.4	28.2	89.30		-1,202.2	108.8	984.6	927.4	57.25	17.199	
8,300.0	7,048.8	8,302.5	7,036.9	35.7	29.8	89.31		-1,302.2	108.8	984.6	924.2	60.44	16.290	
8,400.0	7,048.0	8,402.5	7,036.2	37.1	31.5	89.31		-1,402.2	108.8	984.6	920.9	63.71	15.455	
8,500.0	7,047.1	8,502.5	7,035.4	38.6	33.1	89.32		-1,502.2	108.8	984.6	917.6	67.04	14.688	
8,600.0	7,046.2	8,602.5	7,034.6	40.0	34.8	89.33		-1,602.2	108.8	984.6	914.2	70.42	13.983	
8,700.0	7,045.3	8,702.5	7,033.9	41.5	36.6	89.33		-1,702.2	108.8	984.6	910.8	73.84	13.334	
8,800.0	7,044.4	8,802.5	7,033.1	43.1	38.3	89.34		-1,802.2	108.8	984.6	907.3	77.30	12.737	
8,900.0	7,043.5	8,902.5	7,032.4	44.7	40.1	89.35		-1,902.2	108.8	984.6	903.8	80.80	12.185	
9,000.0	7,042.7	9,002.5	7,031.6	46.3	41.8	89.36		-2,002.2	108.8	984.6	900.3	84.33	11.676	
9,100.0	7,041.8	9,102.5	7,030.9	47.9	43.6	89.36		-2,102.2	108.8	984.6	896.7	87.88	11.204	
9,200.0	7,040.9	9,202.5	7,030.1	49.6	45.4	89.37		-2,202.2	108.8	984.6	893.1	91.46	10.765	
9,300.0	7,040.0	9,302.5	7,029.3	51.2	47.2	89.38		-2,302.2	108.8	984.6	889.5	95.05	10.358	
9,400.0	7,039.1	9,402.5	7,028.6	52.9	49.0	89.39		-2,402.2	108.8	984.6	885.9	98.67	9.979	
9,500.0	7,038.2	9,502.5	7,027.8	54.6	50.9	89.39		-2,502.2	108.8	984.6	882.3	102.30	9.624	
9,600.0	7,037.3	9,602.5	7,027.1	56.3	52.7	89.40		-2,602.2	108.8	984.6	878.6	105.95	9.293	
9,700.0	7,036.5	9,702.5	7,026.3	58.0	54.5	89.41		-2,702.2	108.8	984.6	875.0	109.61	8.983	
9,800.0	7,035.6	9,802.5	7,025.5	59.8	56.4	89.42		-2,802.2	108.8	984.6	871.3	113.28	8.692	
9,900.0	7,034.7	9,902.5	7,024.8	61.5	58.2	89.42		-2,902.2	108.8	984.6	867.6	116.96	8.418	
10,000.0	7,033.8	10,002.5	7,024.0	63.3	60.1	89.43		-3,002.2	108.8	984.6	863.9	120.65	8.161	
10,100.0	7,032.9	10,102.5	7,023.3	65.1	61.9	89.44		-3,102.2	108.8	984.6	860.2	124.35	7.918	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17M-323 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,032.0	10,202.5	7,022.5	66.8	63.8	89.45	89.45	-3,202.2	108.8	984.6	856.5	128.06	7.688	
10,300.0	7,031.2	10,302.5	7,021.8	68.6	65.7	89.45	89.45	-3,302.2	108.8	984.6	852.8	131.78	7.472	
10,400.0	7,030.3	10,402.5	7,021.0	70.4	67.5	89.46	89.46	-3,402.2	108.8	984.6	849.1	135.50	7.266	
10,500.0	7,029.4	10,502.5	7,020.2	72.2	69.4	89.47	89.47	-3,502.2	108.8	984.6	845.3	139.23	7.072	
10,600.0	7,028.5	10,602.5	7,019.5	74.0	71.3	89.48	89.48	-3,602.2	108.8	984.6	841.6	142.96	6.887	
10,700.0	7,027.6	10,702.5	7,018.7	75.8	73.1	89.48	89.48	-3,702.2	108.8	984.6	837.9	146.71	6.711	
10,800.0	7,026.7	10,802.5	7,018.0	77.7	75.0	89.49	89.49	-3,802.2	108.8	984.6	834.1	150.45	6.544	
10,900.0	7,025.8	10,902.5	7,017.2	79.5	76.9	89.50	89.50	-3,902.2	108.8	984.6	830.4	154.20	6.385	
11,000.0	7,025.0	11,002.5	7,016.5	81.3	78.8	89.51	89.51	-4,002.2	108.8	984.6	826.6	157.96	6.233	
11,100.0	7,024.1	11,102.5	7,015.7	83.1	80.6	89.51	89.51	-4,102.1	108.8	984.6	822.9	161.71	6.088	
11,200.0	7,023.2	11,202.5	7,014.9	85.0	82.5	89.52	89.52	-4,202.1	108.8	984.6	819.1	165.48	5.950	
11,300.0	7,022.3	11,302.5	7,014.2	86.8	84.4	89.53	89.53	-4,302.1	108.8	984.6	815.3	169.24	5.818	
11,400.0	7,021.4	11,402.5	7,013.4	88.6	86.3	89.53	89.53	-4,402.1	108.8	984.6	811.6	173.01	5.691	
11,447.5	7,021.0	11,450.0	7,013.1	89.5	87.2	89.54	89.54	-4,449.7	108.8	984.6	809.8	174.80	5.632	
11,475.1	7,020.8	11,460.2	7,013.0	90.0	87.4	89.54	89.54	-4,459.8	108.8	984.7	809.2	175.51	5.611 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17M-423 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	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	0.00	0.00	58.3	0.0	58.3				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	58.3	0.0	58.3	58.1	0.22	259.351	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	58.3	0.0	58.3	57.6	0.67	86.450	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	58.3	0.0	58.3	57.2	1.12	51.870	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	58.3	0.0	58.3	56.7	1.57	37.050	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	0.00	58.3	0.0	58.3	56.3	2.02	28.817	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	0.00	58.3	0.0	58.3	55.8	2.47	23.577	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	0.00	58.3	0.0	58.3	55.4	2.92	19.950	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	0.00	58.3	0.0	58.3	54.9	3.37	17.290	
900.0	900.0	900.0	900.0	1.9	1.9	0.00	0.00	58.3	0.0	58.3	54.5	3.82	15.256	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	0.00	58.3	0.0	58.3	54.0	4.27	13.650	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	-80.98	58.3	58.3	0.0	58.2	53.4	4.71	12.349	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-83.55	58.3	58.3	0.0	57.8	52.7	5.14	11.245	
1,300.0	1,299.9	1,299.9	1,299.9	2.8	2.8	-87.87	58.3	58.3	0.0	57.5	51.9	5.58	10.305	
1,338.4	1,338.2	1,338.2	1,338.2	2.9	2.9	-90.00	58.3	58.3	0.0	57.4	51.7	5.75	9.993 CC	
1,400.0	1,399.7	1,399.7	1,399.7	3.0	3.0	-93.94	58.3	58.3	0.0	57.6	51.5	6.02	9.563 ES	
1,500.0	1,499.4	1,499.4	1,499.4	3.2	3.3	-101.58	58.3	58.3	0.0	58.6	52.2	6.47	9.063	
1,600.0	1,598.9	1,598.9	1,598.9	3.5	3.5	-110.33	58.3	58.3	0.0	61.3	54.4	6.92	8.852 SF	
1,700.0	1,698.3	1,698.3	1,698.3	3.7	3.7	-119.48	58.3	58.3	0.0	66.1	58.7	7.38	8.960	
1,800.0	1,797.4	1,797.4	1,797.4	4.0	3.9	-128.28	58.3	58.3	0.0	73.4	65.6	7.83	9.384	
1,900.0	1,896.3	1,895.1	1,895.1	4.3	4.1	-135.82	59.0	-0.4	84.2	75.9	8.27	10.183		
2,000.0	1,994.9	1,992.2	1,992.1	4.6	4.4	-141.66	61.1	-1.6	98.8	90.1	8.70	11.357		
2,100.0	2,093.3	2,088.7	2,088.6	4.9	4.6	-145.91	64.6	-3.5	117.0	107.9	9.14	12.806		
2,200.0	2,191.3	2,185.6	2,185.3	5.3	4.8	-149.01	69.4	-6.2	138.0	128.4	9.59	14.393		
2,300.0	2,289.3	2,283.0	2,282.6	5.7	5.0	-151.35	74.3	-8.9	159.5	149.5	10.05	15.876		
2,400.0	2,387.3	2,380.5	2,379.9	6.0	5.2	-153.12	79.1	-11.6	181.2	170.7	10.51	17.241		
2,500.0	2,485.4	2,478.0	2,477.2	6.4	5.5	-154.52	84.0	-14.4	203.1	192.1	10.98	18.495		
2,600.0	2,583.4	2,575.5	2,574.6	6.8	5.7	-155.65	88.9	-17.1	225.0	213.5	11.45	19.650		
2,700.0	2,681.4	2,673.0	2,671.9	7.2	5.9	-156.57	93.8	-19.8	247.0	235.1	11.92	20.713		
2,800.0	2,779.4	2,770.4	2,769.2	7.6	6.1	-157.35	98.7	-22.5	269.0	256.6	12.40	21.695		
2,900.0	2,877.4	2,867.9	2,866.5	8.0	6.4	-158.00	103.5	-25.3	291.1	278.2	12.88	22.604		
3,000.0	2,975.4	2,965.4	2,963.8	8.4	6.6	-158.57	108.4	-28.0	313.2	299.9	13.36	23.446		
3,100.0	3,073.5	3,062.9	3,061.2	8.9	6.8	-159.06	113.3	-30.7	335.4	321.5	13.84	24.228		
3,200.0	3,171.5	3,160.3	3,158.5	9.3	7.1	-159.49	118.2	-33.4	357.6	343.2	14.33	24.956		
3,300.0	3,269.5	3,257.8	3,255.8	9.7	7.3	-159.87	123.1	-36.2	379.7	364.9	14.81	25.635		
3,400.0	3,367.5	3,355.3	3,353.1	10.1	7.5	-160.20	127.9	-38.9	401.9	386.6	15.30	26.269		
3,500.0	3,465.5	3,452.8	3,450.4	10.5	7.8	-160.51	132.8	-41.6	424.1	408.4	15.79	26.863		
3,600.0	3,563.5	3,550.3	3,547.7	11.0	8.0	-160.78	137.7	-44.3	446.4	430.1	16.28	27.420		
3,700.0	3,661.6	3,647.7	3,645.1	11.4	8.2	-161.03	142.6	-47.1	468.6	451.8	16.77	27.944		
3,800.0	3,759.6	3,745.2	3,742.4	11.8	8.5	-161.25	147.5	-49.8	490.8	473.6	17.26	28.436		
3,900.0	3,857.6	3,842.7	3,839.7	12.3	8.7	-161.45	152.4	-52.5	513.1	495.3	17.75	28.901		
4,000.0	3,955.6	3,940.2	3,937.0	12.7	8.9	-161.64	157.2	-55.2	535.3	517.1	18.25	29.339		
4,100.0	4,053.6	4,037.7	4,034.3	13.1	9.2	-161.81	162.1	-58.0	557.6	538.8	18.74	29.754		
4,200.0	4,151.6	4,135.1	4,131.7	13.5	9.4	-161.97	167.0	-60.7	579.8	560.6	19.23	30.146		
4,300.0	4,249.7	4,232.6	4,229.0	14.0	9.6	-162.12	171.9	-63.4	602.1	582.4	19.73	30.518		
4,400.0	4,347.7	4,330.1	4,326.3	14.4	9.9	-162.26	176.8	-66.1	624.3	604.1	20.22	30.871		
4,500.0	4,445.7	4,427.6	4,423.6	14.8	10.1	-162.39	181.6	-68.9	646.6	625.9	20.72	31.206		
4,600.0	4,543.7	4,525.1	4,520.9	15.3	10.3	-162.50	186.5	-71.6	668.9	647.7	21.22	31.525		
4,700.0	4,641.7	4,622.5	4,618.3	15.7	10.6	-162.62	191.4	-74.3	691.2	669.4	21.71	31.829		
4,800.0	4,739.7	4,720.0	4,715.6	16.1	10.8	-162.72	196.3	-77.0	713.4	691.2	22.21	32.119		
4,900.0	4,837.8	4,817.5	4,812.9	16.6	11.0	-162.82	201.2	-79.8	735.7	713.0	22.71	32.395		

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17M-423 - Wellbore #1 - Plan #2 (7-2-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,935.8	4,915.0	4,910.2	17.0	11.3	-162.91	206.1	-82.5	758.0	734.8	23.21	32.660	
5,100.0	5,033.8	5,012.5	5,007.5	17.4	11.5	-163.00	210.9	-85.2	780.3	756.6	23.71	32.912	
5,200.0	5,131.8	5,109.9	5,104.9	17.9	11.8	-163.08	215.8	-87.9	802.5	778.3	24.21	33.154	
5,300.0	5,229.8	5,207.4	5,202.2	18.3	12.0	-163.16	220.7	-90.7	824.8	800.1	24.71	33.386	
5,400.0	5,327.8	5,304.9	5,299.5	18.8	12.2	-163.23	225.6	-93.4	847.1	821.9	25.21	33.608	
5,500.0	5,425.9	5,402.4	5,396.8	19.2	12.5	-163.30	230.5	-96.1	869.4	843.7	25.71	33.821	
5,600.0	5,523.9	5,499.9	5,494.1	19.6	12.7	-163.37	235.3	-98.8	891.7	865.5	26.21	34.025	
5,700.0	5,621.9	5,597.3	5,591.4	20.1	12.9	-163.43	240.2	-101.6	914.0	887.3	26.71	34.222	
5,800.0	5,719.9	5,694.8	5,688.8	20.5	13.2	-163.49	245.1	-104.3	936.3	909.1	27.21	34.411	
5,900.0	5,817.9	5,792.3	5,786.1	20.9	13.4	-163.55	250.0	-107.0	958.6	930.8	27.71	34.593	
6,000.0	5,915.9	5,889.8	5,883.4	21.4	13.7	-163.60	254.9	-109.7	980.9	952.6	28.21	34.768	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	14.6	0.0	14.6	14.6	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	14.6	0.0	14.6	14.3	0.22	64.833	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	14.6	0.0	14.6	13.9	0.67	21.611	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	14.6	0.0	14.6	13.4	1.12	12.967	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	14.6	0.0	14.6	13.0	1.57	9.262	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	0.00	14.6	0.0	14.6	12.5	2.02	7.204	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	0.00	14.6	0.0	14.6	12.1	2.47	5.894	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	0.00	14.6	0.0	14.6	11.7	2.92	4.987	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	0.00	14.6	0.0	14.6	11.2	3.37	4.322 CC	
900.0	900.0	900.0	899.9	1.9	1.9	3.35	3.35	14.7	0.9	14.7	10.9	3.81	3.867 ES	
1,000.0	1,000.0	999.8	999.8	2.1	2.1	12.84	12.84	15.1	3.4	15.5	11.3	4.24	3.655	
1,100.0	1,100.0	1,099.7	1,099.5	2.3	2.3	-56.33	-56.33	15.8	7.7	17.1	12.4	4.67	3.659	
1,200.0	1,200.0	1,199.4	1,199.1	2.6	2.5	-47.44	-47.44	16.7	13.8	19.1	14.1	5.09	3.760	
1,300.0	1,299.9	1,299.1	1,298.5	2.8	2.8	-40.35	-40.35	17.9	21.5	21.5	16.0	5.52	3.903	
1,400.0	1,399.7	1,398.7	1,397.6	3.0	3.0	-34.70	-34.70	19.3	30.9	24.2	18.2	5.96	4.061	
1,500.0	1,499.4	1,498.3	1,496.6	3.2	3.3	-30.15	-30.15	21.1	42.0	27.0	20.6	6.40	4.220	
1,600.0	1,598.9	1,597.8	1,595.2	3.5	3.6	-26.42	-26.42	23.0	54.8	29.9	23.1	6.85	4.373	
1,700.0	1,698.3	1,697.2	1,693.6	3.7	3.8	-23.32	-23.32	25.3	69.3	32.9	25.6	7.30	4.515	
1,800.0	1,797.4	1,796.6	1,791.6	4.0	4.2	-20.71	-20.71	27.8	85.4	36.0	28.3	7.75	4.645	
1,900.0	1,896.3	1,896.0	1,889.3	4.3	4.5	-18.47	-18.47	30.5	103.3	39.1	30.9	8.21	4.764	
2,000.0	1,994.9	1,995.2	1,986.6	4.6	4.9	-16.53	-16.53	33.6	122.8	42.3	33.6	8.68	4.870	
2,100.0	2,093.3	2,094.5	2,083.5	4.9	5.3	-14.82	-14.82	36.8	143.9	45.4	36.3	9.15	4.965	
2,200.0	2,191.3	2,193.8	2,180.1	5.3	5.7	-13.25	-13.25	40.3	166.7	48.8	39.2	9.63	5.069	
2,300.0	2,289.3	2,293.7	2,277.2	5.7	6.1	-11.78	-11.78	44.0	190.1	52.6	42.5	10.13	5.193	
2,400.0	2,387.3	2,393.6	2,374.2	6.0	6.6	-10.52	-10.52	47.6	213.5	56.4	45.8	10.63	5.308	
2,500.0	2,485.4	2,493.5	2,471.3	6.4	7.1	-9.41	-9.41	51.2	236.9	60.3	49.1	11.13	5.413	
2,600.0	2,583.4	2,593.5	2,568.4	6.8	7.5	-8.43	-8.43	54.8	260.3	64.1	52.5	11.64	5.510	
2,700.0	2,681.4	2,693.4	2,665.5	7.2	8.0	-7.57	-7.57	58.4	283.7	68.0	55.8	12.14	5.599	
2,800.0	2,779.4	2,793.3	2,762.5	7.6	8.5	-6.80	-6.80	62.1	307.1	71.9	59.2	12.65	5.681	
2,900.0	2,877.4	2,893.2	2,859.6	8.0	9.0	-6.11	-6.11	65.7	330.5	75.8	62.6	13.16	5.756	
3,000.0	2,975.4	2,993.1	2,956.7	8.4	9.5	-5.49	-5.49	69.3	353.9	79.7	66.0	13.68	5.826	
3,100.0	3,073.5	3,093.1	3,053.8	8.9	9.9	-4.92	-4.92	72.9	377.3	83.6	69.4	14.19	5.890	
3,200.0	3,171.5	3,193.0	3,150.8	9.3	10.4	-4.41	-4.41	76.5	400.7	87.5	72.8	14.71	5.950	
3,300.0	3,269.5	3,292.9	3,247.9	9.7	10.9	-3.94	-3.94	80.2	424.1	91.4	76.2	15.23	6.005	
3,400.0	3,367.5	3,392.8	3,345.0	10.1	11.4	-3.51	-3.51	83.8	447.5	95.4	79.6	15.75	6.057	
3,500.0	3,465.5	3,492.7	3,442.0	10.5	11.9	-3.11	-3.11	87.4	470.9	99.3	83.0	16.27	6.104	
3,600.0	3,563.5	3,592.7	3,539.1	11.0	12.4	-2.74	-2.74	91.0	494.3	103.3	86.5	16.79	6.149	
3,700.0	3,661.6	3,692.6	3,636.2	11.4	12.9	-2.40	-2.40	94.6	517.7	107.2	89.9	17.32	6.191	
3,800.0	3,759.6	3,792.5	3,733.3	11.8	13.4	-2.09	-2.09	98.2	541.1	111.1	93.3	17.84	6.230	
3,900.0	3,857.6	3,892.4	3,830.3	12.3	13.9	-1.79	-1.79	101.9	564.5	115.1	96.7	18.37	6.267	
4,000.0	3,955.6	3,992.3	3,927.4	12.7	14.4	-1.52	-1.52	105.5	587.9	119.1	100.2	18.90	6.301	
4,100.0	4,053.6	4,092.3	4,024.5	13.1	14.9	-1.26	-1.26	109.1	611.3	123.0	103.6	19.42	6.333	
4,200.0	4,151.6	4,192.2	4,121.6	13.5	15.4	-1.02	-1.02	112.7	634.7	127.0	107.0	19.95	6.364	
4,300.0	4,249.7	4,292.1	4,218.6	14.0	15.9	-0.80	-0.80	116.3	658.1	130.9	110.5	20.48	6.393	
4,400.0	4,347.7	4,392.0	4,315.7	14.4	16.4	-0.58	-0.58	120.0	681.5	134.9	113.9	21.02	6.420	
4,500.0	4,445.7	4,491.9	4,412.8	14.8	16.9	-0.38	-0.38	123.6	704.9	138.9	117.3	21.55	6.445	
4,600.0	4,543.7	4,591.9	4,509.9	15.3	17.4	-0.19	-0.19	127.2	728.3	142.8	120.8	22.08	6.469	
4,700.0	4,641.7	4,691.8	4,606.9	15.7	17.9	-0.01	-0.01	130.8	751.7	146.8	124.2	22.61	6.492	
4,800.0	4,739.7	4,791.7	4,704.0	16.1	18.4	0.16	0.16	134.4	775.1	150.8	127.6	23.15	6.514	
4,900.0	4,837.8	4,891.6	4,801.1	16.6	19.0	0.32	0.32	138.1	798.5	154.8	131.1	23.68	6.535	
5,000.0	4,935.8	4,991.5	4,898.2	17.0	19.5	0.47	0.47	141.7	821.9	158.7	134.5	24.22	6.554	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,033.8	5,091.5	4,995.2	17.4	20.0	0.62		145.3	845.3	162.7	138.0	24.75	6.573	
5,200.0	5,131.8	5,191.4	5,092.3	17.9	20.5	0.76		148.9	868.7	166.7	141.4	25.29	6.591	
5,300.0	5,229.8	5,291.3	5,189.4	18.3	21.0	0.89		152.5	892.1	170.7	144.8	25.83	6.608	
5,400.0	5,327.8	5,391.2	5,286.4	18.8	21.5	1.01		156.1	915.5	174.6	148.3	26.36	6.624	
5,500.0	5,425.9	5,491.1	5,383.5	19.2	22.0	1.14		159.8	938.9	178.6	151.7	26.90	6.640	
5,600.0	5,523.9	5,591.1	5,480.6	19.6	22.5	1.25		163.4	962.3	182.6	155.2	27.44	6.655	
5,700.0	5,621.9	5,691.0	5,577.7	20.1	23.0	1.36		167.0	985.7	186.6	158.6	27.98	6.669	
5,800.0	5,719.9	5,790.9	5,674.7	20.5	23.5	1.47		170.6	1,009.1	190.6	162.1	28.52	6.682	
5,900.0	5,817.9	5,890.8	5,771.8	20.9	24.0	1.57		174.2	1,032.5	194.6	165.5	29.06	6.695	
6,000.0	5,915.9	5,990.7	5,868.9	21.4	24.5	1.67		177.9	1,055.9	198.5	168.9	29.60	6.708	
6,100.0	6,014.0	6,090.7	5,966.0	21.8	25.0	1.76		181.5	1,079.3	202.5	172.4	30.14	6.720	
6,200.0	6,112.0	6,190.6	6,063.0	22.2	25.5	1.85		185.1	1,102.7	206.5	175.8	30.68	6.731	
6,300.0	6,210.0	6,290.5	6,160.1	22.7	26.1	1.94		188.7	1,126.1	210.5	179.3	31.22	6.742	
6,400.0	6,308.0	6,393.0	6,259.7	23.1	26.5	-7.49		188.7	1,150.1	214.1	182.3	31.74	6.744	
6,500.0	6,405.8	6,495.7	6,358.6	23.5	27.0	-38.44		175.5	1,174.0	217.4	185.2	32.24	6.744	
6,600.0	6,501.8	6,597.5	6,454.1	23.8	27.3	-55.30		149.1	1,197.1	220.9	188.2	32.72	6.751	
6,700.0	6,594.6	6,698.4	6,544.5	24.1	27.7	-63.24		110.2	1,218.9	224.4	191.2	33.16	6.767	
6,800.0	6,682.3	6,798.4	6,628.5	24.4	28.1	-67.00		59.9	1,239.3	227.9	194.3	33.56	6.790	
6,900.0	6,763.6	6,897.6	6,704.7	24.7	28.4	-68.70		-0.7	1,257.7	231.3	197.3	33.95	6.811	
7,000.0	6,837.1	6,996.0	6,772.2	25.0	28.7	-69.30		-70.3	1,274.1	234.5	200.1	34.39	6.819	
7,100.0	6,901.5	7,093.6	6,829.9	25.3	29.1	-69.29		-147.7	1,288.2	237.6	202.6	34.96	6.795	
7,200.0	6,955.8	7,190.5	6,877.3	25.7	29.5	-68.92		-231.3	1,299.7	240.3	204.5	35.76	6.719	
7,300.0	6,998.8	7,286.8	6,913.9	26.2	29.9	-68.36		-319.8	1,308.7	242.7	205.8	36.89	6.579	
7,400.0	7,030.1	7,382.4	6,939.2	26.7	30.4	-67.69		-411.8	1,314.9	244.6	206.2	38.41	6.368	
7,500.0	7,048.9	7,477.6	6,953.1	27.3	30.9	-66.97		-505.8	1,318.4	246.0	205.6	40.35	6.095	
7,600.0	7,055.0	7,573.6	6,955.9	28.0	31.5	-66.30		-601.7	1,319.2	246.7	204.0	42.74	5.772	
7,700.0	7,054.2	7,673.6	6,955.2	28.9	32.3	-66.35		-701.7	1,319.2	246.6	201.6	45.02	5.478	
7,800.0	7,053.3	7,773.6	6,954.6	29.8	33.1	-66.40		-801.7	1,319.2	246.5	199.1	47.43	5.198	
7,900.0	7,052.4	7,873.6	6,954.0	30.8	34.0	-66.46		-901.7	1,319.2	246.4	196.5	49.97	4.931	
8,000.0	7,051.5	7,973.6	6,953.3	31.9	35.0	-66.51		-1,001.7	1,319.2	246.3	193.7	52.64	4.679	
8,100.0	7,050.6	8,073.6	6,952.7	33.1	36.1	-66.57		-1,101.7	1,319.2	246.2	190.8	55.41	4.443	
8,200.0	7,049.7	8,173.6	6,952.1	34.4	37.3	-66.62		-1,201.7	1,319.2	246.1	187.8	58.28	4.223	
8,300.0	7,048.8	8,273.6	6,951.4	35.7	38.5	-66.67		-1,301.7	1,319.2	246.0	184.8	61.22	4.019	
8,400.0	7,048.0	8,373.6	6,950.8	37.1	39.8	-66.73		-1,401.7	1,319.2	245.9	181.7	64.22	3.829	
8,500.0	7,047.1	8,473.6	6,950.2	38.6	41.1	-66.78		-1,501.7	1,319.2	245.8	178.5	67.29	3.653	
8,600.0	7,046.2	8,573.6	6,949.5	40.0	42.5	-66.84		-1,601.7	1,319.2	245.7	175.3	70.41	3.490	
8,700.0	7,045.3	8,673.6	6,948.9	41.5	44.0	-66.89		-1,701.7	1,319.2	245.6	172.1	73.57	3.339	
8,800.0	7,044.4	8,773.6	6,948.3	43.1	45.4	-66.94		-1,801.7	1,319.2	245.5	168.8	76.77	3.198	
8,900.0	7,043.5	8,873.6	6,947.6	44.7	46.9	-67.00		-1,901.7	1,319.2	245.4	165.4	80.01	3.067	
9,000.0	7,042.7	8,973.6	6,947.0	46.3	48.5	-67.05		-2,001.7	1,319.2	245.3	162.0	83.28	2.946	
9,100.0	7,041.8	9,073.6	6,946.4	47.9	50.0	-67.11		-2,101.7	1,319.2	245.2	158.7	86.58	2.832	
9,200.0	7,040.9	9,173.6	6,945.7	49.6	51.6	-67.16		-2,201.7	1,319.2	245.1	155.2	89.90	2.727	
9,300.0	7,040.0	9,273.6	6,945.1	51.2	53.2	-67.22		-2,301.7	1,319.2	245.0	151.8	93.25	2.628	
9,400.0	7,039.1	9,373.6	6,944.5	52.9	54.9	-67.27		-2,401.7	1,319.2	244.9	148.3	96.61	2.535	
9,500.0	7,038.2	9,473.6	6,943.9	54.6	56.5	-67.33		-2,501.7	1,319.2	244.8	144.8	100.00	2.448	
9,600.0	7,037.3	9,573.6	6,943.2	56.3	58.2	-67.38		-2,601.7	1,319.2	244.7	141.3	103.40	2.367	
9,700.0	7,036.5	9,673.6	6,942.6	58.0	59.9	-67.44		-2,701.7	1,319.2	244.6	137.8	106.82	2.290	
9,800.0	7,035.6	9,773.6	6,942.0	59.8	61.6	-67.49		-2,801.7	1,319.2	244.5	134.3	110.25	2.218	
9,900.0	7,034.7	9,873.6	6,941.3	61.5	63.3	-67.54		-2,901.7	1,319.2	244.4	130.7	113.70	2.150	
10,000.0	7,033.8	9,973.6	6,940.7	63.3	65.0	-67.60		-3,001.7	1,319.2	244.4	127.2	117.16	2.086	
10,100.0	7,032.9	10,073.6	6,940.1	65.1	66.7	-67.65		-3,101.7	1,319.2	244.3	123.6	120.63	2.025	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-223 - Wellbore #1 - Plan #2 (7-7-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,032.0	10,173.6	6,939.4	66.8	68.5	-67.71	-3,201.7	1,319.2	244.2	120.0	124.12	1.967	
10,300.0	7,031.2	10,273.6	6,938.8	68.6	70.2	-67.76	-3,301.7	1,319.2	244.1	116.5	127.61	1.913	
10,400.0	7,030.3	10,373.6	6,938.2	70.4	72.0	-67.82	-3,401.7	1,319.2	244.0	112.9	131.11	1.861	
10,500.0	7,029.4	10,473.6	6,937.5	72.2	73.8	-67.87	-3,501.7	1,319.2	243.9	109.2	134.62	1.812	
10,600.0	7,028.5	10,573.6	6,936.9	74.0	75.5	-67.93	-3,601.7	1,319.2	243.8	105.6	138.14	1.765	
10,700.0	7,027.6	10,673.6	6,936.3	75.8	77.3	-67.98	-3,701.7	1,319.2	243.7	102.0	141.67	1.720	
10,800.0	7,026.7	10,773.6	6,935.6	77.7	79.1	-68.04	-3,801.6	1,319.2	243.6	98.4	145.20	1.678	
10,900.0	7,025.8	10,873.6	6,935.0	79.5	80.9	-68.10	-3,901.6	1,319.2	243.5	94.7	148.75	1.637	
11,000.0	7,025.0	10,973.6	6,934.4	81.3	82.7	-68.15	-4,001.6	1,319.2	243.4	91.1	152.30	1.598	
11,100.0	7,024.1	11,073.6	6,933.7	83.1	84.5	-68.21	-4,101.6	1,319.2	243.3	87.5	155.85	1.561	
11,200.0	7,023.2	11,173.6	6,933.1	85.0	86.3	-68.26	-4,201.6	1,319.2	243.2	83.8	159.42	1.526	
11,300.0	7,022.3	11,273.6	6,932.5	86.8	88.1	-68.32	-4,301.6	1,319.2	243.1	80.1	162.98	1.492 Level 3	
11,400.0	7,021.4	11,373.6	6,931.9	88.6	90.0	-68.37	-4,401.6	1,319.2	243.0	76.5	166.56	1.459 Level 3	
11,475.1	7,020.8	11,448.6	6,931.4	90.0	91.3	-68.41	-4,476.7	1,319.2	243.0	73.7	169.25	1.436 Level 3, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	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	175.14	175.14	-32.8	2.8	32.9				
100.0	100.0	100.0	100.0	0.1	0.1	175.14	175.14	-32.8	2.8	32.9	32.7	0.22	146.401	
200.0	200.0	200.0	200.0	0.3	0.3	175.14	175.14	-32.8	2.8	32.9	32.2	0.67	48.800	
300.0	300.0	300.0	300.0	0.6	0.6	175.14	175.14	-32.8	2.8	32.9	31.8	1.12	29.280	
400.0	400.0	400.0	400.0	0.8	0.8	175.14	175.14	-32.8	2.8	32.9	31.3	1.57	20.914	
500.0	500.0	500.0	500.0	1.0	1.0	175.14	175.14	-32.8	2.8	32.9	30.9	2.02	16.267	
600.0	600.0	600.0	600.0	1.2	1.2	175.14	175.14	-32.8	2.8	32.9	30.4	2.47	13.309	
700.0	700.0	700.0	700.0	1.5	1.5	175.14	175.14	-32.8	2.8	32.9	30.0	2.92	11.262	
800.0	800.0	800.0	800.0	1.7	1.7	175.14	175.14	-32.8	2.8	32.9	29.5	3.37	9.760	
900.0	900.0	900.0	900.0	1.9	1.9	175.14	175.14	-32.8	2.8	32.9	29.1	3.82	8.612	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	175.14	175.14	-32.8	2.8	32.9	28.6	4.27	7.705 CC	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	96.52	96.52	-32.8	2.8	33.0	28.3	4.71	7.007	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	100.98	100.98	-32.8	2.8	33.4	28.3	5.14	6.497 ES	
1,300.0	1,299.9	1,299.9	1,299.9	2.8	2.8	108.09	108.09	-32.8	2.8	34.5	28.9	5.58	6.185	
1,400.0	1,399.7	1,399.7	1,399.7	3.0	3.0	117.12	117.12	-32.8	2.8	36.8	30.8	6.02	6.123	
1,500.0	1,499.4	1,500.0	1,500.0	3.2	3.3	126.34	126.34	-32.3	3.5	40.3	33.8	6.46	6.236	
1,600.0	1,598.9	1,600.4	1,600.4	3.5	3.5	134.78	134.78	-30.8	5.7	44.1	37.2	6.89	6.404	
1,700.0	1,698.3	1,700.9	1,700.7	3.7	3.7	142.53	142.53	-28.3	9.3	48.5	41.1	7.33	6.617	
1,800.0	1,797.4	1,801.4	1,801.1	4.0	3.9	149.69	149.69	-24.8	14.3	53.3	45.5	7.76	6.872	
1,900.0	1,896.3	1,902.1	1,901.4	4.3	4.1	156.30	156.30	-20.3	20.9	58.6	50.5	8.18	7.169	
2,000.0	1,994.9	2,002.8	2,001.7	4.6	4.4	162.43	162.43	-14.7	28.8	64.6	55.9	8.60	7.505	
2,100.0	2,093.3	2,103.1	2,101.4	4.9	4.6	168.06	168.06	-8.3	38.1	71.1	62.1	9.02	7.885	
2,200.0	2,191.3	2,202.6	2,200.2	5.3	4.9	172.89	172.89	-1.6	47.7	79.3	69.9	9.46	8.387	
2,300.0	2,289.3	2,302.0	2,298.9	5.7	5.1	176.81	176.81	5.0	57.3	88.1	78.2	9.91	8.889	
2,400.0	2,387.3	2,401.5	2,397.7	6.0	5.4	-179.99	-179.99	11.7	66.8	97.3	86.9	10.38	9.368	
2,500.0	2,485.4	2,500.9	2,496.4	6.4	5.7	-177.34	-177.34	18.3	76.4	106.7	95.8	10.86	9.819	
2,600.0	2,583.4	2,600.4	2,595.2	6.8	6.0	-175.13	-175.13	24.9	86.0	116.2	104.9	11.35	10.239	
2,700.0	2,681.4	2,699.8	2,694.0	7.2	6.2	-173.25	-173.25	31.6	95.5	126.0	114.1	11.85	10.629	
2,800.0	2,779.4	2,799.3	2,792.7	7.6	6.5	-171.65	-171.65	38.2	105.1	135.8	123.4	12.36	10.989	
2,900.0	2,877.4	2,898.7	2,891.5	8.0	6.8	-170.26	-170.26	44.9	114.7	145.7	132.9	12.87	11.321	
3,000.0	2,975.4	2,998.2	2,990.3	8.4	7.1	-169.05	-169.05	51.5	124.3	155.7	142.4	13.39	11.628	
3,100.0	3,073.5	3,097.6	3,089.0	8.9	7.4	-167.99	-167.99	58.1	133.8	165.8	151.9	13.92	11.911	
3,200.0	3,171.5	3,197.1	3,187.8	9.3	7.7	-167.05	-167.05	64.8	143.4	175.9	161.5	14.45	12.173	
3,300.0	3,269.5	3,296.5	3,286.6	9.7	7.9	-166.21	-166.21	71.4	153.0	186.1	171.1	14.99	12.415	
3,400.0	3,367.5	3,396.0	3,385.3	10.1	8.2	-165.46	-165.46	78.1	162.5	196.3	180.8	15.53	12.639	
3,500.0	3,465.5	3,495.4	3,484.1	10.5	8.5	-164.78	-164.78	84.7	172.1	206.5	190.4	16.07	12.847	
3,600.0	3,563.5	3,594.9	3,582.8	11.0	8.8	-164.16	-164.16	91.3	181.7	216.8	200.1	16.62	13.041	
3,700.0	3,661.6	3,694.3	3,681.6	11.4	9.1	-163.61	-163.61	98.0	191.3	227.0	209.9	17.17	13.221	
3,800.0	3,759.6	3,793.8	3,780.4	11.8	9.4	-163.10	-163.10	104.6	200.8	237.3	219.6	17.73	13.389	
3,900.0	3,857.6	3,893.2	3,879.1	12.3	9.7	-162.63	-162.63	111.3	210.4	247.6	229.4	18.28	13.546	
4,000.0	3,955.6	3,992.7	3,977.9	12.7	10.0	-162.20	-162.20	117.9	220.0	258.0	239.1	18.84	13.693	
4,100.0	4,053.6	4,092.1	4,076.7	13.1	10.3	-161.80	-161.80	124.5	229.5	268.3	248.9	19.40	13.830	
4,200.0	4,151.6	4,191.5	4,175.4	13.5	10.6	-161.43	-161.43	131.2	239.1	278.6	258.7	19.96	13.960	
4,300.0	4,249.7	4,291.0	4,274.2	14.0	10.9	-161.09	-161.09	137.8	248.7	289.0	268.5	20.52	14.081	
4,400.0	4,347.7	4,390.4	4,372.9	14.4	11.2	-160.77	-160.77	144.5	258.2	299.4	278.3	21.09	14.196	
4,500.0	4,445.7	4,489.9	4,471.7	14.8	11.5	-160.48	-160.48	151.1	267.8	309.8	288.1	21.66	14.303	
4,600.0	4,543.7	4,589.3	4,570.5	15.3	11.8	-160.20	-160.20	157.7	277.4	320.1	297.9	22.22	14.405	
4,700.0	4,641.7	4,688.8	4,669.2	15.7	12.1	-159.94	-159.94	164.4	287.0	330.5	307.7	22.79	14.502	
4,800.0	4,739.7	4,788.2	4,768.0	16.1	12.4	-159.70	-159.70	171.0	296.5	340.9	317.6	23.36	14.593	
4,900.0	4,837.8	4,887.7	4,866.8	16.6	12.7	-159.47	-159.47	177.7	306.1	351.3	327.4	23.93	14.679	
5,000.0	4,935.8	4,987.1	4,965.5	17.0	13.0	-159.25	-159.25	184.3	315.7	361.7	337.2	24.51	14.761	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,033.8	5,086.6	5,064.3	17.4	13.3	-159.05		190.9	325.2	372.2	347.1	25.08	14.839	
5,200.0	5,131.8	5,186.0	5,163.1	17.9	13.6	-158.85		197.6	334.8	382.6	356.9	25.65	14.914	
5,300.0	5,229.8	5,285.5	5,261.8	18.3	13.9	-158.67		204.2	344.4	393.0	366.8	26.23	14.984	
5,400.0	5,327.8	5,384.9	5,360.6	18.8	14.3	-158.50		210.9	354.0	403.4	376.6	26.80	15.052	
5,500.0	5,425.9	5,484.4	5,459.3	19.2	14.6	-158.33		217.5	363.5	413.9	386.5	27.38	15.116	
5,600.0	5,523.9	5,583.8	5,558.1	19.6	14.9	-158.18		224.1	373.1	424.3	396.3	27.96	15.177	
5,700.0	5,621.9	5,683.3	5,656.9	20.1	15.2	-158.03		230.8	382.7	434.7	406.2	28.53	15.236	
5,800.0	5,719.9	5,782.7	5,755.6	20.5	15.5	-157.89		237.4	392.2	445.2	416.1	29.11	15.292	
5,900.0	5,817.9	5,882.2	5,854.4	20.9	15.8	-157.75		244.1	401.8	455.6	425.9	29.69	15.346	
6,000.0	5,915.9	5,981.6	5,953.2	21.4	16.1	-157.62		250.7	411.4	466.1	435.8	30.27	15.397	
6,100.0	6,014.0	6,081.1	6,051.9	21.8	16.4	-157.50		257.3	420.9	476.5	445.7	30.85	15.446	
6,200.0	6,112.0	6,184.1	6,154.3	22.2	16.7	-157.42		263.8	430.9	486.9	455.4	31.42	15.495	
6,300.0	6,210.0	6,288.9	6,268.3	22.7	16.9	-157.30		269.0	441.9	497.0	466.3	31.99	15.544	
6,400.0	6,308.0	6,408.9	6,375.7	23.1	17.1	-172.15		274.1	452.4	507.0	476.4	32.56	15.593	
6,500.0	6,405.8	6,513.9	6,474.6	23.5	17.2	-151.18		279.1	462.0	517.0	486.2	33.13	15.642	
6,600.0	6,501.8	6,615.2	6,564.6	23.8	17.2	128.65		284.1	470.7	527.0	495.9	33.70	15.691	
6,700.0	6,594.6	6,712.9	6,645.2	24.1	17.2	115.19		289.1	478.6	537.0	505.7	34.27	15.740	
6,800.0	6,682.3	6,807.7	6,716.0	24.4	17.2	106.14		294.1	485.5	547.0	515.6	34.84	15.789	
6,900.0	6,763.6	6,900.0	6,777.0	24.7	17.3	99.45		299.1	491.5	557.0	525.5	35.41	15.838	
7,000.0	6,837.1	6,989.4	6,827.9	25.0	17.4	94.22		304.1	496.4	567.0	535.4	35.98	15.887	
7,100.0	6,901.5	7,077.0	6,869.1	25.3	17.6	89.98		309.1	500.5	577.0	545.3	36.55	15.936	
7,200.0	6,955.8	7,162.9	6,900.7	25.7	18.0	86.52		314.1	503.6	587.0	555.2	37.12	15.985	
7,300.0	6,998.8	7,250.0	6,923.5	26.2	18.5	83.66		319.1	505.9	597.0	565.1	37.69	16.034	
7,400.0	7,030.1	7,330.3	6,935.9	26.7	19.2	81.45		324.1	507.1	607.0	575.0	38.26	16.083	
7,500.0	7,048.9	7,412.4	6,940.0	27.3	19.9	79.71		329.1	507.6	617.0	584.9	38.83	16.132	
7,600.0	7,055.0	7,511.4	6,939.3	28.0	21.0	78.82		334.1	507.6	627.0	594.8	39.40	16.181	
7,700.0	7,054.2	7,611.4	6,938.5	28.9	22.2	78.83		339.1	507.6	637.0	604.7	40.00	16.230	
7,800.0	7,053.3	7,711.4	6,937.8	29.8	23.4	78.84		344.1	507.6	647.0	614.6	40.60	16.279	
7,900.0	7,052.4	7,811.4	6,937.0	30.8	24.8	78.85		349.1	507.6	657.0	624.5	41.20	16.328	
8,000.0	7,051.5	7,911.4	6,936.2	31.9	26.2	78.87		354.1	507.6	667.0	634.4	41.80	16.377	
8,100.0	7,050.6	8,011.4	6,935.5	33.1	27.7	78.88		359.1	507.6	677.0	644.3	42.40	16.426	
8,200.0	7,049.7	8,111.4	6,934.7	34.4	29.2	78.89		364.1	507.6	687.0	654.2	43.00	16.475	
8,300.0	7,048.8	8,211.4	6,934.0	35.7	30.8	78.90		369.1	507.6	697.0	664.1	43.60	16.524	
8,400.0	7,048.0	8,311.4	6,933.2	37.1	32.4	78.91		374.1	507.6	707.0	674.0	44.20	16.573	
8,500.0	7,047.1	8,411.4	6,932.5	38.6	34.1	78.93		379.1	507.6	717.0	683.9	44.80	16.622	
8,600.0	7,046.2	8,511.4	6,931.7	40.0	35.7	78.94		384.1	507.6	727.0	693.8	45.40	16.671	
8,700.0	7,045.3	8,611.4	6,930.9	41.5	37.4	78.95		389.1	507.6	737.0	703.7	46.00	16.720	
8,800.0	7,044.4	8,711.4	6,930.2	43.1	39.1	78.96		394.1	507.6	747.0	713.6	46.60	16.769	
8,900.0	7,043.5	8,811.4	6,929.4	44.7	40.9	78.97		399.1	507.6	757.0	723.5	47.20	16.818	
9,000.0	7,042.7	8,911.4	6,928.7	46.3	42.6	78.99		404.1	507.6	767.0	733.4	47.80	16.867	
9,100.0	7,041.8	9,011.4	6,927.9	47.9	44.4	79.00		409.1	507.6	777.0	743.3	48.40	16.916	
9,200.0	7,040.9	9,111.4	6,927.2	49.6	46.1	79.01		414.1	507.6	787.0	753.2	49.00	16.965	
9,300.0	7,040.0	9,211.4	6,926.4	51.2	47.9	79.02		419.1	507.6	797.0	763.1	49.60	17.014	
9,400.0	7,039.1	9,311.4	6,925.6	52.9	49.7	79.03		424.1	507.6	807.0	773.0	50.20	17.063	
9,500.0	7,038.2	9,411.4	6,924.9	54.6	51.5	79.05		429.1	507.6	817.0	782.9	50.80	17.112	
9,600.0	7,037.3	9,511.4	6,924.1	56.3	53.3	79.06		434.1	507.6	827.0	792.8	51.40	17.161	
9,700.0	7,036.5	9,611.4	6,923.4	58.0	55.2	79.07		439.1	507.6	837.0	802.7	52.00	17.210	
9,800.0	7,035.6	9,711.4	6,922.6	59.8	57.0	79.08		444.1	507.6	847.0	812.6	52.60	17.259	
9,900.0	7,034.7	9,811.4	6,921.9	61.5	58.8	79.09		449.1	507.6	857.0	822.5	53.20	17.308	
10,000.0	7,033.8	9,911.4	6,921.1	63.3	60.7	79.11		454.1	507.6	867.0	832.4	53.80	17.357	
10,100.0	7,032.9	10,011.4	6,920.3	65.1	62.5	79.12		459.1	507.6	877.0	842.3	54.40	17.406	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-243 - Wellbore #1 - Plan #2 (7-2-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,032.0	10,111.4	6,919.6	66.8	64.3	79.13	79.13	-3,201.4	507.6	596.4	471.1	125.29	4.760	
10,300.0	7,031.2	10,211.4	6,918.8	68.6	66.2	79.14	79.14	-3,301.4	507.6	596.4	467.4	128.95	4.625	
10,400.0	7,030.3	10,311.4	6,918.1	70.4	68.0	79.15	79.15	-3,401.4	507.6	596.4	463.7	132.63	4.497	
10,500.0	7,029.4	10,411.4	6,917.3	72.2	69.9	79.17	79.17	-3,501.4	507.6	596.3	460.0	136.31	4.375	
10,600.0	7,028.5	10,511.4	6,916.6	74.0	71.8	79.18	79.18	-3,601.4	507.6	596.3	456.3	139.99	4.260	
10,700.0	7,027.6	10,611.4	6,915.8	75.8	73.6	79.19	79.19	-3,701.4	507.6	596.3	452.6	143.68	4.150	
10,800.0	7,026.7	10,711.4	6,915.0	77.7	75.5	79.20	79.20	-3,801.4	507.6	596.3	448.9	147.38	4.046	
10,900.0	7,025.8	10,811.4	6,914.3	79.5	77.4	79.21	79.21	-3,901.4	507.6	596.2	445.2	151.08	3.947	
11,000.0	7,025.0	10,911.4	6,913.5	81.3	79.2	79.23	79.23	-4,001.4	507.6	596.2	441.4	154.78	3.852	
11,100.0	7,024.1	11,011.4	6,912.8	83.1	81.1	79.24	79.24	-4,101.4	507.6	596.2	437.7	158.49	3.762	
11,200.0	7,023.2	11,111.4	6,912.0	85.0	83.0	79.25	79.25	-4,201.4	507.6	596.2	434.0	162.20	3.675	
11,300.0	7,022.3	11,211.4	6,911.2	86.8	84.9	79.26	79.26	-4,301.4	507.6	596.1	430.2	165.92	3.593	
11,400.0	7,021.4	11,311.4	6,910.5	88.6	86.7	79.27	79.27	-4,401.4	507.6	596.1	426.5	169.64	3.514	
11,451.8	7,021.0	11,363.2	6,910.1	89.6	87.7	79.28	79.28	-4,453.2	507.6	596.1	424.5	171.57	3.474	
11,475.1	7,020.8	11,376.4	6,910.0	90.0	88.0	79.28	79.28	-4,466.4	507.6	596.2	423.9	172.25	3.461 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	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	169.16	169.16	-14.6	2.8	14.8	14.8	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	169.16	169.16	-14.6	2.8	14.8	14.6	0.22	65.992	
200.0	200.0	200.0	200.0	0.3	0.3	169.16	169.16	-14.6	2.8	14.8	14.2	0.67	21.997	
300.0	300.0	300.0	300.0	0.6	0.6	169.16	169.16	-14.6	2.8	14.8	13.7	1.12	13.198	
400.0	400.0	400.0	400.0	0.8	0.8	169.16	169.16	-14.6	2.8	14.8	13.3	1.57	9.427	
500.0	500.0	500.0	500.0	1.0	1.0	169.16	169.16	-14.6	2.8	14.8	12.8	2.02	7.332	
600.0	600.0	600.0	600.0	1.2	1.2	169.16	169.16	-14.6	2.8	14.8	12.4	2.47	5.999	
700.0	700.0	700.0	700.0	1.5	1.5	169.16	169.16	-14.6	2.8	14.8	11.9	2.92	5.076	
800.0	800.0	800.0	800.0	1.7	1.7	169.16	169.16	-14.6	2.8	14.8	11.5	3.37	4.399	
900.0	900.0	900.0	900.0	1.9	1.9	169.16	169.16	-14.6	2.8	14.8	11.0	3.82	3.882	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	169.16	169.16	-14.6	2.8	14.8	10.6	4.27	3.473	
1,053.6	1,053.6	1,053.6	1,053.6	2.2	2.3	90.00	90.00	-14.6	2.8	14.8	10.3	4.51	3.292 CC	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	92.40	92.40	-14.6	2.8	14.8	10.1	4.71	3.152	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	102.32	102.32	-14.6	2.8	15.2	10.0	5.14	2.953 ES	
1,300.0	1,299.9	1,300.0	1,300.0	2.8	2.8	114.75	114.75	-14.2	3.6	16.1	10.6	5.57	2.895	
1,400.0	1,399.7	1,400.2	1,400.1	3.0	3.0	126.21	126.21	-13.2	6.0	17.4	11.4	5.99	2.910	
1,500.0	1,499.4	1,500.4	1,500.2	3.2	3.2	136.65	136.65	-11.6	10.1	19.1	12.7	6.42	2.976	
1,600.0	1,598.9	1,600.6	1,600.3	3.5	3.4	146.10	146.10	-9.2	15.7	21.1	14.3	6.85	3.084	
1,700.0	1,698.3	1,700.9	1,700.3	3.7	3.7	154.61	154.61	-6.2	23.0	23.5	16.2	7.27	3.226	
1,800.0	1,797.4	1,801.2	1,800.1	4.0	3.9	162.28	162.28	-2.5	31.9	26.1	18.4	7.69	3.398	
1,900.0	1,896.3	1,901.6	1,899.9	4.3	4.2	169.18	169.18	1.8	42.4	29.2	21.0	8.11	3.594	
2,000.0	1,994.9	2,002.0	1,999.4	4.6	4.4	175.41	175.41	6.9	54.6	32.5	24.0	8.54	3.809	
2,100.0	2,093.3	2,102.2	2,098.5	4.9	4.7	-179.07	-179.07	12.4	68.1	36.4	27.5	8.97	4.061	
2,200.0	2,191.3	2,202.0	2,197.2	5.3	5.0	-174.77	-174.77	18.1	81.8	41.9	32.4	9.44	4.438	
2,300.0	2,289.3	2,301.8	2,295.9	5.7	5.3	-171.49	-171.49	23.7	95.4	47.7	37.7	9.93	4.801	
2,400.0	2,387.3	2,401.6	2,394.6	6.0	5.6	-168.93	-168.93	29.4	109.1	53.6	43.1	10.43	5.135	
2,500.0	2,485.4	2,501.4	2,493.3	6.4	5.9	-166.88	-166.88	35.0	122.7	59.5	48.6	10.95	5.440	
2,600.0	2,583.4	2,601.2	2,592.0	6.8	6.2	-165.21	-165.21	40.7	136.4	65.6	54.1	11.47	5.717	
2,700.0	2,681.4	2,701.0	2,690.7	7.2	6.6	-163.82	-163.82	46.4	150.1	71.7	59.7	12.01	5.970	
2,800.0	2,779.4	2,800.8	2,789.4	7.6	6.9	-162.65	-162.65	52.0	163.7	77.8	65.3	12.55	6.200	
2,900.0	2,877.4	2,900.6	2,888.1	8.0	7.2	-161.65	-161.65	57.7	177.4	84.0	70.9	13.10	6.410	
3,000.0	2,975.4	3,000.4	2,986.8	8.4	7.6	-160.78	-160.78	63.3	191.0	90.2	76.5	13.66	6.602	
3,100.0	3,073.5	3,100.2	3,085.5	8.9	7.9	-160.03	-160.03	69.0	204.7	96.4	82.1	14.22	6.777	
3,200.0	3,171.5	3,200.0	3,184.2	9.3	8.2	-159.37	-159.37	74.6	218.4	102.6	87.8	14.78	6.938	
3,300.0	3,269.5	3,299.8	3,282.9	9.7	8.6	-158.78	-158.78	80.3	232.0	108.8	93.4	15.35	7.086	
3,400.0	3,367.5	3,399.6	3,381.6	10.1	8.9	-158.26	-158.26	85.9	245.7	115.0	99.1	15.93	7.223	
3,500.0	3,465.5	3,499.4	3,480.3	10.5	9.2	-157.79	-157.79	91.6	259.4	121.3	104.8	16.50	7.349	
3,600.0	3,563.5	3,599.2	3,579.0	11.0	9.6	-157.37	-157.37	97.2	273.0	127.5	110.5	17.08	7.466	
3,700.0	3,661.6	3,699.0	3,677.7	11.4	9.9	-156.99	-156.99	102.9	286.7	133.8	116.1	17.66	7.574	
3,800.0	3,759.6	3,798.8	3,776.4	11.8	10.3	-156.64	-156.64	108.5	300.3	140.1	121.8	18.25	7.675	
3,900.0	3,857.6	3,898.6	3,875.1	12.3	10.6	-156.32	-156.32	114.2	314.0	146.3	127.5	18.83	7.769	
4,000.0	3,955.6	3,998.4	3,973.8	12.7	11.0	-156.03	-156.03	119.8	327.7	152.6	133.2	19.42	7.857	
4,100.0	4,053.6	4,098.2	4,072.5	13.1	11.3	-155.76	-155.76	125.5	341.3	158.9	138.9	20.01	7.939	
4,200.0	4,151.6	4,198.0	4,171.2	13.5	11.6	-155.51	-155.51	131.1	355.0	165.1	144.5	20.60	8.016	
4,300.0	4,249.7	4,297.8	4,269.9	14.0	12.0	-155.28	-155.28	136.8	368.7	171.4	150.2	21.20	8.088	
4,400.0	4,347.7	4,397.6	4,368.6	14.4	12.3	-155.06	-155.06	142.4	382.3	177.7	155.9	21.79	8.156	
4,500.0	4,445.7	4,497.4	4,467.3	14.8	12.7	-154.86	-154.86	148.1	396.0	184.0	161.6	22.39	8.220	
4,600.0	4,543.7	4,597.2	4,566.0	15.3	13.0	-154.67	-154.67	153.7	409.6	190.3	167.3	22.98	8.280	
4,700.0	4,641.7	4,697.0	4,664.7	15.7	13.4	-154.50	-154.50	159.4	423.3	196.6	173.0	23.58	8.337	
4,800.0	4,739.7	4,796.8	4,763.4	16.1	13.7	-154.34	-154.34	165.0	437.0	202.9	178.7	24.18	8.391	
4,900.0	4,837.8	4,896.6	4,862.1	16.6	14.1	-154.18	-154.18	170.7	450.6	209.2	184.4	24.78	8.442	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,935.8	4,996.4	4,960.8	17.0	14.4	-154.04		176.3	464.3	215.5	190.1	25.38	8.490	
5,100.0	5,033.8	5,096.2	5,059.5	17.4	14.8	-153.90		182.0	477.9	221.8	195.8	25.98	8.536	
5,200.0	5,131.8	5,196.0	5,158.2	17.9	15.1	-153.77		187.6	491.6	228.1	201.5	26.58	8.580	
5,300.0	5,229.8	5,295.8	5,256.9	18.3	15.5	-153.65		193.3	505.3	234.4	207.2	27.18	8.621	
5,400.0	5,327.8	5,395.6	5,355.6	18.8	15.8	-153.53		198.9	518.9	240.7	212.9	27.79	8.661	
5,500.0	5,425.9	5,495.4	5,454.3	19.2	16.2	-153.42		204.6	532.6	247.0	218.6	28.39	8.699	
5,600.0	5,523.9	5,595.2	5,553.0	19.6	16.5	-153.32		210.2	546.3	253.3	224.3	28.99	8.735	
5,700.0	5,621.9	5,695.0	5,651.7	20.1	16.9	-153.22		215.9	559.9	259.6	230.0	29.60	8.769	
5,800.0	5,719.9	5,794.8	5,750.4	20.5	17.2	-153.12		221.5	573.6	265.9	235.7	30.20	8.802	
5,900.0	5,817.9	5,894.6	5,849.1	20.9	17.6	-153.03		227.2	587.2	272.2	241.4	30.81	8.834	
6,000.0	5,915.9	5,994.4	5,947.8	21.4	18.0	-152.95		232.8	600.9	278.5	247.1	31.42	8.864	
6,100.0	6,014.0	6,094.2	6,046.5	21.8	18.3	-152.86		238.5	614.6	284.8	252.8	32.02	8.893	
6,200.0	6,112.0	6,194.0	6,145.2	22.2	18.7	-152.79		244.1	628.2	291.1	258.4	32.63	8.921	
6,300.0	6,210.0	6,293.8	6,243.9	22.7	19.0	-152.71		249.8	641.9	297.4	264.1	33.24	8.948	
6,400.0	6,308.0	6,393.6	6,342.6	23.1	19.4	-163.11		255.4	655.6	303.8	270.0	33.80	8.988	
6,500.0	6,405.8	6,506.7	6,454.5	23.5	19.7	164.17		254.2	671.1	311.2	277.1	34.14	9.117	
6,600.0	6,501.8	6,621.5	6,566.6	23.8	19.9	145.18		235.9	686.6	318.0	283.9	34.10	9.324	
6,700.0	6,594.6	6,736.9	6,675.3	24.1	20.1	134.81		200.7	701.6	324.0	290.2	33.79	9.589	
6,800.0	6,682.3	6,852.4	6,777.7	24.4	20.3	128.39		149.2	715.8	329.0	295.7	33.32	9.877	
6,900.0	6,763.6	6,967.8	6,871.1	24.7	20.4	123.82		82.9	728.7	333.2	300.3	32.88	10.132	
7,000.0	6,837.1	7,082.6	6,953.2	25.0	20.5	120.21		3.6	740.1	336.3	303.6	32.70	10.285	
7,100.0	6,901.5	7,196.5	7,022.0	25.3	20.7	117.11		-86.5	749.6	338.5	305.5	32.96	10.268	
7,200.0	6,955.8	7,309.1	7,076.4	25.7	21.0	114.31		-184.7	757.2	339.8	306.0	33.80	10.052	
7,300.0	6,998.8	7,420.2	7,115.4	26.2	21.5	111.70		-288.5	762.6	340.3	305.1	35.23	9.658	
7,400.0	7,030.1	7,529.6	7,138.9	26.7	22.1	109.22		-395.2	765.8	340.1	303.0	37.17	9.150	
7,500.0	7,048.9	7,637.1	7,147.0	27.3	22.9	106.86		-502.3	767.0	339.4	299.9	39.46	8.600	
7,583.2	7,054.9	7,720.4	7,146.9	27.9	23.6	105.76		-585.6	767.0	339.0	297.6	41.44	8.181	
7,600.0	7,055.0	7,737.2	7,146.9	28.0	23.8	105.73		-602.4	767.0	339.0	297.2	41.83	8.104	
7,700.0	7,054.2	7,837.2	7,146.9	28.9	24.8	105.86		-702.4	767.0	339.2	295.1	44.16	7.682	
7,800.0	7,053.3	7,937.2	7,146.8	29.8	25.9	105.99		-802.4	767.0	339.5	292.8	46.66	7.275	
7,900.0	7,052.4	8,037.2	7,146.7	30.8	27.2	106.12		-902.4	767.0	339.7	290.4	49.30	6.889	
8,000.0	7,051.5	8,137.2	7,146.6	31.9	28.5	106.25		-1,002.4	767.0	339.9	287.8	52.08	6.527	
8,100.0	7,050.6	8,237.2	7,146.5	33.1	29.8	106.38		-1,102.4	767.0	340.1	285.2	54.96	6.189	
8,200.0	7,049.7	8,337.2	7,146.5	34.4	31.3	106.51		-1,202.4	767.0	340.4	282.4	57.92	5.876	
8,300.0	7,048.8	8,437.2	7,146.4	35.7	32.8	106.64		-1,302.4	767.0	340.6	279.6	60.97	5.586	
8,400.0	7,048.0	8,537.2	7,146.3	37.1	34.3	106.77		-1,402.4	767.0	340.8	276.7	64.08	5.319	
8,500.0	7,047.1	8,637.2	7,146.2	38.6	35.8	106.90		-1,502.4	767.0	341.1	273.8	67.24	5.072	
8,600.0	7,046.2	8,737.2	7,146.2	40.0	37.4	107.03		-1,602.4	767.0	341.3	270.8	70.45	4.845	
8,700.0	7,045.3	8,837.2	7,146.1	41.5	39.1	107.16		-1,702.4	767.0	341.5	267.8	73.70	4.634	
8,800.0	7,044.4	8,937.2	7,146.0	43.1	40.7	107.29		-1,802.4	767.0	341.8	264.8	76.98	4.440	
8,900.0	7,043.5	9,037.2	7,145.9	44.7	42.4	107.42		-1,902.4	767.0	342.0	261.7	80.29	4.260	
9,000.0	7,042.7	9,137.2	7,145.9	46.3	44.1	107.55		-2,002.4	767.0	342.3	258.6	83.63	4.093	
9,100.0	7,041.8	9,237.2	7,145.8	47.9	45.8	107.68		-2,102.4	767.0	342.5	255.5	86.98	3.937	
9,200.0	7,040.9	9,337.2	7,145.7	49.6	47.5	107.81		-2,202.4	767.0	342.7	252.4	90.36	3.793	
9,300.0	7,040.0	9,437.2	7,145.6	51.2	49.3	107.94		-2,302.4	767.0	343.0	249.2	93.75	3.659	
9,400.0	7,039.1	9,537.2	7,145.6	52.9	51.0	108.07		-2,402.4	767.0	343.2	246.1	97.16	3.533	
9,500.0	7,038.2	9,637.2	7,145.5	54.6	52.8	108.19		-2,502.4	767.0	343.5	242.9	100.57	3.415	
9,600.0	7,037.3	9,737.2	7,145.4	56.3	54.6	108.32		-2,602.4	767.0	343.7	239.7	104.00	3.305	
9,700.0	7,036.5	9,837.2	7,145.3	58.0	56.4	108.45		-2,702.3	767.0	344.0	236.6	107.44	3.202	
9,800.0	7,035.6	9,937.2	7,145.3	59.8	58.2	108.58		-2,802.3	767.0	344.3	233.4	110.88	3.105	
9,900.0	7,034.7	10,037.2	7,145.2	61.5	60.0	108.71		-2,902.3	767.0	344.5	230.2	114.33	3.013	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17R-403 - Wellbore #1 - Plan #2 (7-7-15)												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	7,033.8	10,137.2	7,145.1	63.3	61.8	108.83	-3,002.3	767.0	344.8	227.0	117.78	2.927	
10,100.0	7,032.9	10,237.2	7,145.0	65.1	63.6	108.96	-3,102.3	767.0	345.0	223.8	121.24	2.846	
10,200.0	7,032.0	10,337.1	7,145.0	66.8	65.4	109.09	-3,202.3	767.0	345.3	220.6	124.70	2.769	
10,300.0	7,031.2	10,437.1	7,144.9	68.6	67.2	109.21	-3,302.3	767.0	345.6	217.4	128.17	2.696	
10,400.0	7,030.3	10,537.1	7,144.8	70.4	69.1	109.34	-3,402.3	767.0	345.8	214.2	131.64	2.627	
10,500.0	7,029.4	10,637.1	7,144.7	72.2	70.9	109.47	-3,502.3	767.0	346.1	211.0	135.10	2.562	
10,600.0	7,028.5	10,737.1	7,144.7	74.0	72.8	109.59	-3,602.3	767.0	346.4	207.8	138.57	2.500	
10,700.0	7,027.6	10,837.1	7,144.6	75.8	74.6	109.72	-3,702.3	767.0	346.6	204.6	142.04	2.440	
10,800.0	7,026.7	10,937.1	7,144.5	77.7	76.4	109.84	-3,802.3	767.0	346.9	201.4	145.51	2.384	
10,900.0	7,025.8	11,037.1	7,144.4	79.5	78.3	109.97	-3,902.3	767.0	347.2	198.2	148.98	2.331	
11,000.0	7,025.0	11,137.1	7,144.4	81.3	80.2	110.10	-4,002.3	767.0	347.5	195.0	152.45	2.279	
11,100.0	7,024.1	11,237.1	7,144.3	83.1	82.0	110.22	-4,102.3	767.0	347.8	191.8	155.91	2.230	
11,200.0	7,023.2	11,337.1	7,144.2	85.0	83.9	110.35	-4,202.3	767.0	348.0	188.7	159.38	2.184	
11,300.0	7,022.3	11,437.1	7,144.1	86.8	85.7	110.47	-4,302.3	767.0	348.3	185.5	162.84	2.139	
11,400.0	7,021.4	11,537.1	7,144.1	88.6	87.6	110.59	-4,402.3	767.0	348.6	182.3	166.30	2.096	
11,434.8	7,021.1	11,571.9	7,144.0	89.3	88.2	110.64	-4,437.1	767.0	348.7	181.2	167.51	2.082	
11,475.1	7,020.8	11,604.8	7,144.0	90.0	88.9	110.68	-4,470.0	767.0	348.9	180.1	168.77	2.067 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17U-203 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	43.7	0.0	43.7				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	43.7	0.0	43.7	43.5	0.22	194.518	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	43.7	0.0	43.7	43.0	0.67	64.839 CC	
300.0	300.0	299.9	299.9	0.6	0.6	1.70	1.70	43.8	1.3	43.9	42.8	1.11	39.370 ES	
400.0	400.0	399.6	399.5	0.8	0.8	6.69	6.69	44.2	5.2	44.5	43.0	1.56	28.603	
500.0	500.0	499.1	498.7	1.0	1.0	14.55	14.55	44.9	11.6	46.4	44.4	2.01	23.089	
600.0	600.0	598.1	597.4	1.2	1.3	24.27	24.27	45.8	20.6	50.3	47.8	2.47	20.325	
700.0	700.0	696.6	695.2	1.5	1.5	34.39	34.39	46.9	32.1	57.0	54.0	2.96	19.244	
800.0	800.0	794.5	792.1	1.7	1.9	43.60	43.60	48.2	45.9	67.1	63.6	3.49	19.227 SF	
900.0	900.0	891.6	887.8	1.9	2.2	51.27	51.27	49.8	62.1	80.6	76.5	4.06	19.855	
1,000.0	1,000.0	987.7	982.2	2.1	2.6	57.33	57.33	51.6	80.6	97.3	92.7	4.67	20.849	
1,100.0	1,100.0	1,083.1	1,075.3	2.3	3.0	-18.16	-18.16	53.7	101.1	116.3	111.5	4.88	23.842	
1,200.0	1,200.0	1,177.8	1,167.2	2.6	3.4	-14.68	-14.68	55.9	123.9	136.5	131.2	5.33	25.596	
1,300.0	1,299.9	1,271.8	1,257.8	2.8	3.9	-12.00	-12.00	58.4	148.7	157.7	151.9	5.80	27.217	
1,400.0	1,399.7	1,365.2	1,347.2	3.0	4.5	-9.86	-9.86	61.0	175.5	179.9	173.6	6.27	28.703	
1,500.0	1,499.4	1,457.8	1,435.2	3.2	5.0	-8.12	-8.12	63.8	204.2	202.8	196.1	6.74	30.086	
1,600.0	1,598.9	1,553.6	1,525.6	3.5	5.7	-6.66	-6.66	66.9	235.6	225.9	218.7	7.23	31.234	
1,700.0	1,698.3	1,651.1	1,617.7	3.7	6.3	-5.49	-5.49	70.1	267.6	247.6	239.8	7.73	32.015	
1,800.0	1,797.4	1,749.0	1,710.1	4.0	7.0	-4.53	-4.53	73.2	299.7	267.6	259.3	8.24	32.475	
1,900.0	1,896.3	1,847.2	1,802.9	4.3	7.7	-3.74	-3.74	76.4	332.0	285.9	277.2	8.75	32.667	
2,000.0	1,994.9	1,945.8	1,895.9	4.6	8.3	-3.06	-3.06	79.6	364.3	302.6	293.4	9.27	32.634	
2,100.0	2,093.3	2,044.6	1,989.2	4.9	9.0	-2.47	-2.47	82.8	396.7	317.6	307.8	9.80	32.414	
2,200.0	2,191.3	2,143.6	2,082.7	5.3	9.7	-1.94	-1.94	86.0	429.2	331.2	320.9	10.34	32.043	
2,300.0	2,289.3	2,242.7	2,176.2	5.7	10.4	-1.46	-1.46	89.2	461.8	344.7	333.8	10.88	31.673	
2,400.0	2,387.3	2,341.7	2,269.7	6.0	11.1	-1.01	-1.01	92.4	494.3	358.2	346.7	11.43	31.333	
2,500.0	2,485.4	2,440.8	2,363.2	6.4	11.7	-0.60	-0.60	95.6	526.8	371.7	359.7	11.98	31.019	
2,600.0	2,583.4	2,539.8	2,456.7	6.8	12.4	-0.22	-0.22	98.8	559.3	385.2	372.6	12.53	30.728	
2,700.0	2,681.4	2,638.9	2,550.2	7.2	13.1	0.14	0.14	102.0	591.8	398.7	385.6	13.09	30.458	
2,800.0	2,779.4	2,737.9	2,643.7	7.6	13.8	0.48	0.48	105.2	624.3	412.2	398.6	13.65	30.207	
2,900.0	2,877.4	2,837.0	2,737.2	8.0	14.5	0.79	0.79	108.4	656.8	425.8	411.6	14.21	29.972	
3,000.0	2,975.4	2,936.0	2,830.7	8.4	15.2	1.09	1.09	111.6	689.3	439.4	424.6	14.77	29.753	
3,100.0	3,073.5	3,035.1	2,924.2	8.9	15.9	1.36	1.36	114.8	721.8	452.9	437.6	15.33	29.547	
3,200.0	3,171.5	3,134.1	3,017.7	9.3	16.6	1.62	1.62	118.0	754.3	466.5	450.6	15.89	29.354	
3,300.0	3,269.5	3,233.2	3,111.3	9.7	17.3	1.87	1.87	121.2	786.8	480.1	463.7	16.46	29.172	
3,400.0	3,367.5	3,332.2	3,204.8	10.1	17.9	2.10	2.10	124.4	819.4	493.7	476.7	17.03	29.000	
3,500.0	3,465.5	3,431.3	3,298.3	10.5	18.6	2.32	2.32	127.6	851.9	507.4	489.8	17.59	28.838	
3,600.0	3,563.5	3,530.3	3,391.8	11.0	19.3	2.53	2.53	130.8	884.4	521.0	502.8	18.16	28.685	
3,700.0	3,661.6	3,629.4	3,485.3	11.4	20.0	2.73	2.73	133.9	916.9	534.6	515.9	18.73	28.540	
3,800.0	3,759.6	3,728.4	3,578.8	11.8	20.7	2.91	2.91	137.1	949.4	548.2	528.9	19.30	28.402	
3,900.0	3,857.6	3,827.5	3,672.3	12.3	21.4	3.09	3.09	140.3	981.9	561.9	542.0	19.87	28.271	
4,000.0	3,955.6	3,926.5	3,765.8	12.7	22.1	3.26	3.26	143.5	1,014.4	575.5	555.1	20.45	28.147	
4,100.0	4,053.6	4,025.6	3,859.3	13.1	22.8	3.43	3.43	146.7	1,046.9	589.2	568.1	21.02	28.028	
4,200.0	4,151.6	4,124.6	3,952.8	13.5	23.5	3.58	3.58	149.9	1,079.4	602.8	581.2	21.60	27.915	
4,300.0	4,249.7	4,223.7	4,046.3	14.0	24.2	3.73	3.73	153.1	1,111.9	616.5	594.3	22.17	27.807	
4,400.0	4,347.7	4,322.7	4,139.9	14.4	24.9	3.87	3.87	156.3	1,144.4	630.1	607.4	22.75	27.704	
4,500.0	4,445.7	4,421.8	4,233.4	14.8	25.6	4.01	4.01	159.5	1,177.0	643.8	620.5	23.32	27.605	
4,600.0	4,543.7	4,520.8	4,326.9	15.3	26.3	4.14	4.14	162.7	1,209.5	657.5	633.6	23.90	27.510	
4,700.0	4,641.7	4,619.9	4,420.4	15.7	27.0	4.26	4.26	165.9	1,242.0	671.1	646.7	24.48	27.419	
4,800.0	4,739.7	4,718.9	4,513.9	16.1	27.6	4.38	4.38	169.1	1,274.5	684.8	659.8	25.06	27.332	
4,900.0	4,837.8	4,818.0	4,607.4	16.6	28.3	4.50	4.50	172.3	1,307.0	698.5	672.9	25.63	27.249	
5,000.0	4,935.8	4,917.0	4,700.9	17.0	29.0	4.61	4.61	175.5	1,339.5	712.2	686.0	26.21	27.168	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17U-203 - Wellbore #1 - Plan #2 (7-7-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,033.8	5,016.1	4,794.4	17.4	29.7	4.71	178.7	1,372.0	725.9	699.1	26.79	27.091	
5,200.0	5,131.8	5,115.1	4,887.9	17.9	30.4	4.82	181.9	1,404.5	739.5	712.2	27.37	27.017	
5,300.0	5,229.8	5,214.2	4,981.4	18.3	31.1	4.91	185.1	1,437.0	753.2	725.3	27.95	26.945	
5,400.0	5,327.8	5,313.2	5,074.9	18.8	31.8	5.01	188.3	1,469.5	766.9	738.4	28.54	26.876	
5,500.0	5,425.9	5,412.3	5,168.5	19.2	32.5	5.10	191.5	1,502.1	780.6	751.5	29.12	26.809	
5,600.0	5,523.9	5,511.3	5,262.0	19.6	33.2	5.19	194.7	1,534.6	794.3	764.6	29.70	26.745	
5,700.0	5,621.9	5,610.4	5,355.5	20.1	33.9	5.28	197.9	1,567.1	808.0	777.7	30.28	26.683	
5,800.0	5,719.9	5,709.4	5,449.0	20.5	34.6	5.36	201.1	1,599.6	821.7	790.8	30.86	26.623	
5,900.0	5,817.9	5,808.5	5,542.5	20.9	35.3	5.44	204.3	1,632.1	835.4	803.9	31.45	26.565	
6,000.0	5,915.9	5,907.5	5,636.0	21.4	36.0	5.52	207.5	1,664.6	849.1	817.1	32.03	26.509	
6,100.0	6,014.0	6,006.6	5,729.5	21.8	36.7	5.59	210.7	1,697.1	862.8	830.2	32.61	26.454	
6,200.0	6,112.0	6,105.6	5,823.0	22.2	37.4	5.66	213.9	1,729.6	876.5	843.3	33.20	26.401	
6,300.0	6,210.0	6,204.7	5,916.5	22.7	38.1	5.74	217.1	1,762.1	890.2	856.4	33.78	26.350	
6,400.0	6,308.0	6,303.7	6,010.0	23.1	38.7	-4.36	220.3	1,794.6	903.9	869.6	34.37	26.301	
6,500.0	6,405.8	6,402.2	6,103.0	23.5	39.4	-36.81	223.5	1,827.0	918.3	883.4	34.91	26.301	
6,600.0	6,501.8	6,498.5	6,194.0	23.8	40.1	-55.87	226.6	1,858.6	933.6	898.2	35.40	26.376	
6,700.0	6,594.6	6,604.9	6,294.3	24.1	40.8	-66.54	225.0	1,893.5	949.9	914.1	35.86	26.494	
6,800.0	6,682.3	6,719.6	6,401.2	24.4	41.5	-72.98	207.1	1,930.7	966.3	930.0	36.34	26.590	
6,900.0	6,763.6	6,840.8	6,510.1	24.7	42.1	-77.22	169.9	1,968.6	982.3	945.4	36.90	26.619	
7,000.0	6,837.1	6,968.9	6,617.5	25.0	42.8	-80.16	111.4	2,006.1	997.2	959.6	37.58	26.535	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	29.1	0.0	29.1	28.9	0.22	129.685	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	29.1	0.0	29.1	28.5	0.67	43.228	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	29.1	0.0	29.1	28.0	1.12	25.937	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	29.1	0.0	29.1	27.6	1.57	18.526 CC	
500.0	500.0	499.9	499.9	1.0	1.0	2.53		29.3	1.3	29.3	27.3	2.01	14.586 ES	
600.0	600.0	599.6	599.5	1.2	1.2	9.84		29.8	5.2	30.3	27.8	2.45	12.364	
700.0	700.0	699.1	698.8	1.5	1.4	20.74		30.6	11.6	32.8	29.9	2.89	11.338	
800.0	800.0	798.2	797.4	1.7	1.7	32.88		31.8	20.6	38.0	34.6	3.35	11.323	
900.0	900.0	896.7	895.3	1.9	2.0	43.86		33.3	32.0	46.4	42.6	3.84	12.086	
1,000.0	1,000.0	994.6	992.2	2.1	2.2	52.56		35.1	45.8	58.2	53.9	4.36	13.356	
1,100.0	1,100.0	1,091.8	1,088.0	2.3	2.6	-21.27		37.2	62.0	72.4	67.7	4.74	15.282	
1,200.0	1,200.0	1,188.5	1,182.9	2.6	2.9	-16.86		39.5	80.4	87.9	82.8	5.18	16.971	
1,300.0	1,299.9	1,284.7	1,276.8	2.8	3.3	-13.62		42.2	101.1	104.5	98.9	5.63	18.564	
1,400.0	1,399.7	1,380.3	1,369.5	3.0	3.8	-11.16		45.2	124.1	122.1	116.0	6.09	20.057	
1,500.0	1,499.4	1,475.3	1,461.1	3.2	4.3	-9.23		48.4	149.1	140.5	134.0	6.55	21.450	
1,600.0	1,598.9	1,572.0	1,553.8	3.5	4.8	-7.68		52.0	176.5	159.4	152.3	7.03	22.684	
1,700.0	1,698.3	1,670.4	1,648.1	3.7	5.3	-6.49		55.6	204.5	176.8	169.3	7.51	23.545	
1,800.0	1,797.4	1,769.1	1,742.6	4.0	5.9	-5.57		59.2	232.7	192.5	184.5	8.00	24.074	
1,900.0	1,896.3	1,868.1	1,837.4	4.3	6.5	-4.82		62.9	260.9	206.6	198.1	8.49	24.325	
2,000.0	1,994.9	1,967.3	1,932.4	4.6	7.1	-4.21		66.5	289.2	219.0	210.0	8.99	24.343	
2,100.0	2,093.3	2,066.7	2,027.6	4.9	7.7	-3.69		70.2	317.5	229.6	220.1	9.50	24.165	
2,200.0	2,191.3	2,166.2	2,123.0	5.3	8.2	-3.25		73.8	345.9	238.9	228.8	10.02	23.831	
2,300.0	2,289.3	2,265.8	2,218.4	5.7	8.8	-2.84		77.5	374.3	247.9	237.4	10.55	23.496	
2,400.0	2,387.3	2,365.4	2,313.7	6.0	9.4	-2.46		81.2	402.6	257.0	246.0	11.09	23.187	
2,500.0	2,485.4	2,464.9	2,409.1	6.4	10.0	-2.10		84.9	431.0	266.1	254.5	11.62	22.902	
2,600.0	2,583.4	2,564.5	2,504.5	6.8	10.6	-1.77		88.5	459.4	275.3	263.1	12.16	22.640	
2,700.0	2,681.4	2,664.1	2,599.8	7.2	11.2	-1.46		92.2	487.8	284.4	271.7	12.70	22.396	
2,800.0	2,779.4	2,763.7	2,695.2	7.6	11.8	-1.17		95.9	516.2	293.5	280.3	13.24	22.170	
2,900.0	2,877.4	2,863.2	2,790.6	8.0	12.4	-0.90		99.5	544.5	302.7	288.9	13.78	21.959	
3,000.0	2,975.4	2,962.8	2,886.0	8.4	13.0	-0.64		103.2	572.9	311.8	297.5	14.33	21.763	
3,100.0	3,073.5	3,062.4	2,981.3	8.9	13.6	-0.40		106.9	601.3	320.9	306.1	14.87	21.579	
3,200.0	3,171.5	3,161.9	3,076.7	9.3	14.2	-0.17		110.5	629.7	330.1	314.7	15.42	21.407	
3,300.0	3,269.5	3,261.5	3,172.1	9.7	14.8	0.05		114.2	658.1	339.3	323.3	15.97	21.246	
3,400.0	3,367.5	3,361.1	3,267.4	10.1	15.4	0.25		117.9	686.4	348.4	331.9	16.52	21.094	
3,500.0	3,465.5	3,460.7	3,362.8	10.5	16.1	0.45		121.5	714.8	357.6	340.5	17.07	20.951	
3,600.0	3,563.5	3,560.2	3,458.2	11.0	16.7	0.63		125.2	743.2	366.8	349.2	17.62	20.816	
3,700.0	3,661.6	3,659.8	3,553.5	11.4	17.3	0.81		128.9	771.6	375.9	357.8	18.17	20.688	
3,800.0	3,759.6	3,759.4	3,648.9	11.8	17.9	0.98		132.5	800.0	385.1	366.4	18.73	20.567	
3,900.0	3,857.6	3,858.9	3,744.3	12.3	18.5	1.14		136.2	828.3	394.3	375.0	19.28	20.453	
4,000.0	3,955.6	3,958.5	3,839.7	12.7	19.1	1.29		139.9	856.7	403.5	383.7	19.83	20.344	
4,100.0	4,053.6	4,058.1	3,935.0	13.1	19.7	1.44		143.5	885.1	412.7	392.3	20.39	20.241	
4,200.0	4,151.6	4,157.7	4,030.4	13.5	20.3	1.58		147.2	913.5	421.9	400.9	20.94	20.142	
4,300.0	4,249.7	4,257.2	4,125.8	14.0	20.9	1.71		150.9	941.9	431.1	409.6	21.50	20.049	
4,400.0	4,347.7	4,356.8	4,221.1	14.4	21.5	1.84		154.5	970.3	440.3	418.2	22.06	19.959	
4,500.0	4,445.7	4,456.4	4,316.5	14.8	22.1	1.96		158.2	998.6	449.5	426.9	22.62	19.874	
4,600.0	4,543.7	4,555.9	4,411.9	15.3	22.7	2.08		161.9	1,027.0	458.7	435.5	23.17	19.792	
4,700.0	4,641.7	4,655.5	4,507.3	15.7	23.3	2.19		165.5	1,055.4	467.9	444.1	23.73	19.714	
4,800.0	4,739.7	4,755.1	4,602.6	16.1	23.9	2.30		169.2	1,083.8	477.1	452.8	24.29	19.639	
4,900.0	4,837.8	4,854.7	4,698.0	16.6	24.5	2.40		172.9	1,112.2	486.3	461.4	24.85	19.568	
5,000.0	4,935.8	4,954.2	4,793.4	17.0	25.1	2.50		176.5	1,140.5	495.5	470.1	25.41	19.499	

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,033.8	5,053.8	4,888.7	17.4	25.7	2.60	180.2	1,168.9	504.7	478.7	25.97	19.433		
5,200.0	5,131.8	5,153.4	4,984.1	17.9	26.4	2.70	183.9	1,197.3	513.9	487.4	26.53	19.369		
5,300.0	5,229.8	5,252.9	5,079.5	18.3	27.0	2.79	187.5	1,225.7	523.1	496.0	27.09	19.308		
5,400.0	5,327.8	5,352.5	5,174.8	18.8	27.6	2.87	191.2	1,254.1	532.3	504.7	27.65	19.249		
5,500.0	5,425.9	5,452.1	5,270.2	19.2	28.2	2.96	194.9	1,282.4	541.5	513.3	28.22	19.193		
5,600.0	5,523.9	5,551.7	5,365.6	19.6	28.8	3.04	198.6	1,310.8	550.8	522.0	28.78	19.138		
5,700.0	5,621.9	5,651.2	5,461.0	20.1	29.4	3.12	202.2	1,339.2	560.0	530.6	29.34	19.085		
5,800.0	5,719.9	5,750.8	5,556.3	20.5	30.0	3.19	205.9	1,367.6	569.2	539.3	29.90	19.034		
5,900.0	5,817.9	5,850.4	5,651.7	20.9	30.6	3.27	209.6	1,396.0	578.4	547.9	30.47	18.985		
6,000.0	5,915.9	5,949.9	5,747.1	21.4	31.2	3.34	213.2	1,424.3	587.6	556.6	31.03	18.938		
6,100.0	6,014.0	6,049.5	5,842.4	21.8	31.8	3.41	216.9	1,452.7	596.9	565.3	31.59	18.892		
6,200.0	6,112.0	6,149.1	5,937.8	22.2	32.4	3.47	220.6	1,481.1	606.1	573.9	32.16	18.848		
6,300.0	6,210.0	6,248.7	6,033.2	22.7	33.0	3.54	224.2	1,509.5	615.3	582.6	32.72	18.805		
6,400.0	6,308.0	6,348.2	6,128.5	23.1	33.6	-6.67	227.9	1,537.9	624.6	591.3	33.28	18.767		
6,500.0	6,405.8	6,447.2	6,223.3	23.5	34.3	-39.71	231.5	1,566.1	634.9	601.1	33.79	18.791		
6,600.0	6,501.8	6,546.9	6,318.8	23.8	34.9	-59.67	234.9	1,594.5	646.9	612.6	34.27	18.878		
6,700.0	6,594.6	6,659.1	6,426.0	24.1	35.4	-71.07	227.3	1,626.4	659.9	625.1	34.78	18.975		
6,800.0	6,682.3	6,776.5	6,535.7	24.4	36.0	-78.07	202.0	1,659.2	672.9	637.6	35.33	19.046		
6,900.0	6,763.6	6,899.1	6,644.9	24.7	36.6	-82.73	157.2	1,691.8	685.5	649.5	35.95	19.069		
7,000.0	6,837.1	7,026.8	6,749.9	25.0	37.1	-85.97	91.8	1,723.2	697.0	660.3	36.66	19.012		
7,100.0	6,901.5	7,159.2	6,846.1	25.3	37.6	-88.21	5.7	1,752.0	706.9	669.4	37.48	18.860		
7,200.0	6,955.8	7,295.4	6,928.6	25.7	38.1	-89.67	-99.5	1,776.9	714.8	676.3	38.49	18.573		
7,300.0	6,998.8	7,434.1	6,992.9	26.2	38.6	-90.47	-220.6	1,796.4	720.3	680.6	39.71	18.141		
7,400.0	7,030.1	7,573.8	7,035.4	26.7	39.2	-90.67	-352.8	1,809.4	723.2	682.1	41.18	17.565		
7,500.0	7,048.9	7,712.6	7,054.1	27.3	39.8	-90.34	-490.1	1,815.3	723.5	680.6	42.91	16.862		
7,600.0	7,055.0	7,824.9	7,054.4	28.0	40.3	-89.95	-602.3	1,815.7	722.4	677.8	44.57	16.207		
7,640.0	7,054.9	7,864.9	7,054.1	28.4	40.5	-89.94	-642.3	1,815.7	722.3	676.9	45.46	15.889		
7,700.0	7,054.2	7,924.9	7,053.5	28.9	40.9	-89.95	-702.3	1,815.7	722.4	675.6	46.81	15.431		
7,800.0	7,053.3	8,024.9	7,052.6	29.8	41.5	-89.95	-802.3	1,815.7	722.4	673.1	49.27	14.660		
7,900.0	7,052.4	8,124.9	7,051.8	30.8	42.2	-89.95	-902.3	1,815.7	722.4	670.5	51.90	13.918		
8,000.0	7,051.5	8,224.9	7,050.9	31.9	43.0	-89.95	-1,002.3	1,815.7	722.4	667.7	54.67	13.212		
8,100.0	7,050.6	8,324.9	7,050.0	33.1	43.9	-89.95	-1,102.3	1,815.7	722.4	664.8	57.57	12.548		
8,200.0	7,049.7	8,424.9	7,049.1	34.4	44.8	-89.95	-1,202.3	1,815.7	722.4	661.8	60.57	11.926		
8,300.0	7,048.8	8,524.9	7,048.2	35.7	45.8	-89.95	-1,302.3	1,815.7	722.4	658.7	63.66	11.347		
8,400.0	7,048.0	8,624.9	7,047.3	37.1	46.9	-89.95	-1,402.3	1,815.7	722.4	655.5	66.83	10.810		
8,500.0	7,047.1	8,724.9	7,046.4	38.6	48.0	-89.95	-1,502.3	1,815.7	722.4	652.3	70.06	10.310		
8,600.0	7,046.2	8,824.9	7,045.6	40.0	49.2	-89.95	-1,602.3	1,815.7	722.4	649.0	73.35	9.848		
8,700.0	7,045.3	8,924.9	7,044.7	41.5	50.4	-89.95	-1,702.3	1,815.7	722.4	645.7	76.70	9.418		
8,800.0	7,044.4	9,024.9	7,043.8	43.1	51.7	-89.95	-1,802.3	1,815.7	722.4	642.3	80.08	9.020		
8,900.0	7,043.5	9,124.9	7,042.9	44.7	53.0	-89.95	-1,902.3	1,815.7	722.4	638.9	83.51	8.650		
9,000.0	7,042.7	9,224.9	7,042.0	46.3	54.4	-89.95	-2,002.3	1,815.7	722.4	635.4	86.97	8.306		
9,100.0	7,041.8	9,324.9	7,041.1	47.9	55.7	-89.95	-2,102.3	1,815.7	722.4	631.9	90.46	7.985		
9,200.0	7,040.9	9,424.9	7,040.3	49.6	57.2	-89.95	-2,202.3	1,815.7	722.4	628.4	93.98	7.686		
9,300.0	7,040.0	9,524.9	7,039.4	51.2	58.6	-89.95	-2,302.3	1,815.7	722.4	624.8	97.52	7.407		
9,400.0	7,039.1	9,624.9	7,038.5	52.9	60.1	-89.95	-2,402.3	1,815.7	722.4	621.3	101.09	7.146		
9,500.0	7,038.2	9,724.9	7,037.6	54.6	61.6	-89.95	-2,502.3	1,815.7	722.4	617.7	104.67	6.901		
9,600.0	7,037.3	9,824.9	7,036.7	56.3	63.1	-89.95	-2,602.3	1,815.7	722.4	614.1	108.27	6.672		
9,700.0	7,036.5	9,924.9	7,035.8	58.0	64.7	-89.95	-2,702.3	1,815.7	722.4	610.5	111.89	6.456		
9,800.0	7,035.6	10,024.9	7,034.9	59.8	66.3	-89.95	-2,802.3	1,815.7	722.4	606.8	115.52	6.253		
9,900.0	7,034.7	10,124.9	7,034.1	61.5	67.9	-89.95	-2,902.3	1,815.7	722.4	603.2	119.16	6.062		
10,000.0	7,033.8	10,224.9	7,033.2	63.3	69.5	-89.95	-3,002.2	1,815.7	722.4	599.5	122.82	5.881		

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco 4N67W17R Pad Sec.17-T4N-R67W - Lajco 17U-343 - Wellbore #1 - Plan #2 (7-7-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	7,032.9	10,324.9	7,032.3	65.1	71.1	-89.95	-3,102.2	1,815.7	722.4	595.9	126.49	5.711	
10,200.0	7,032.0	10,424.9	7,031.4	66.8	72.7	-89.95	-3,202.2	1,815.7	722.4	592.2	130.16	5.550	
10,300.0	7,031.2	10,524.9	7,030.5	68.6	74.4	-89.95	-3,302.2	1,815.7	722.4	588.5	133.85	5.397	
10,400.0	7,030.3	10,624.9	7,029.6	70.4	76.1	-89.95	-3,402.2	1,815.7	722.4	584.8	137.54	5.252	
10,500.0	7,029.4	10,724.9	7,028.8	72.2	77.7	-89.95	-3,502.2	1,815.7	722.4	581.1	141.25	5.114	
10,600.0	7,028.5	10,824.9	7,027.9	74.0	79.4	-89.95	-3,602.2	1,815.7	722.4	577.4	144.95	4.983	
10,700.0	7,027.6	10,924.9	7,027.0	75.8	81.1	-89.95	-3,702.2	1,815.7	722.4	573.7	148.67	4.859	
10,800.0	7,026.7	11,024.9	7,026.1	77.7	82.9	-89.95	-3,802.2	1,815.7	722.4	570.0	152.39	4.740	
10,900.0	7,025.8	11,124.9	7,025.2	79.5	84.6	-89.95	-3,902.2	1,815.7	722.4	566.2	156.12	4.627	
11,000.0	7,025.0	11,224.9	7,024.3	81.3	86.3	-89.95	-4,002.2	1,815.7	722.4	562.5	159.85	4.519	
11,100.0	7,024.1	11,324.9	7,023.4	83.1	88.0	-89.95	-4,102.2	1,815.7	722.4	558.8	163.59	4.416	
11,200.0	7,023.2	11,424.9	7,022.6	85.0	89.8	-89.95	-4,202.2	1,815.7	722.4	555.0	167.33	4.317	
11,300.0	7,022.3	11,524.9	7,021.7	86.8	91.5	-89.95	-4,302.2	1,815.7	722.4	551.3	171.08	4.222	
11,400.0	7,021.4	11,624.9	7,020.8	88.6	93.3	-89.95	-4,402.2	1,815.7	722.4	547.5	174.83	4.132	
11,475.1	7,020.8	11,700.0	7,020.1	90.0	94.6	-89.95	-4,477.3	1,815.7	722.4	544.7	177.65	4.066 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco Pad Sec.17-T4N-R67W - Coming 17-2 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 100-NS-GYRO-MS												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
5,100.0	5,033.8	5,024.3	5,023.3	17.4	12.8	41.15	-382.4	1,538.1	986.4	959.3	27.12	36.371	
5,200.0	5,131.8	5,123.4	5,122.5	17.9	13.0	41.92	-381.5	1,536.9	970.0	942.2	27.77	34.932	
5,300.0	5,229.8	5,216.2	5,215.2	18.3	13.3	42.67	-381.1	1,536.1	954.1	925.7	28.41	33.585	
5,400.0	5,327.8	5,317.0	5,316.0	18.8	13.5	43.51	-380.5	1,535.1	938.4	909.3	29.09	32.260	
5,500.0	5,425.9	5,407.4	5,406.4	19.2	13.7	44.28	-380.2	1,534.5	923.2	893.5	29.74	31.046	
5,600.0	5,523.9	5,508.4	5,507.4	19.6	13.9	45.17	-379.8	1,534.0	908.4	878.0	30.42	29.865	
5,700.0	5,621.9	5,603.1	5,602.1	20.1	14.1	46.00	-379.1	1,533.9	893.9	862.9	31.01	28.826	
5,800.0	5,719.9	5,697.8	5,696.8	20.5	14.1	46.87	-378.8	1,533.9	879.9	848.4	31.53	27.911	
5,900.0	5,817.9	5,792.9	5,791.9	20.9	14.1	47.77	-378.8	1,534.2	866.5	834.5	32.00	27.076	
6,000.0	5,915.9	5,894.1	5,893.1	21.4	14.3	48.77	-378.8	1,534.4	853.4	820.8	32.59	26.182	
6,100.0	6,014.0	5,988.5	5,987.5	21.8	14.4	49.75	-379.0	1,534.4	840.4	807.2	33.21	25.305	
6,200.0	6,112.0	6,095.5	6,094.5	22.2	14.5	50.89	-379.1	1,534.3	827.6	793.7	33.88	24.428	
6,300.0	6,210.0	6,187.4	6,186.4	22.7	14.7	51.91	-379.0	1,533.9	814.7	780.2	34.57	23.567	
6,400.0	6,308.0	6,285.3	6,284.3	23.1	14.8	52.96	-379.2	1,533.9	802.3	767.2	35.09	22.861	
6,500.0	6,405.8	6,388.8	6,387.8	23.5	15.0	54.07	-379.1	1,533.7	783.2	748.2	34.99	22.380	
6,600.0	6,501.8	6,484.5	6,483.5	23.8	15.2	-11.64	-378.9	1,533.0	755.0	720.6	34.42	21.933	
6,700.0	6,594.6	6,573.3	6,572.3	24.1	15.4	-24.69	-378.8	1,532.7	719.1	685.7	33.40	21.530	
6,800.0	6,682.3	6,660.0	6,659.0	24.4	15.6	-35.12	-379.1	1,532.4	676.6	644.4	32.20	21.011	
6,900.0	6,763.6	6,741.0	6,740.0	24.7	15.7	-45.20	-379.6	1,532.1	628.8	597.6	31.28	20.103	
7,000.0	6,837.1	6,814.3	6,813.3	25.0	15.9	-55.76	-379.9	1,532.0	578.5	547.3	31.18	18.554	
7,100.0	6,901.5	6,880.8	6,879.8	25.3	16.0	-66.76	-380.4	1,531.7	529.2	497.0	32.11	16.478	
7,200.0	6,955.8	6,935.9	6,934.9	25.7	16.1	-76.96	-380.8	1,531.3	485.8	452.3	33.53	14.489	
7,300.0	6,998.8	6,978.5	6,977.5	26.2	16.2	-85.03	-380.8	1,531.1	455.1	420.3	34.74	13.101	
7,400.0	7,030.1	7,009.0	7,007.9	26.7	16.3	-90.11	-380.7	1,531.0	443.7	408.1	35.57	12.472	
7,400.1	7,030.1	7,009.0	7,008.0	26.7	16.3	-90.12	-380.7	1,531.0	443.7	408.1	35.57	12.472	CC, ES, SF
7,500.0	7,048.9	7,027.5	7,026.5	27.3	16.3	-91.86	-380.6	1,531.0	455.7	419.4	36.31	12.549	
7,600.0	7,055.0	7,033.4	7,032.3	28.0	16.3	-89.96	-380.6	1,531.0	490.6	453.4	37.25	13.171	
7,700.0	7,054.2	7,032.2	7,031.2	28.9	16.3	-89.63	-380.6	1,531.0	543.2	504.8	38.43	14.136	
7,800.0	7,053.3	7,031.0	7,030.0	29.8	16.3	-89.48	-380.6	1,531.0	607.8	568.1	39.70	15.309	
7,900.0	7,052.4	7,029.8	7,028.8	30.8	16.3	-89.32	-380.6	1,531.0	681.0	639.9	41.06	16.586	
8,000.0	7,051.5	7,028.6	7,027.6	31.9	16.3	-89.16	-380.6	1,531.0	760.3	717.8	42.49	17.895	
8,100.0	7,050.6	7,027.4	7,026.4	33.1	16.3	-89.00	-380.6	1,531.0	844.1	800.1	43.98	19.194	
8,200.0	7,049.7	7,026.2	7,025.1	34.4	16.3	-88.84	-380.6	1,531.0	931.0	885.5	45.51	20.455	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco Pad Sec.17-T4N-R67W - Coming 17-3 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft		
Survey Program: 100-NS-GYRO-MS												Offset Well Error: 0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
7,700.0	7,054.2	7,061.1	7,060.3	28.9	15.4	-93.14	-1,614.2	1,425.3	970.5	933.3	37.23	26.068		
7,800.0	7,053.3	7,059.5	7,058.7	29.8	15.4	-92.86	-1,614.3	1,425.3	877.2	838.7	38.51	22.777		
7,900.0	7,052.4	7,057.9	7,057.0	30.8	15.4	-92.58	-1,614.3	1,425.3	785.6	745.7	39.88	19.698		
8,000.0	7,051.5	7,056.3	7,055.4	31.9	15.4	-92.30	-1,614.3	1,425.3	696.3	654.9	41.32	16.849		
8,100.0	7,050.6	7,054.7	7,053.8	33.1	15.4	-92.03	-1,614.3	1,425.3	610.2	567.4	42.82	14.250		
8,200.0	7,049.7	7,053.1	7,052.3	34.4	15.4	-91.75	-1,614.3	1,425.4	529.2	484.8	44.38	11.925		
8,300.0	7,048.8	7,051.5	7,050.7	35.7	15.4	-91.49	-1,614.3	1,425.4	455.7	409.7	45.97	9.912		
8,400.0	7,048.0	7,050.0	7,049.2	37.1	15.4	-91.22	-1,614.3	1,425.4	394.0	346.4	47.60	8.277		
8,500.0	7,047.1	7,048.4	7,047.6	38.6	15.3	-90.95	-1,614.3	1,425.4	350.5	301.2	49.26	7.115		
8,600.0	7,046.2	7,046.9	7,046.1	40.0	15.3	-90.69	-1,614.3	1,425.4	332.4	281.4	50.95	6.523		
8,612.0	7,046.1	7,046.7	7,045.9	40.2	15.3	-90.66	-1,614.3	1,425.4	332.1	281.0	51.16	6.492	CC, ES, SF	
8,700.0	7,045.3	7,045.4	7,044.6	41.5	15.3	-90.43	-1,614.4	1,425.4	343.6	290.9	52.66	6.524		
8,800.0	7,044.4	7,043.9	7,043.1	43.1	15.3	-90.17	-1,614.4	1,425.5	381.6	327.2	54.40	7.016		
8,900.0	7,043.5	7,042.4	7,041.6	44.7	15.3	-89.92	-1,614.4	1,425.5	439.6	383.4	56.14	7.830		
9,000.0	7,042.7	7,041.0	7,040.2	46.3	15.3	-89.67	-1,614.4	1,425.5	510.7	452.8	57.91	8.820		
9,100.0	7,041.8	7,039.5	7,038.7	47.9	15.3	-89.42	-1,614.4	1,425.5	590.3	530.6	59.68	9.890		
9,200.0	7,040.9	7,038.1	7,037.3	49.6	15.3	-89.17	-1,614.4	1,425.5	675.3	613.8	61.47	10.986		
9,300.0	7,040.0	7,036.6	7,035.8	51.2	15.3	-88.92	-1,614.4	1,425.5	763.9	700.6	63.26	12.075		
9,400.0	7,039.1	7,035.2	7,034.4	52.9	15.3	-88.68	-1,614.4	1,425.6	855.1	790.0	65.07	13.141		
9,500.0	7,038.2	7,033.8	7,033.0	54.6	15.3	-88.44	-1,614.4	1,425.6	948.0	881.1	66.88	14.175		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco Pad Sec.17-T4N-R67W - Lajco 17C (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 700-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
7,100.0	6,901.5	6,898.7	6,897.7	25.3	13.8	23.02	-1,071.0	970.3	938.6	910.9	27.73	33.846	
7,200.0	6,955.8	6,952.6	6,951.6	25.7	13.9	26.01	-1,070.9	969.9	857.0	831.1	25.92	33.067	
7,300.0	6,998.8	6,995.5	6,994.5	26.2	14.0	31.88	-1,070.9	969.6	769.3	744.3	24.96	30.816	
7,400.0	7,030.1	7,026.6	7,025.6	26.7	14.1	42.88	-1,070.9	969.4	676.8	650.7	26.09	25.941	
7,500.0	7,048.9	7,045.4	7,044.4	27.3	14.1	62.68	-1,070.9	969.2	581.4	550.9	30.50	19.063	
7,600.0	7,055.0	7,051.5	7,050.5	28.0	14.1	90.36	-1,070.9	969.2	484.7	449.7	35.03	13.838	
7,700.0	7,054.2	7,050.6	7,049.6	28.9	14.1	91.23	-1,070.9	969.2	388.9	352.7	36.23	10.733	
7,800.0	7,053.3	7,049.7	7,048.7	29.8	14.1	90.81	-1,070.9	969.2	295.8	258.4	37.48	7.894	
7,900.0	7,052.4	7,048.8	7,047.7	30.8	14.1	90.39	-1,070.9	969.2	209.3	170.5	38.80	5.394	
8,000.0	7,051.5	7,047.8	7,046.8	31.9	14.1	89.97	-1,070.9	969.2	141.8	101.6	40.20	3.527	
8,068.6	7,050.9	7,047.2	7,046.2	32.8	14.1	89.68	-1,070.9	969.2	124.1	82.9	41.19	3.012 CC, ES, SF	
8,100.0	7,050.6	7,046.9	7,045.9	33.1	14.1	89.55	-1,070.9	969.2	128.0	86.3	41.65	3.073	
8,200.0	7,049.7	7,046.0	7,045.0	34.4	14.1	89.13	-1,070.9	969.2	180.7	137.6	43.15	4.188	
8,300.0	7,048.8	7,045.1	7,044.1	35.7	14.1	88.71	-1,070.9	969.2	262.6	217.9	44.70	5.875	
8,400.0	7,048.0	7,044.2	7,043.2	37.1	14.1	88.29	-1,070.9	969.3	353.9	307.6	46.28	7.647	
8,500.0	7,047.1	7,043.3	7,042.3	38.6	14.1	87.86	-1,070.9	969.3	448.9	401.0	47.88	9.375	
8,600.0	7,046.2	7,042.4	7,041.4	40.0	14.1	87.44	-1,070.9	969.3	545.7	496.2	49.51	11.021	
8,700.0	7,045.3	7,041.4	7,040.4	41.5	14.1	87.02	-1,070.9	969.3	643.5	592.3	51.17	12.576	
8,800.0	7,044.4	7,040.5	7,039.5	43.1	14.1	86.59	-1,070.9	969.3	741.8	689.0	52.84	14.040	
8,900.0	7,043.5	7,039.6	7,038.6	44.7	14.1	86.17	-1,070.9	969.3	840.6	786.1	54.52	15.417	
9,000.0	7,042.7	7,038.7	7,037.7	46.3	14.1	85.75	-1,070.9	969.3	939.6	883.4	56.22	16.713	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco Pad Sec.17-T4N-R67W - Lajco 17RD (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 735-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		
2,800.0	2,779.4	3,116.2	3,025.4	7.6	11.7	48.51	-512.3	1,008.6	979.7	963.5	16.27	60.235		
2,900.0	2,877.4	3,194.7	3,098.9	8.0	12.2	47.96	-484.9	1,005.0	941.9	924.9	17.01	55.385		
3,000.0	2,975.4	3,271.8	3,171.3	8.4	12.6	47.36	-458.3	1,003.0	905.9	888.2	17.75	51.042		
3,100.0	3,073.5	3,373.2	3,266.6	8.9	13.3	46.55	-423.9	1,000.0	870.1	851.5	18.62	46.721		
3,200.0	3,171.5	3,462.6	3,350.9	9.3	13.8	45.84	-394.2	996.6	834.2	814.7	19.43	42.936		
3,300.0	3,269.5	3,544.3	3,428.1	9.7	14.3	45.15	-367.7	994.0	799.3	779.1	20.19	39.586		
3,400.0	3,367.5	3,636.4	3,515.1	10.1	14.8	44.26	-337.6	992.1	765.3	744.3	21.04	36.377		
3,500.0	3,465.5	3,734.6	3,607.4	10.5	15.5	43.10	-304.1	990.7	731.3	709.3	21.97	33.289		
3,600.0	3,563.5	3,833.6	3,700.1	11.0	16.1	41.74	-269.5	989.0	696.7	673.8	22.92	30.393		
3,700.0	3,661.6	3,926.3	3,786.9	11.4	16.7	40.34	-236.8	987.0	662.2	638.3	23.85	27.763		
3,800.0	3,759.6	4,018.5	3,873.5	11.8	17.3	38.92	-205.4	984.5	628.0	603.2	24.75	25.368		
3,900.0	3,857.6	4,109.9	3,959.9	12.3	17.8	37.53	-175.7	981.3	594.3	568.7	25.62	23.196		
4,000.0	3,955.6	4,198.7	4,043.8	12.7	18.4	35.98	-146.6	978.8	561.5	535.0	26.49	21.194		
4,100.0	4,053.6	4,301.4	4,140.4	13.1	19.0	33.86	-112.1	975.7	528.7	501.2	27.49	19.229		
4,200.0	4,151.6	4,397.7	4,230.7	13.5	19.7	31.53	-78.7	971.9	495.2	466.8	28.48	17.390		
4,300.0	4,249.7	4,488.8	4,315.8	14.0	20.3	28.93	-46.4	968.3	462.3	432.9	29.45	15.699		
4,400.0	4,347.7	4,574.0	4,395.8	14.4	20.8	26.28	-17.2	965.6	431.4	401.1	30.35	14.214		
4,500.0	4,445.7	4,670.2	4,486.5	14.8	21.4	23.04	14.7	962.5	401.9	370.6	31.30	12.843		
4,600.0	4,543.7	4,761.4	4,572.7	15.3	21.9	19.62	44.4	959.3	373.7	341.5	32.19	11.608		
4,700.0	4,641.7	4,856.0	4,662.3	15.7	22.5	15.69	74.3	955.8	347.0	313.9	33.07	10.491		
4,800.0	4,739.7	4,946.6	4,748.9	16.1	23.0	11.78	100.8	952.6	322.3	288.4	33.88	9.513		
4,900.0	4,837.8	5,040.1	4,839.3	16.6	23.4	7.88	124.5	949.9	299.9	265.3	34.61	8.664		
5,000.0	4,935.8	5,135.4	4,932.2	17.0	23.9	3.95	145.7	947.4	279.2	243.9	35.29	7.912		
5,100.0	5,033.8	5,231.9	5,026.6	17.4	24.3	-0.21	165.4	945.2	259.9	224.0	35.92	7.236		
5,200.0	5,131.8	5,329.5	5,122.7	17.9	24.6	-4.26	182.1	943.3	241.8	205.3	36.49	6.626		
5,300.0	5,229.8	5,428.1	5,220.4	18.3	24.9	-8.04	195.3	941.9	224.4	187.4	37.00	6.064		
5,400.0	5,327.8	5,527.5	5,319.4	18.8	25.1	-11.68	205.6	940.7	207.1	169.6	37.46	5.529		
5,500.0	5,425.9	5,626.8	5,418.3	19.2	25.4	-15.28	213.5	939.5	189.8	152.0	37.87	5.013		
5,600.0	5,523.9	5,726.9	5,518.3	19.6	25.5	-18.38	217.6	939.1	172.2	134.0	38.24	4.505		
5,700.0	5,621.9	5,826.6	5,618.0	20.1	25.6	-20.77	217.8	939.4	153.9	115.3	38.57	3.990		
5,800.0	5,719.9	5,925.3	5,716.6	20.5	25.7	-23.45	217.0	939.4	135.1	96.2	38.88	3.474		
5,900.0	5,817.9	6,023.2	5,814.6	20.9	25.8	-26.93	216.1	939.4	116.5	77.3	39.17	2.974		
6,000.0	5,915.9	6,121.1	5,912.5	21.4	25.8	-31.86	215.4	939.2	98.6	59.2	39.42	2.501		
6,100.0	6,014.0	6,219.1	6,010.5	21.8	25.9	-39.01	214.9	938.9	81.8	42.2	39.54	2.068		
6,200.0	6,112.0	6,317.0	6,108.4	22.2	26.0	-49.60	214.4	938.6	66.7	27.4	39.37	1.695		
6,300.0	6,210.0	6,414.8	6,206.2	22.7	26.1	-65.58	214.2	937.9	55.4	16.7	38.71	1.431 Level 3		
6,388.5	6,296.7	6,501.6	6,292.9	23.1	26.2	-93.42	213.9	937.3	51.8	13.6	38.19	1.356 Level 3		
6,400.0	6,308.0	6,512.8	6,304.2	23.1	26.2	-97.33	213.9	937.2	50.7	12.5	38.20	1.326 Level 3, CC, ES, SF		
6,500.0	6,405.8	6,610.6	6,402.0	23.5	26.3	-148.58	213.3	936.5	62.3	23.9	38.33	1.625		
6,600.0	6,501.8	6,706.8	6,498.2	23.8	26.4	-175.16	212.6	935.9	88.4	50.4	37.96	2.329		
6,700.0	6,594.6	6,799.8	6,591.1	24.1	26.5	173.22	211.7	935.2	125.3	88.5	36.78	3.406		
6,800.0	6,682.3	6,887.7	6,679.1	24.4	26.5	168.02	210.9	934.7	172.1	137.1	35.03	4.914		
6,900.0	6,763.6	6,969.0	6,760.4	24.7	26.6	165.31	210.4	934.4	228.8	195.9	32.92	6.951		
7,000.0	6,837.1	7,042.2	6,833.5	25.0	26.7	163.25	210.2	934.3	295.0	264.2	30.72	9.602		
7,100.0	6,901.5	7,106.0	6,897.4	25.3	26.8	160.87	210.1	934.0	369.8	341.0	28.79	12.842		
7,200.0	6,955.8	7,159.8	6,951.1	25.7	26.8	157.46	210.0	933.8	452.1	424.3	27.71	16.312		
7,300.0	6,998.8	7,202.6	6,993.9	26.2	26.9	151.93	210.1	933.7	540.6	512.1	28.48	18.977		
7,400.0	7,030.1	7,234.1	7,025.4	26.7	26.9	142.05	210.1	933.6	633.7	601.0	32.72	19.369		
7,500.0	7,048.9	7,253.1	7,044.5	27.3	26.9	122.69	210.1	933.6	730.1	688.4	41.66	17.525		
7,600.0	7,055.0	7,259.3	7,050.7	28.0	26.9	89.03	210.1	933.6	828.0	780.3	47.70	17.358		
7,700.0	7,054.2	7,258.4	7,049.8	28.9	26.9	86.96	210.1	933.6	926.3	877.6	48.68	19.030		

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 Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Offset Design Lajco Pad Sec.17-T4N-R67W - Lajco 17SD (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 735-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
8,300.0	7,048.8	7,221.5	7,044.5	35.7	25.5	95.55	-2,290.2	1,007.3	991.6	935.3	56.27	17.623	
8,400.0	7,048.0	7,220.6	7,043.6	37.1	25.5	94.97	-2,290.2	1,007.3	892.0	834.1	57.88	15.410	
8,500.0	7,047.1	7,219.8	7,042.7	38.6	25.5	94.39	-2,290.2	1,007.3	792.5	733.0	59.53	13.314	
8,600.0	7,046.2	7,218.9	7,041.9	40.0	25.5	93.82	-2,290.2	1,007.3	693.2	632.0	61.20	11.328	
8,700.0	7,045.3	7,218.0	7,041.0	41.5	25.5	93.25	-2,290.2	1,007.3	594.1	531.2	62.89	9.448	
8,800.0	7,044.4	7,217.2	7,040.1	43.1	25.5	92.68	-2,290.2	1,007.3	495.4	430.8	64.59	7.669	
8,900.0	7,043.5	7,216.3	7,039.3	44.7	25.4	92.12	-2,290.2	1,007.3	397.3	331.0	66.31	5.991	
9,000.0	7,042.7	7,215.5	7,038.5	46.3	25.4	91.56	-2,290.2	1,007.3	300.4	232.4	68.04	4.415	
9,100.0	7,041.8	7,214.7	7,037.6	47.9	25.4	91.00	-2,290.2	1,007.3	206.6	136.8	69.79	2.961	
9,200.0	7,040.9	7,213.8	7,036.8	49.6	25.4	90.45	-2,290.2	1,007.3	123.0	51.4	71.54	1.719	
9,287.9	7,040.1	7,213.1	7,036.1	51.0	25.4	89.96	-2,290.2	1,007.3	86.0	13.0	73.08	1.177	Level 2, CC, ES, SF
9,300.0	7,040.0	7,213.0	7,036.0	51.2	25.4	89.90	-2,290.2	1,007.3	86.9	13.6	73.29	1.186	Level 2
9,400.0	7,039.1	7,212.2	7,035.1	52.9	25.4	89.35	-2,290.2	1,007.3	141.3	66.3	75.05	1.883	
9,500.0	7,038.2	7,211.4	7,034.3	54.6	25.4	88.80	-2,290.2	1,007.3	228.9	152.1	76.81	2.980	
9,600.0	7,037.3	7,210.5	7,033.5	56.3	25.4	88.26	-2,290.1	1,007.3	323.8	245.2	78.58	4.120	
9,700.0	7,036.5	7,209.7	7,032.7	58.0	25.4	87.73	-2,290.1	1,007.3	421.0	340.7	80.34	5.240	
9,800.0	7,035.6	7,208.9	7,031.9	59.8	25.4	87.19	-2,290.1	1,007.3	519.3	437.2	82.11	6.324	
9,900.0	7,034.7	7,208.1	7,031.1	61.5	25.4	86.66	-2,290.1	1,007.3	618.1	534.3	83.87	7.370	
10,000.0	7,033.8	7,207.3	7,030.3	63.3	25.4	86.14	-2,290.1	1,007.3	717.3	631.7	85.64	8.376	
10,100.0	7,032.9	7,206.5	7,029.5	65.1	25.4	85.61	-2,290.1	1,007.3	816.6	729.3	87.40	9.344	
10,200.0	7,032.0	7,205.8	7,028.7	66.8	25.4	85.09	-2,290.1	1,007.3	916.1	827.0	89.15	10.276	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4807.0ft (RKB - 13')

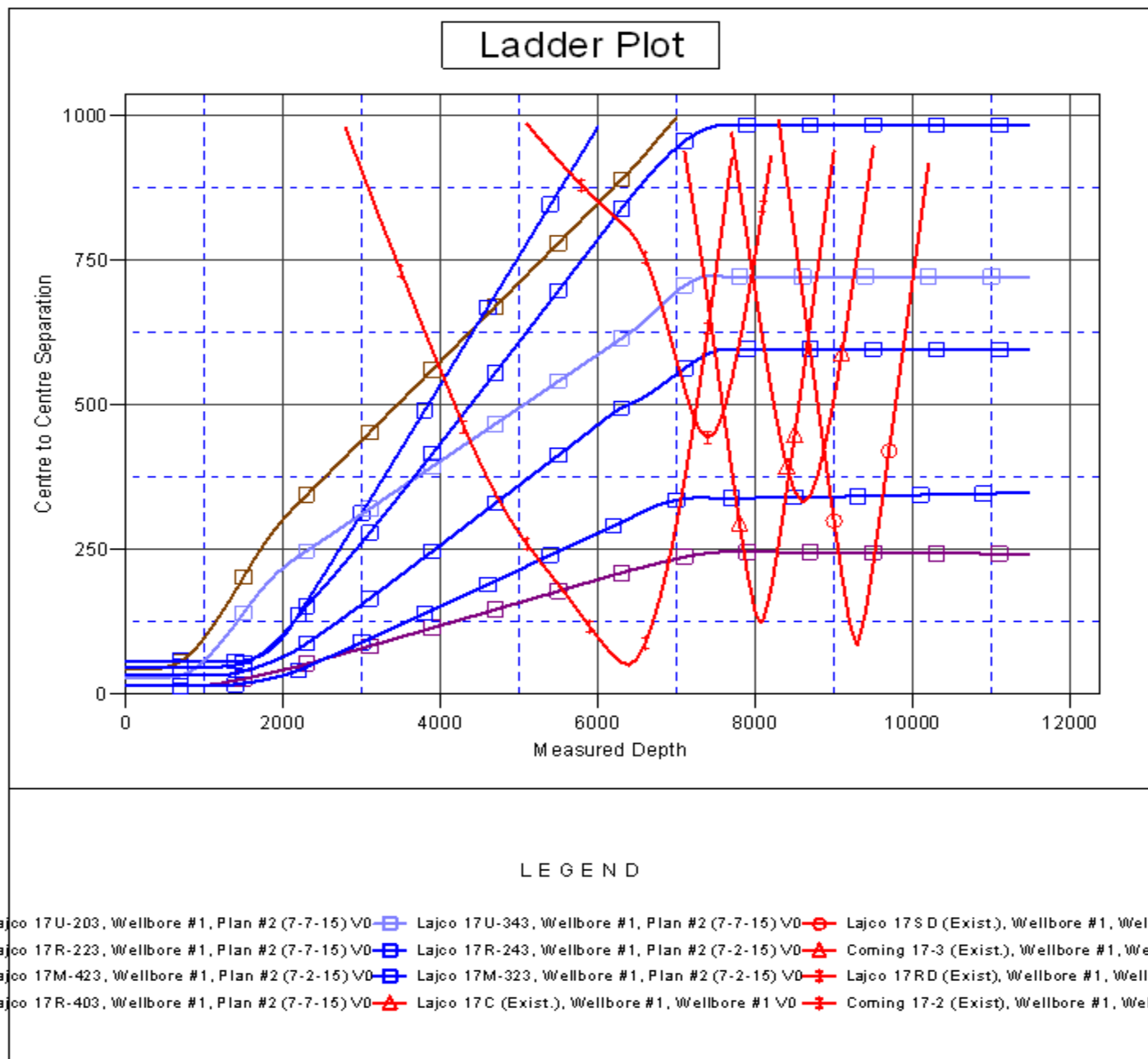
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Lajco 17R-303

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.38°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Lajco 17R-303
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (RKB - 13')
Reference Site:	Lajco 4N67W17R Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4807.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lajco 17R-303	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Plan #2 (7-7-15)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4807.0ft (RKB - 13')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Lajco 17R-303

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.38°

