

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Jacobucci 32K-243**

Surface Location: Jacobucci 1N67W32K Pad Sec.32-T1N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

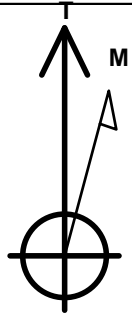
Ground Elevation: 5045.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1245938.95	3162462.77	40.007030	-104.920030	

Original Well Elev WELL @ 5060.0ft (Original Well Elev)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2437'FSL & 1038'FWL, Sec.32	1.0	0.0	0.0	Point
BHL 500'FSL & 345'FWL, Sec.5	7603.0	-7034.4	-224.2	Point



Azimuths to True North
Magnetic North: 8.49°

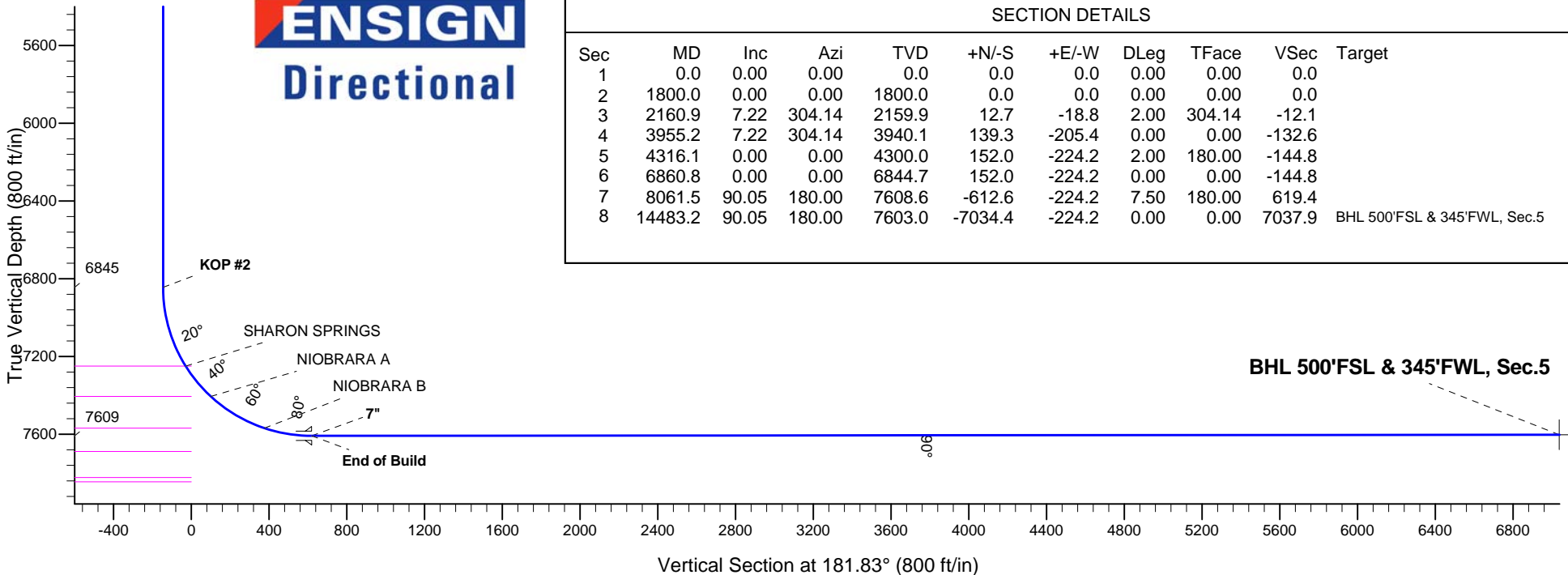
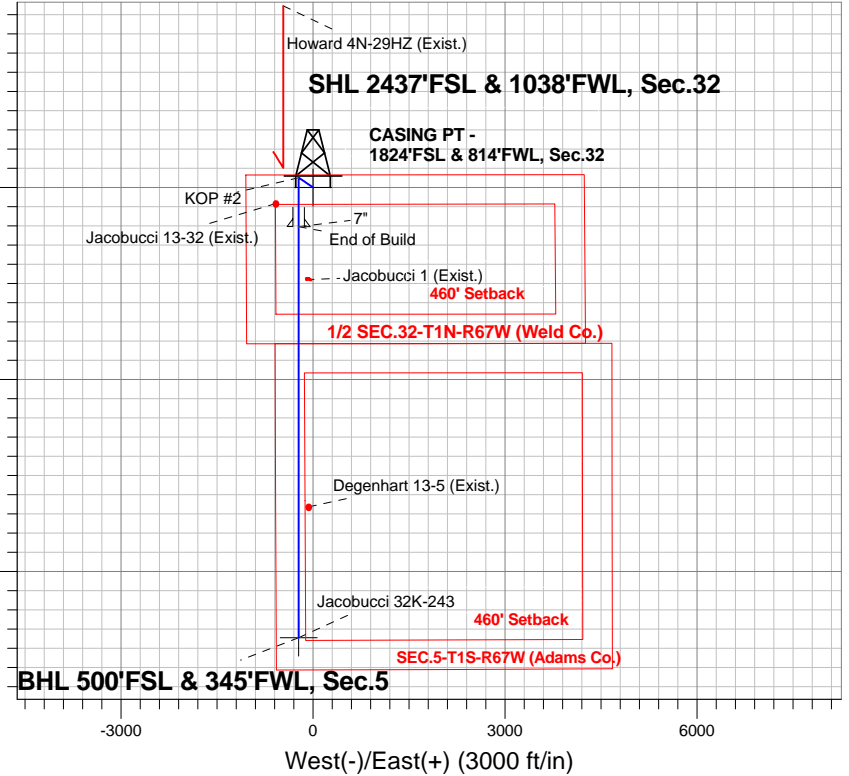
Magnetic Field
Strength: 52578.0nT
Dip Angle: 66.60°
Date: 7/28/2014
Model: IGRF2010

Jacobucci 1N67W32K Pad Sec.32-T1N-R67W
Jacobucci 32K-243
Plan #1 (7-25-14)

ANNOTATIONS

TVD	MD	Annotation
1800.0	1800.0	KOP
6844.7	6860.8	KOP #2
7608.6	8061.5	End of Build

South(-)/North(+) (3000 ft/in)





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T1N-R67W

Jacobucci 1N67W32K Pad Sec.32-T1N-R67W

Jacobucci 32K-243

Wellbore #1

Plan: Plan #1 (7-25-14)

Standard Planning Report

01 August, 2014

Database:	landmark	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Project:	SEC.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	North Reference:	True
Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-14)		

Project	SEC.32-T1N-R67W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W			
Site Position:		Northing:	1,245,939.37 ft	Latitude:	40.007030
From:	Lat/Long	Easting:	3,162,524.40 ft	Longitude:	-104.919810
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.37 °

Well	Jacobucci 32K-243					
Well Position	+N/-S	0.0 ft	Northing:	1,245,938.95 ft	Latitude:	40.007030
	+E/-W	-61.6 ft	Easting:	3,162,462.77 ft	Longitude:	-104.920030
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,045.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/28/2014	8.49	66.60	52,578

Design	Plan #1 (7-25-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	181.83

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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,160.9	7.22	304.14	2,159.9	12.7	-18.8	2.00	2.00	0.00	304.14	
3,955.2	7.22	304.14	3,940.1	139.3	-205.4	0.00	0.00	0.00	0.00	
4,316.1	0.00	0.00	4,300.0	152.0	-224.2	2.00	-2.00	0.00	180.00	
6,860.8	0.00	0.00	6,844.7	152.0	-224.2	0.00	0.00	0.00	0.00	
8,061.5	90.05	180.00	7,608.6	-612.6	-224.2	7.50	7.50	0.00	180.00	
14,483.2	90.05	180.00	7,603.0	-7,034.4	-224.2	0.00	0.00	0.00	0.00	BHL 500'FSL & 345

Database:	landmark	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Project:	SEC.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	North Reference:	True
Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
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
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP									
1,900.0	2.00	304.14	1,900.0	1.0	-1.4	-0.9	2.00	2.00	0.00
2,000.0	4.00	304.14	1,999.8	3.9	-5.8	-3.7	2.00	2.00	0.00
2,100.0	6.00	304.14	2,099.5	8.8	-13.0	-8.4	2.00	2.00	0.00
2,160.9	7.22	304.14	2,159.9	12.7	-18.8	-12.1	2.00	2.00	0.00
2,200.0	7.22	304.14	2,198.7	15.5	-22.9	-14.8	0.00	0.00	0.00
2,300.0	7.22	304.14	2,297.9	22.5	-33.3	-21.5	0.00	0.00	0.00
2,400.0	7.22	304.14	2,397.2	29.6	-43.7	-28.2	0.00	0.00	0.00
2,500.0	7.22	304.14	2,496.4	36.7	-54.1	-34.9	0.00	0.00	0.00
2,600.0	7.22	304.14	2,595.6	43.7	-64.5	-41.6	0.00	0.00	0.00
2,700.0	7.22	304.14	2,694.8	50.8	-74.9	-48.3	0.00	0.00	0.00
2,800.0	7.22	304.14	2,794.0	57.8	-85.2	-55.1	0.00	0.00	0.00
2,900.0	7.22	304.14	2,893.2	64.9	-95.6	-61.8	0.00	0.00	0.00
3,000.0	7.22	304.14	2,992.4	71.9	-106.0	-68.5	0.00	0.00	0.00
3,100.0	7.22	304.14	3,091.6	79.0	-116.4	-75.2	0.00	0.00	0.00
3,200.0	7.22	304.14	3,190.8	86.0	-126.8	-81.9	0.00	0.00	0.00
3,300.0	7.22	304.14	3,290.0	93.1	-137.2	-88.6	0.00	0.00	0.00
3,400.0	7.22	304.14	3,389.2	100.1	-147.6	-95.4	0.00	0.00	0.00
3,500.0	7.22	304.14	3,488.4	107.2	-158.0	-102.1	0.00	0.00	0.00
3,600.0	7.22	304.14	3,587.6	114.2	-168.4	-108.8	0.00	0.00	0.00
3,700.0	7.22	304.14	3,686.9	121.3	-178.8	-115.5	0.00	0.00	0.00
3,800.0	7.22	304.14	3,786.1	128.3	-189.2	-122.2	0.00	0.00	0.00
3,900.0	7.22	304.14	3,885.3	135.4	-199.6	-128.9	0.00	0.00	0.00
3,955.2	7.22	304.14	3,940.1	139.3	-205.4	-132.6	0.00	0.00	0.00
4,000.0	6.32	304.14	3,984.5	142.2	-209.7	-135.5	2.00	-2.00	0.00
4,100.0	4.32	304.14	4,084.1	147.4	-217.4	-140.4	2.00	-2.00	0.00
4,200.0	2.32	304.14	4,183.9	150.7	-222.2	-143.5	2.00	-2.00	0.00
4,300.0	0.32	304.14	4,283.9	152.0	-224.1	-144.8	2.00	-2.00	0.00
4,316.1	0.00	0.00	4,300.0	152.0	-224.2	-144.8	2.00	-2.00	0.00
4,400.0	0.00	0.00	4,383.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,500.0	0.00	0.00	4,483.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,516.1	0.00	0.00	4,500.0	152.0	-224.2	-144.8	0.00	0.00	0.00
PARKMAN									

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Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	North Reference:	True
Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.0	0.00	0.00	4,583.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,700.0	0.00	0.00	4,683.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,783.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,883.9	152.0	-224.2	-144.8	0.00	0.00	0.00
4,916.1	0.00	0.00	4,900.0	152.0	-224.2	-144.8	0.00	0.00	0.00
SUSSEX									
5,000.0	0.00	0.00	4,983.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,100.0	0.00	0.00	5,083.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,183.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,283.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,366.1	0.00	0.00	5,350.0	152.0	-224.2	-144.8	0.00	0.00	0.00
SHANNON									
5,400.0	0.00	0.00	5,383.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,483.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,583.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,683.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,783.9	152.0	-224.2	-144.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,883.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,983.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,083.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,183.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,283.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,383.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,483.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,583.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,683.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,783.9	152.0	-224.2	-144.8	0.00	0.00	0.00
6,860.8	0.00	0.00	6,844.7	152.0	-224.2	-144.8	0.00	0.00	0.00
KOP #2									
6,900.0	2.94	180.00	6,883.9	151.0	-224.2	-143.8	7.50	7.50	0.00
7,000.0	10.44	180.00	6,983.1	139.4	-224.2	-132.1	7.50	7.50	0.00
7,100.0	17.94	180.00	7,080.0	114.9	-224.2	-107.7	7.50	7.50	0.00
7,200.0	25.44	180.00	7,172.8	77.9	-224.2	-70.7	7.50	7.50	0.00
7,288.1	32.05	180.00	7,250.0	35.6	-224.2	-28.4	7.50	7.50	0.00
SHARON SPRINGS									
7,300.0	32.94	180.00	7,260.1	29.2	-224.2	-22.0	7.50	7.50	0.00
7,400.0	40.44	180.00	7,340.2	-30.5	-224.2	37.7	7.50	7.50	0.00
7,491.3	47.29	180.00	7,406.0	-93.8	-224.2	100.9	7.50	7.50	0.00
NIORARA A									
7,500.0	47.94	180.00	7,411.9	-100.2	-224.2	107.3	7.50	7.50	0.00
7,600.0	55.44	180.00	7,473.8	-178.6	-224.2	185.6	7.50	7.50	0.00
7,700.0	62.94	180.00	7,525.0	-264.4	-224.2	271.4	7.50	7.50	0.00
7,800.0	70.44	180.00	7,564.5	-356.2	-224.2	363.2	7.50	7.50	0.00
7,813.7	71.47	180.00	7,569.0	-369.2	-224.2	376.1	7.50	7.50	0.00
NIORARA B									
7,900.0	77.94	180.00	7,591.7	-452.3	-224.2	459.3	7.50	7.50	0.00
8,000.0	85.44	180.00	7,606.2	-551.2	-224.2	558.1	7.50	7.50	0.00
8,061.5	90.05	180.00	7,608.6	-612.7	-224.2	619.5	7.49	7.49	0.00
End of Build - 7"									
8,100.0	90.05	180.00	7,608.6	-651.2	-224.2	658.0	0.00	0.00	0.00
8,200.0	90.05	180.00	7,608.5	-751.2	-224.2	757.9	0.00	0.00	0.00
8,300.0	90.05	180.00	7,608.4	-851.2	-224.2	857.9	0.00	0.00	0.00

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Project:	SEC.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	North Reference:	True
Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400.0	90.05	180.00	7,608.3	-951.2	-224.2	957.8	0.00	0.00	0.00
8,500.0	90.05	180.00	7,608.2	-1,051.2	-224.2	1,057.8	0.00	0.00	0.00
8,600.0	90.05	180.00	7,608.1	-1,151.2	-224.2	1,157.7	0.00	0.00	0.00
8,700.0	90.05	180.00	7,608.0	-1,251.2	-224.2	1,257.7	0.00	0.00	0.00
8,800.0	90.05	180.00	7,608.0	-1,351.2	-224.2	1,357.6	0.00	0.00	0.00
8,900.0	90.05	180.00	7,607.9	-1,451.2	-224.2	1,457.6	0.00	0.00	0.00
9,000.0	90.05	180.00	7,607.8	-1,551.2	-224.2	1,557.5	0.00	0.00	0.00
9,100.0	90.05	180.00	7,607.7	-1,651.2	-224.2	1,657.5	0.00	0.00	0.00
9,200.0	90.05	180.00	7,607.6	-1,751.2	-224.2	1,757.4	0.00	0.00	0.00
9,300.0	90.05	180.00	7,607.5	-1,851.2	-224.2	1,857.4	0.00	0.00	0.00
9,400.0	90.05	180.00	7,607.4	-1,951.2	-224.2	1,957.3	0.00	0.00	0.00
9,500.0	90.05	180.00	7,607.3	-2,051.2	-224.2	2,057.3	0.00	0.00	0.00
9,600.0	90.05	180.00	7,607.3	-2,151.2	-224.2	2,157.2	0.00	0.00	0.00
9,700.0	90.05	180.00	7,607.2	-2,251.2	-224.2	2,257.2	0.00	0.00	0.00
9,800.0	90.05	180.00	7,607.1	-2,351.2	-224.2	2,357.1	0.00	0.00	0.00
9,900.0	90.05	180.00	7,607.0	-2,451.2	-224.2	2,457.1	0.00	0.00	0.00
10,000.0	90.05	180.00	7,606.9	-2,551.2	-224.2	2,557.0	0.00	0.00	0.00
10,100.0	90.05	180.00	7,606.8	-2,651.2	-224.2	2,657.0	0.00	0.00	0.00
10,200.0	90.05	180.00	7,606.7	-2,751.2	-224.2	2,756.9	0.00	0.00	0.00
10,300.0	90.05	180.00	7,606.7	-2,851.2	-224.2	2,856.8	0.00	0.00	0.00
10,400.0	90.05	180.00	7,606.6	-2,951.2	-224.2	2,956.8	0.00	0.00	0.00
10,500.0	90.05	180.00	7,606.5	-3,051.2	-224.2	3,056.7	0.00	0.00	0.00
10,600.0	90.05	180.00	7,606.4	-3,151.2	-224.2	3,156.7	0.00	0.00	0.00
10,700.0	90.05	180.00	7,606.3	-3,251.2	-224.2	3,256.6	0.00	0.00	0.00
10,800.0	90.05	180.00	7,606.2	-3,351.2	-224.2	3,356.6	0.00	0.00	0.00
10,900.0	90.05	180.00	7,606.1	-3,451.2	-224.2	3,456.5	0.00	0.00	0.00
11,000.0	90.05	180.00	7,606.0	-3,551.2	-224.2	3,556.5	0.00	0.00	0.00
11,100.0	90.05	180.00	7,606.0	-3,651.2	-224.2	3,656.4	0.00	0.00	0.00
11,200.0	90.05	180.00	7,605.9	-3,751.2	-224.2	3,756.4	0.00	0.00	0.00
11,300.0	90.05	180.00	7,605.8	-3,851.2	-224.2	3,856.3	0.00	0.00	0.00
11,400.0	90.05	180.00	7,605.7	-3,951.2	-224.2	3,956.3	0.00	0.00	0.00
11,500.0	90.05	180.00	7,605.6	-4,051.2	-224.2	4,056.2	0.00	0.00	0.00
11,600.0	90.05	180.00	7,605.5	-4,151.2	-224.2	4,156.2	0.00	0.00	0.00
11,700.0	90.05	180.00	7,605.4	-4,251.2	-224.2	4,256.1	0.00	0.00	0.00
11,800.0	90.05	180.00	7,605.3	-4,351.2	-224.2	4,356.1	0.00	0.00	0.00
11,900.0	90.05	180.00	7,605.3	-4,451.2	-224.2	4,456.0	0.00	0.00	0.00
12,000.0	90.05	180.00	7,605.2	-4,551.2	-224.2	4,556.0	0.00	0.00	0.00
12,100.0	90.05	180.00	7,605.1	-4,651.2	-224.2	4,655.9	0.00	0.00	0.00
12,200.0	90.05	180.00	7,605.0	-4,751.2	-224.2	4,755.9	0.00	0.00	0.00
12,300.0	90.05	180.00	7,604.9	-4,851.2	-224.2	4,855.8	0.00	0.00	0.00
12,400.0	90.05	180.00	7,604.8	-4,951.2	-224.2	4,955.8	0.00	0.00	0.00
12,500.0	90.05	180.00	7,604.7	-5,051.2	-224.2	5,055.7	0.00	0.00	0.00
12,600.0	90.05	180.00	7,604.6	-5,151.2	-224.2	5,155.7	0.00	0.00	0.00
12,700.0	90.05	180.00	7,604.6	-5,251.2	-224.2	5,255.6	0.00	0.00	0.00
12,800.0	90.05	180.00	7,604.5	-5,351.2	-224.2	5,355.6	0.00	0.00	0.00
12,900.0	90.05	180.00	7,604.4	-5,451.2	-224.2	5,455.5	0.00	0.00	0.00
13,000.0	90.05	180.00	7,604.3	-5,551.2	-224.2	5,555.5	0.00	0.00	0.00
13,100.0	90.05	180.00	7,604.2	-5,651.2	-224.2	5,655.4	0.00	0.00	0.00
13,200.0	90.05	180.00	7,604.1	-5,751.2	-224.2	5,755.4	0.00	0.00	0.00
13,300.0	90.05	180.00	7,604.0	-5,851.2	-224.2	5,855.3	0.00	0.00	0.00
13,400.0	90.05	180.00	7,603.9	-5,951.2	-224.2	5,955.3	0.00	0.00	0.00
13,500.0	90.05	180.00	7,603.9	-6,051.2	-224.2	6,055.2	0.00	0.00	0.00

Database:	landmark	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Project:	SEC.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	North Reference:	True
Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,600.0	90.05	180.00	7,603.8	-6,151.2	-224.2	6,155.2	0.00	0.00	0.00
13,700.0	90.05	180.00	7,603.7	-6,251.2	-224.2	6,255.1	0.00	0.00	0.00
13,800.0	90.05	180.00	7,603.6	-6,351.2	-224.2	6,355.1	0.00	0.00	0.00
13,900.0	90.05	180.00	7,603.5	-6,451.2	-224.2	6,455.0	0.00	0.00	0.00
14,000.0	90.05	180.00	7,603.4	-6,551.2	-224.2	6,555.0	0.00	0.00	0.00
14,100.0	90.05	180.00	7,603.3	-6,651.2	-224.2	6,654.9	0.00	0.00	0.00
14,200.0	90.05	180.00	7,603.2	-6,751.2	-224.2	6,754.9	0.00	0.00	0.00
14,300.0	90.05	180.00	7,603.2	-6,851.2	-224.2	6,854.8	0.00	0.00	0.00
14,400.0	90.05	180.00	7,603.1	-6,951.2	-224.2	6,954.8	0.00	0.00	0.00
14,483.2	90.05	180.00	7,603.0	-7,034.4	-224.2	7,037.9	0.00	0.00	0.00

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
8,061.5	7,608.6	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,516.1	4,500.0	PARKMAN		0.00	
4,916.1	4,900.0	SUSSEX		0.00	
5,366.1	5,350.0	SHANNON		0.00	
7,288.1	7,250.0	SHARON SPRINGS		0.00	
7,491.3	7,406.0	NIOBRARA A		0.00	
7,813.7	7,569.0	NIOBRARA B		0.00	
	7,689.0	NIOBRARA C		0.00	
	7,823.0	FT HAYS		0.00	
	7,845.0	CODELL		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,800.0	1,800.0	0.0	0.0	KOP
6,860.8	6,844.7	152.0	-224.2	KOP #2
8,061.5	7,608.6	-612.7	-224.2	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T1N-R67W

Jacobucci 1N67W32K Pad Sec.32-T1N-R67W

Jacobucci 32K-243

Wellbore #1

Plan #1 (7-25-14)

Anticollision Report

01 August, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (7-25-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/1/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,483.2	Plan #1 (7-25-14) (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						
Existings Sec.32-T1N-R67W						
Degenhart 13-5 (Exist.) - Wellbore #1 - Wellbore #1	12,438.5	7,664.8	154.7	-95.8	0.618	Level 1, CC, ES, SF
Howard 4N-29HZ (Exist.) - Wellbore #1 - Wellbore #1	4,344.7	4,322.9	284.7	226.6	4.901	CC
Howard 4N-29HZ (Exist.) - Wellbore #1 - Wellbore #1	6,900.0	6,878.1	285.4	143.4	2.010	ES, SF
Jacobucci 1 (Exist.) - Wellbore #1 - Wellbore #1	8,884.7	7,573.0	124.4	75.3	2.533	CC, ES, SF
Jacobucci 13-32 (Exist.) - Wellbore #1 - Wellbore #1	7,683.1	7,490.1	357.1	190.4	2.142	CC, ES
Jacobucci 13-32 (Exist.) - Wellbore #1 - Wellbore #1	7,700.0	7,498.0	357.4	190.5	2.141	SF
Jacobucci 1N67W32K Pad Sec.32-T1N-R67W						
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	964.9	969.9	61.6	57.5	14.944	CC
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	1,000.0	1,004.9	61.6	57.4	14.397	ES
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	14,484.1	14,612.1	760.4	490.6	2.818	SF
Jacobucci 32K-403 - Wellbore #1 - Plan #1 (7-25-14)	1,800.0	1,803.0	30.8	22.9	3.914	CC, ES
Jacobucci 32K-403 - Wellbore #1 - Plan #1 (7-25-14)	14,484.1	14,699.7	425.3	198.2	1.873	SF
Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)	1,400.0	1,400.0	22.4	16.3	3.693	CC, ES
Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)	14,484.1	14,719.2	371.3	162.7	1.779	SF

Offset Design													Offset Site Error:	0.0ft
Existings Sec.32-T1N-R67W - Degenhart 13-5 (Exist.) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0ft
Survey Program: 8644-UNKNOWN														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
11,500.0	7,605.6	7,665.6	7,665.6	79.6	153.3	-90.30	-4,989.6	-69.5	951.1	718.4	232.80	4.086		
11,600.0	7,605.5	7,665.5	7,665.5	81.4	153.3	-90.27	-4,989.6	-69.5	852.6	618.0	234.67	3.633		
11,700.0	7,605.4	7,665.4	7,665.4	83.3	153.3	-90.24	-4,989.6	-69.5	754.5	518.0	236.55	3.190		
11,800.0	7,605.3	7,665.3	7,665.3	85.2	153.3	-90.21	-4,989.6	-69.5	657.0	418.5	238.43	2.755		
11,900.0	7,605.3	7,665.3	7,665.3	87.1	153.3	-90.17	-4,989.6	-69.5	560.3	320.0	240.30	2.331		
12,000.0	7,605.2	7,665.2	7,665.2	88.9	153.3	-90.14	-4,989.6	-69.5	465.0	222.8	242.18	1.920		
12,100.0	7,605.1	7,665.1	7,665.1	90.8	153.3	-90.11	-4,989.6	-69.5	372.2	128.1	244.07	1.525		
12,200.0	7,605.0	7,665.0	7,665.0	92.7	153.3	-90.08	-4,989.6	-69.5	284.3	38.3	245.95	1.156	Level 2	
12,300.0	7,604.9	7,664.9	7,664.9	94.6	153.3	-90.04	-4,989.6	-69.5	207.6	-40.2	247.83	0.838	Level 1	
12,400.0	7,604.8	7,664.8	7,664.8	96.5	153.3	-90.01	-4,989.6	-69.5	159.4	-90.3	249.72	0.638	Level 1	
12,438.5	7,604.8	7,664.8	7,664.8	97.2	153.3	-90.00	-4,989.6	-69.5	154.7	-95.8	250.44	0.618	Level 1, CC, ES, SF	

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 8644-UNKNOWN													Offset Well Error:	0.0 ft
Reference Offset Semi Major Axis														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
12,500.0	7,604.7	7,664.7	7,664.7	98.4	153.3	-89.98	-4,989.6	-69.5	166.5	-85.1	251.60	0.662	Level 1	
12,600.0	7,604.6	7,664.6	7,664.6	100.3	153.3	-89.95	-4,989.6	-69.5	223.6	-29.9	253.49	0.882	Level 1	
12,700.0	7,604.6	7,664.6	7,664.6	102.1	153.3	-89.92	-4,989.6	-69.5	303.8	48.5	255.38	1.190	Level 2	
12,800.0	7,604.5	7,664.5	7,664.5	104.0	153.3	-89.88	-4,989.6	-69.5	393.2	135.9	257.27	1.528		
12,900.0	7,604.4	7,664.4	7,664.4	105.9	153.3	-89.85	-4,989.6	-69.5	486.7	227.6	259.16	1.878		
13,000.0	7,604.3	7,664.3	7,664.3	107.8	153.3	-89.82	-4,989.6	-69.5	582.4	321.4	261.05	2.231		
13,100.0	7,604.2	7,664.2	7,664.2	109.7	153.3	-89.79	-4,989.6	-69.5	679.4	416.4	262.94	2.584		
13,200.0	7,604.1	7,664.1	7,664.1	111.6	153.3	-89.75	-4,989.6	-69.5	777.1	512.2	264.83	2.934		
13,300.0	7,604.0	7,664.0	7,664.0	113.5	153.3	-89.72	-4,989.6	-69.5	875.3	608.6	266.72	3.282		
13,400.0	7,603.9	7,663.9	7,663.9	115.4	153.3	-89.69	-4,989.6	-69.5	973.9	705.3	268.61	3.626		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-UNKNOWN													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-48.24	554.5	-621.0	833.0					
100.0	100.0	71.0	71.0	0.1	1.4	-48.24	554.5	-621.0	832.5	831.0	1.53	543.278		
200.0	200.0	171.0	171.0	0.3	4.8	-48.24	554.5	-621.0	832.5	827.4	5.18	160.811		
300.0	300.0	271.0	271.0	0.6	8.8	-48.24	554.5	-621.0	832.5	823.1	9.40	88.550		
400.0	400.0	371.0	371.0	0.8	12.8	-48.24	554.5	-621.0	832.5	818.9	13.63	61.096		
500.0	500.0	471.0	471.0	1.0	16.8	-48.24	554.5	-621.0	832.5	814.7	17.85	46.637		
600.0	600.0	571.0	571.0	1.2	20.8	-48.24	554.5	-621.0	832.5	810.5	22.08	37.712		
700.0	700.0	671.0	671.0	1.5	24.8	-48.24	554.5	-621.0	832.5	806.2	26.30	31.654		
800.0	800.0	771.0	771.0	1.7	28.8	-48.24	554.5	-621.0	832.5	802.0	30.53	27.273		
900.0	900.0	871.0	871.0	1.9	32.8	-48.24	554.5	-621.0	832.5	797.8	34.75	23.958		
1,000.0	1,000.0	971.0	971.0	2.1	36.8	-48.24	554.5	-621.0	832.5	793.6	38.98	21.361		
1,100.0	1,100.0	1,071.0	1,071.0	2.4	40.8	-48.24	554.5	-621.0	832.5	789.3	43.20	19.272		
1,200.0	1,200.0	1,171.0	1,171.0	2.6	44.8	-48.24	554.5	-621.0	832.5	785.1	47.42	17.555		
1,300.0	1,300.0	1,271.0	1,271.0	2.8	48.8	-48.24	554.5	-621.0	832.5	780.9	51.65	16.119		
1,400.0	1,400.0	1,371.0	1,371.0	3.0	52.8	-48.24	554.5	-621.0	832.5	776.7	55.87	14.900		
1,500.0	1,500.0	1,498.4	1,498.4	3.3	54.3	-48.27	553.0	-620.1	831.4	773.8	57.57	14.441		
1,600.0	1,600.0	1,636.6	1,636.4	3.5	49.9	-48.43	546.2	-615.9	825.8	772.4	53.34	15.481		
1,700.0	1,700.0	1,773.7	1,772.7	3.7	45.6	-48.72	533.8	-608.1	815.6	766.2	49.33	16.533		
1,800.0	1,800.0	1,906.7	1,904.1	3.9	41.9	-49.15	516.6	-597.4	800.9	755.1	45.78	17.495		
1,900.0	1,900.0	2,004.9	2,000.8	4.2	39.5	6.40	502.1	-588.3	782.6	739.3	43.27	18.084		
2,000.0	1,999.8	2,102.4	2,096.8	4.4	37.5	6.10	487.8	-579.3	760.9	719.8	41.08	18.521		
2,100.0	2,099.5	2,199.1	2,192.0	4.6	35.9	5.81	473.5	-570.4	735.9	696.7	39.13	18.804		
2,200.0	2,198.7	2,295.0	2,286.5	4.8	34.8	5.51	459.4	-561.6	707.8	670.2	37.53	18.861		
2,300.0	2,297.9	2,390.7	2,380.7	5.1	34.1	5.14	445.3	-552.8	679.1	642.7	36.35	18.683		
2,400.0	2,397.2	2,486.4	2,475.0	5.3	33.9	4.75	431.2	-544.0	650.4	614.9	35.57	18.288		
2,500.0	2,496.4	2,582.1	2,569.2	5.6	34.3	4.32	417.1	-535.2	621.8	586.6	35.23	17.652		
2,600.0	2,595.6	2,677.8	2,663.5	5.9	35.2	3.85	403.0	-526.4	593.2	557.8	35.35	16.780		
2,700.0	2,694.8	2,773.5	2,757.7	6.1	36.5	3.33	388.9	-517.6	564.6	528.7	35.95	15.705		
2,800.0	2,794.0	2,869.2	2,852.0	6.4	38.3	2.76	374.8	-508.8	536.1	499.1	37.02	14.484		
2,900.0	2,893.2	2,964.9	2,946.2	6.7	40.4	2.12	360.8	-500.0	507.7	469.2	38.51	13.183		
3,000.0	2,992.4	3,060.6	3,040.5	7.0	42.8	1.41	346.7	-491.1	479.3	438.9	40.39	11.866		
3,100.0	3,091.6	3,148.8	3,127.3	7.3	45.2	0.70	334.1	-483.3	451.5	409.0	42.48	10.628		
3,200.0	3,190.8	3,233.4	3,211.2	7.6	47.6	0.06	324.0	-477.0	426.2	381.5	44.68	9.539		
3,300.0	3,290.0	3,319.4	3,296.6	7.9	49.9	-0.50	315.8	-471.9	403.6	356.5	47.09	8.570		
3,400.0	3,389.2	3,406.4	3,383.3	8.2	52.4	-0.95	309.8	-468.1	383.7	334.0	49.67	7.724		
3,500.0	3,488.4	3,494.5	3,471.3	8.5	54.8	-1.28	306.0	-465.7	366.5	314.1	52.41	6.994		
3,600.0	3,587.6	3,583.3	3,560.1	8.8	55.6	-1.45	304.5	-464.8	352.2	298.6	53.57	6.574		
3,700.0	3,686.9	3,681.1	3,657.9	9.1	55.1	-1.50	304.5	-464.8	339.6	286.4	53.20	6.384		
3,800.0	3,786.1	3,780.3	3,757.1	9.4	54.5	-1.56	304.5	-464.8	327.0	274.2	52.86	6.186		
3,900.0	3,885.3	3,879.5	3,856.3	9.7	54.2	-1.62	304.5	-464.8	314.5	261.6	52.88	5.947		
4,000.0	3,984.5	3,978.8	3,955.5	10.0	54.2	-1.68	304.5	-464.8	302.3	248.8	53.44	5.656		
4,100.0	4,084.1	4,078.3	4,055.1	10.2	54.5	-1.73	304.5	-464.8	293.0	238.4	54.55	5.371		
4,200.0	4,183.9	4,178.2	4,154.9	10.4	55.1	-1.76	304.5	-464.8	287.2	231.3	55.88	5.140		
4,300.0	4,283.9	4,278.1	4,254.9	10.5	56.0	-1.78	304.5	-464.8	284.9	227.5	57.41	4.962		
4,344.7	4,328.6	4,322.9	4,299.6	10.6	56.5	-1.78	304.5	-464.8	284.7	226.6	58.09	4.901 CC		
4,400.0	4,383.9	4,378.1	4,354.9	10.7	57.1	-57.64	304.5	-464.8	284.9	225.9	59.00	4.828		
4,500.0	4,483.9	4,478.1	4,454.9	10.9	58.5	-57.64	304.5	-464.8	284.9	224.0	60.85	4.682		
4,600.0	4,583.9	4,578.1	4,554.9	11.1	60.1	-57.64	304.5	-464.8	284.9	221.9	62.95	4.525		
4,700.0	4,683.9	4,678.1	4,654.9	11.3	62.0	-57.64	304.5	-464.8	284.9	219.6	65.27	4.364		
4,800.0	4,783.9	4,778.1	4,754.9	11.5	64.0	-57.64	304.5	-464.8	284.9	217.0	67.80	4.201		
4,900.0	4,883.9	4,878.1	4,854.9	11.7	66.2	-57.64	304.5	-464.8	284.9	214.3	70.51	4.040		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Existings Sec.32-T1N-R67W - Howard 4N-29HZ (Exist.) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.0 ft
Survey Program: 100-UNKNOWN													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)						
5,000.0	4,983.9	4,978.1	4,954.9	11.9	68.6	-57.64	304.5	-464.8	284.9	211.5	73.38	3.882					
5,100.0	5,083.9	5,078.1	5,054.9	12.1	71.1	-57.64	304.5	-464.8	284.9	208.5	76.38	3.729					
5,200.0	5,183.9	5,178.1	5,154.9	12.3	73.8	-57.64	304.5	-464.8	284.9	205.3	79.51	3.583					
5,300.0	5,283.9	5,278.1	5,254.9	12.5	76.5	-57.64	304.5	-464.8	284.9	202.1	82.74	3.443					
5,400.0	5,383.9	5,378.1	5,354.9	12.7	79.4	-57.64	304.5	-464.8	284.9	198.8	86.06	3.310					
5,500.0	5,483.9	5,478.1	5,454.9	12.9	82.4	-57.64	304.5	-464.8	284.9	195.4	89.47	3.184					
5,600.0	5,583.9	5,578.1	5,554.9	13.1	85.4	-57.64	304.5	-464.8	284.9	191.9	92.95	3.064					
5,700.0	5,683.9	5,678.1	5,654.9	13.4	88.6	-57.64	304.5	-464.8	284.9	188.4	96.50	2.952					
5,800.0	5,783.9	5,778.1	5,754.9	13.6	91.8	-57.64	304.5	-464.8	284.9	184.8	100.10	2.846					
5,900.0	5,883.9	5,878.1	5,854.9	13.8	95.0	-57.64	304.5	-464.8	284.9	181.1	103.75	2.746					
6,000.0	5,983.9	5,978.1	5,954.9	14.0	98.3	-57.64	304.5	-464.8	284.9	177.4	107.45	2.651					
6,100.0	6,083.9	6,078.1	6,054.9	14.2	101.7	-57.64	304.5	-464.8	284.9	173.7	111.18	2.562					
6,200.0	6,183.9	6,178.1	6,154.9	14.4	105.1	-57.64	304.5	-464.8	284.9	169.9	114.96	2.478					
6,300.0	6,283.9	6,278.1	6,254.9	14.6	108.5	-57.64	304.5	-464.8	284.9	166.1	118.76	2.399					
6,400.0	6,383.9	6,378.1	6,354.9	14.8	112.0	-57.64	304.5	-464.8	284.9	162.3	122.60	2.324					
6,500.0	6,483.9	6,478.1	6,454.9	15.0	115.6	-57.64	304.5	-464.8	284.9	158.4	126.46	2.253					
6,600.0	6,583.9	6,578.1	6,554.9	15.2	119.1	-57.64	304.5	-464.8	284.9	154.5	130.34	2.185					
6,700.0	6,683.9	6,678.1	6,654.9	15.4	122.7	-57.64	304.5	-464.8	284.9	150.6	134.25	2.122					
6,800.0	6,783.9	6,778.1	6,754.9	15.7	126.3	-57.64	304.5	-464.8	284.9	146.7	138.17	2.062					
6,839.7	6,823.6	6,817.8	6,794.6	15.7	127.7	122.43	304.5	-464.8	285.1	145.4	139.69	2.041					
6,900.0	6,883.9	6,878.1	6,854.9	15.9	129.9	122.50	304.5	-464.8	285.4	143.4	141.97	2.010 ES, SF					
7,000.0	6,983.1	6,977.4	6,954.1	16.0	133.5	124.02	304.5	-464.8	291.8	146.9	144.88	2.014					
7,100.0	7,080.0	7,065.5	7,042.3	16.1	136.7	126.54	305.1	-464.8	306.8	160.6	146.23	2.098					
7,200.0	7,172.8	7,130.1	7,106.5	16.2	139.0	129.03	311.7	-464.8	337.5	192.2	145.32	2.323					
7,300.0	7,260.1	7,181.5	7,156.8	16.3	140.7	130.49	322.0	-464.8	386.2	243.3	142.93	2.702					
7,400.0	7,340.2	7,219.4	7,193.2	16.4	141.9	129.70	332.5	-464.8	451.3	310.6	140.64	3.209					
7,500.0	7,411.9	7,250.0	7,222.0	16.6	142.8	126.39	342.8	-464.8	529.1	388.5	140.60	3.763					
7,600.0	7,473.8	7,250.0	7,222.0	16.8	142.8	115.02	342.8	-464.8	615.9	467.5	148.38	4.151					
7,700.0	7,525.0	7,267.3	7,238.1	17.3	143.4	101.62	349.2	-464.8	707.8	550.7	157.14	4.504					
7,800.0	7,564.5	7,267.7	7,238.4	18.0	143.4	79.69	349.4	-464.8	802.5	645.4	157.14	5.107					
7,900.0	7,591.7	7,250.0	7,222.0	18.8	142.8	55.22	342.8	-464.8	897.9	766.6	131.24	6.842					
8,000.0	7,606.2	7,250.0	7,222.0	19.8	142.8	40.37	342.8	-464.8	991.6	887.8	103.81	9.552					

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
7,900.0	7,591.7	7,547.6	7,546.8	18.8	16.9	-30.17	-1,435.6	-99.7	991.2	969.2	21.92	45.218			
8,000.0	7,606.2	7,563.6	7,562.9	19.8	16.9	-58.06	-1,435.8	-99.7	893.3	861.7	31.56	28.302			
8,100.0	7,608.6	7,567.0	7,566.3	20.9	16.9	-87.42	-1,435.8	-99.8	794.5	756.9	37.56	21.151			
8,200.0	7,608.5	7,567.8	7,567.1	22.1	16.9	-87.78	-1,435.8	-99.8	695.9	657.1	38.80	17.935			
8,300.0	7,608.4	7,568.6	7,567.9	23.4	17.0	-88.14	-1,435.8	-99.8	597.7	557.6	40.13	14.895			
8,400.0	7,608.3	7,569.4	7,568.6	24.8	17.0	-88.50	-1,435.8	-99.8	500.4	458.8	41.54	12.046			
8,500.0	7,608.2	7,570.1	7,569.4	26.3	17.0	-88.86	-1,435.8	-99.8	404.3	361.3	43.01	9.399			
8,600.0	7,608.1	7,570.9	7,570.2	27.8	17.0	-89.21	-1,435.8	-99.8	310.7	266.1	44.54	6.974			
8,700.0	7,608.0	7,571.7	7,570.9	29.4	17.0	-89.56	-1,435.8	-99.8	222.7	176.5	46.12	4.828			
8,800.0	7,608.0	7,572.4	7,571.7	31.0	17.0	-89.91	-1,435.8	-99.8	150.5	102.8	47.73	3.153			
8,884.7	7,607.9	7,573.0	7,572.3	32.3	17.0	-90.20	-1,435.8	-99.8	124.4	75.3	49.12	2.533 CC, ES, SF			
8,900.0	7,607.9	7,573.2	7,572.4	32.6	17.0	-90.25	-1,435.8	-99.8	125.3	76.0	49.37	2.539			
9,000.0	7,607.8	7,573.9	7,573.2	34.2	17.0	-90.59	-1,435.8	-99.8	169.6	118.6	51.05	3.323			
9,100.0	7,607.7	7,574.6	7,573.9	35.9	17.0	-90.93	-1,435.8	-99.8	248.7	195.9	52.74	4.715			
9,200.0	7,607.6	7,575.4	7,574.6	37.6	17.0	-91.27	-1,435.9	-99.8	339.0	284.5	54.46	6.225			
9,300.0	7,607.5	7,576.1	7,575.4	39.4	17.0	-91.60	-1,435.9	-99.8	433.5	377.4	56.19	7.716			
9,400.0	7,607.4	7,576.8	7,576.1	41.1	17.0	-91.93	-1,435.9	-99.8	530.1	472.2	57.93	9.151			
9,500.0	7,607.3	7,577.5	7,576.8	42.9	17.0	-92.25	-1,435.9	-99.8	627.8	568.1	59.69	10.517			
9,600.0	7,607.3	7,578.2	7,577.5	44.6	17.0	-92.58	-1,435.9	-99.8	726.0	664.6	61.46	11.814			
9,700.0	7,607.2	7,578.9	7,578.2	46.4	17.0	-92.90	-1,435.9	-99.8	824.7	761.5	63.23	13.043			
9,800.0	7,607.1	7,579.6	7,578.9	48.2	17.0	-93.22	-1,435.9	-99.8	923.7	858.7	65.02	14.207			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existings Sec.32-T1N-R67W - Jacobucci 13-32 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 8529-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	-113.23	-249.5	-581.3	633.2							
100.0	100.0	73.0	73.0	0.1	1.5	-113.23	-249.5	-581.3	632.6	631.0	1.57	402.254				
200.0	200.0	173.0	173.0	0.3	3.5	-113.23	-249.5	-581.3	632.6	628.8	3.80	166.584				
300.0	300.0	273.0	273.0	0.6	5.5	-113.23	-249.5	-581.3	632.6	626.6	6.02	105.042				
400.0	400.0	373.0	373.0	0.8	7.5	-113.23	-249.5	-581.3	632.6	624.3	8.25	76.705				
500.0	500.0	473.0	473.0	1.0	9.5	-113.23	-249.5	-581.3	632.6	622.1	10.47	60.409				
600.0	600.0	573.0	573.0	1.2	11.5	-113.23	-249.5	-581.3	632.6	619.9	12.70	49.823				
700.0	700.0	673.0	673.0	1.5	13.5	-113.23	-249.5	-581.3	632.6	617.7	14.92	42.395				
800.0	800.0	773.0	773.0	1.7	15.5	-113.23	-249.5	-581.3	632.6	615.4	17.15	36.894				
900.0	900.0	873.0	873.0	1.9	17.5	-113.23	-249.5	-581.3	632.6	613.2	19.37	32.656				
1,000.0	1,000.0	973.0	973.0	2.1	19.5	-113.23	-249.5	-581.3	632.6	611.0	21.60	29.292				
1,100.0	1,100.0	1,073.0	1,073.0	2.4	21.5	-113.23	-249.5	-581.3	632.6	608.8	23.82	26.556				
1,200.0	1,200.0	1,173.0	1,173.0	2.6	23.5	-113.23	-249.5	-581.3	632.6	606.5	26.04	24.288				
1,300.0	1,300.0	1,273.0	1,273.0	2.8	25.5	-113.23	-249.5	-581.3	632.6	604.3	28.27	22.376				
1,400.0	1,400.0	1,373.0	1,373.0	3.0	27.5	-113.23	-249.5	-581.3	632.6	602.1	30.49	20.744				
1,500.0	1,500.0	1,473.0	1,473.0	3.3	29.5	-113.23	-249.5	-581.3	632.6	599.9	32.72	19.333				
1,600.0	1,600.0	1,573.0	1,573.0	3.5	31.5	-113.23	-249.5	-581.3	632.6	597.6	34.94	18.103				
1,700.0	1,700.0	1,673.0	1,673.0	3.7	33.5	-113.23	-249.5	-581.3	632.6	595.4	37.17	17.019				
1,800.0	1,800.0	1,773.0	1,773.0	3.9	35.5	-113.23	-249.5	-581.3	632.6	593.2	39.39	16.058				
1,900.0	1,900.0	1,873.0	1,873.0	4.2	37.5	-57.52	-249.5	-581.3	631.6	590.0	41.60	15.182				
2,000.0	1,999.8	1,972.8	1,972.8	4.4	39.5	-57.97	-249.5	-581.3	628.8	585.0	43.79	14.359				
2,100.0	2,099.5	2,072.5	2,072.5	4.6	41.4	-58.72	-249.5	-581.3	624.3	578.3	45.97	13.581				
2,200.0	2,198.7	2,171.7	2,171.7	4.8	43.4	-59.73	-249.5	-581.3	618.1	570.0	48.15	12.837				
2,300.0	2,297.9	2,270.9	2,270.9	5.1	45.4	-60.74	-249.5	-581.3	611.8	561.5	50.37	12.146				
2,400.0	2,397.2	2,370.2	2,370.2	5.3	47.4	-61.77	-249.5	-581.3	605.8	553.2	52.61	11.515				
2,500.0	2,496.4	2,469.4	2,469.4	5.6	49.4	-62.82	-249.5	-581.3	599.9	545.0	54.85	10.938				
2,600.0	2,595.6	2,568.6	2,568.6	5.9	51.4	-63.89	-249.5	-581.3	594.2	537.1	57.09	10.408				
2,700.0	2,694.8	2,667.8	2,667.8	6.1	53.4	-64.98	-249.5	-581.3	588.8	529.4	59.34	9.921				
2,800.0	2,794.0	2,767.0	2,767.0	6.4	55.3	-66.09	-249.5	-581.3	583.5	521.9	61.60	9.472				
2,900.0	2,893.2	2,866.2	2,866.2	6.7	57.3	-67.22	-249.5	-581.3	578.5	514.6	63.87	9.058				
3,000.0	2,992.4	2,965.4	2,965.4	7.0	59.3	-68.37	-249.5	-581.3	573.7	507.6	66.14	8.674				
3,100.0	3,091.6	3,064.6	3,064.6	7.3	61.3	-69.54	-249.5	-581.3	569.2	500.8	68.42	8.319				
3,200.0	3,190.8	3,163.8	3,163.8	7.6	63.3	-70.72	-249.5	-581.3	564.9	494.2	70.70	7.990				
3,300.0	3,290.0	3,263.0	3,263.0	7.9	65.3	-71.92	-249.5	-581.3	560.8	487.9	72.98	7.685				
3,400.0	3,389.2	3,362.2	3,362.2	8.2	67.2	-73.14	-249.5	-581.3	557.0	481.8	75.27	7.401				
3,500.0	3,488.4	3,461.4	3,461.4	8.5	69.2	-74.38	-249.5	-581.3	553.5	475.9	77.56	7.136				
3,600.0	3,587.6	3,560.6	3,560.6	8.8	71.2	-75.63	-249.5	-581.3	550.2	470.4	79.85	6.890				
3,700.0	3,686.9	3,659.9	3,659.9	9.1	73.2	-76.90	-249.5	-581.3	547.2	465.1	82.15	6.661				
3,800.0	3,786.1	3,759.1	3,759.1	9.4	75.2	-78.17	-249.5	-581.3	544.5	460.0	84.45	6.447				
3,900.0	3,885.3	3,858.3	3,858.3	9.7	77.2	-79.46	-249.5	-581.3	542.0	455.3	86.75	6.248				
4,000.0	3,984.5	3,957.5	3,957.5	10.0	79.2	-80.71	-249.5	-581.3	539.9	450.9	89.04	6.063				
4,100.0	4,084.1	4,057.1	4,057.1	10.2	81.1	-81.65	-249.5	-581.3	538.5	447.2	91.27	5.900				
4,200.0	4,183.9	4,156.9	4,156.9	10.4	83.1	-82.25	-249.5	-581.3	537.7	444.2	93.47	5.752				
4,300.0	4,283.9	4,256.9	4,256.9	10.5	85.1	-82.48	-249.5	-581.3	537.4	441.7	95.65	5.618				
4,344.7	4,328.6	4,301.6	4,301.6	10.6	86.0	-82.51	-249.5	-581.3	537.3	440.7	96.62	5.561				
4,400.0	4,383.9	4,356.9	4,356.9	10.7	87.1	-138.35	-249.5	-581.3	537.4	439.5	97.82	5.493				
4,500.0	4,483.9	4,456.9	4,456.9	10.9	89.1	-138.35	-249.5	-581.3	537.4	437.3	100.02	5.372				
4,600.0	4,583.9	4,556.9	4,556.9	11.1	91.1	-138.35	-249.5	-581.3	537.4	435.1	102.22	5.257				
4,700.0	4,683.9	4,656.9	4,656.9	11.3	93.1	-138.35	-249.5	-581.3	537.4	432.9	104.42	5.146				
4,800.0	4,783.9	4,756.9	4,756.9	11.5	95.1	-138.35	-249.5	-581.3	537.4	430.7	106.62	5.040				
4,900.0	4,883.9	4,856.9	4,856.9	11.7	97.1	-138.35	-249.5	-581.3	537.4	428.5	108.82	4.938				

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Existings Sec.32-T1N-R67W - Jacobucci 13-32 (Exist.) - Wellbore #1 - Wellbore #1														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,983.9	4,956.9	4,956.9	11.9	99.1	-138.35	-249.5	-581.3	537.4	426.3	111.02	4.840			
5,100.0	5,083.9	5,056.9	5,056.9	12.1	101.1	-138.35	-249.5	-581.3	537.4	424.1	113.22	4.746			
5,200.0	5,183.9	5,156.9	5,156.9	12.3	103.1	-138.35	-249.5	-581.3	537.4	421.9	115.43	4.655			
5,300.0	5,283.9	5,256.9	5,256.9	12.5	105.1	-138.35	-249.5	-581.3	537.4	419.7	117.63	4.568			
5,400.0	5,383.9	5,356.9	5,356.9	12.7	107.1	-138.35	-249.5	-581.3	537.4	417.5	119.84	4.484			
5,500.0	5,483.9	5,456.9	5,456.9	12.9	109.1	-138.35	-249.5	-581.3	537.4	415.3	122.04	4.403			
5,600.0	5,583.9	5,556.9	5,556.9	13.1	111.1	-138.35	-249.5	-581.3	537.4	413.1	124.25	4.325			
5,700.0	5,683.9	5,656.9	5,656.9	13.4	113.1	-138.35	-249.5	-581.3	537.4	410.9	126.45	4.249			
5,800.0	5,783.9	5,756.9	5,756.9	13.6	115.1	-138.35	-249.5	-581.3	537.4	408.7	128.66	4.176			
5,900.0	5,883.9	5,856.9	5,856.9	13.8	117.1	-138.35	-249.5	-581.3	537.4	406.5	130.87	4.106			
6,000.0	5,983.9	5,956.9	5,956.9	14.0	119.1	-138.35	-249.5	-581.3	537.4	404.3	133.08	4.038			
6,100.0	6,083.9	6,056.9	6,056.9	14.2	121.1	-138.35	-249.5	-581.3	537.4	402.1	135.29	3.972			
6,200.0	6,183.9	6,156.9	6,156.9	14.4	123.1	-138.35	-249.5	-581.3	537.4	399.9	137.50	3.908			
6,300.0	6,283.9	6,256.9	6,256.9	14.6	125.1	-138.35	-249.5	-581.3	537.4	397.6	139.71	3.846			
6,400.0	6,383.9	6,356.9	6,356.9	14.8	127.1	-138.35	-249.5	-581.3	537.4	395.4	141.92	3.786			
6,500.0	6,483.9	6,456.9	6,456.9	15.0	129.1	-138.35	-249.5	-581.3	537.4	393.2	144.13	3.728			
6,600.0	6,583.9	6,556.9	6,556.9	15.2	131.1	-138.35	-249.5	-581.3	537.4	391.0	146.34	3.672			
6,700.0	6,683.9	6,656.9	6,656.9	15.4	133.1	-138.35	-249.5	-581.3	537.4	388.8	148.55	3.617			
6,800.0	6,783.9	6,756.9	6,756.9	15.7	135.1	-138.35	-249.5	-581.3	537.4	386.6	150.76	3.564			
6,900.0	6,883.9	6,856.9	6,856.9	15.9	137.1	41.76	-249.5	-581.3	536.6	383.8	152.85	3.511			
7,000.0	6,983.1	6,956.1	6,956.1	16.0	139.1	43.04	-249.5	-581.3	528.0	374.2	153.73	3.434			
7,100.0	7,080.0	7,053.0	7,053.0	16.1	141.1	45.85	-249.5	-581.3	510.2	356.7	153.50	3.324			
7,200.0	7,172.8	7,145.8	7,145.8	16.2	142.9	50.38	-249.5	-581.3	484.5	331.5	153.01	3.166			
7,300.0	7,260.1	7,233.1	7,233.1	16.3	144.7	56.78	-249.5	-581.3	453.0	299.4	153.57	2.950			
7,400.0	7,340.2	7,313.2	7,313.2	16.4	146.3	64.98	-249.5	-581.3	418.9	262.7	156.24	2.681			
7,500.0	7,411.9	7,384.9	7,384.9	16.6	147.7	74.35	-249.5	-581.3	387.1	226.4	160.66	2.409			
7,600.0	7,473.8	7,446.8	7,446.8	16.8	148.9	83.57	-249.5	-581.3	364.1	199.3	164.78	2.210			
7,683.1	7,517.1	7,490.1	7,490.1	17.2	149.8	90.00	-249.5	-581.3	357.1	190.4	166.75	2.142 CC, ES			
7,700.0	7,525.0	7,498.0	7,498.0	17.3	150.0	91.09	-249.5	-581.3	357.4	190.5	166.97	2.141 SF			
7,800.0	7,564.5	7,537.5	7,537.5	18.0	150.8	95.71	-249.5	-581.3	372.7	205.0	167.74	2.222			
7,900.0	7,591.7	7,564.7	7,564.7	18.8	151.3	96.77	-249.5	-581.3	410.7	242.0	168.73	2.434			
8,000.0	7,606.2	7,579.2	7,579.2	19.8	151.6	93.84	-249.5	-581.3	467.5	296.7	170.75	2.738			
8,100.0	7,608.6	7,581.6	7,581.6	20.9	151.6	89.94	-249.5	-581.3	537.4	365.1	172.33	3.119			
8,200.0	7,608.5	7,581.5	7,581.5	22.1	151.6	89.93	-249.5	-581.3	615.8	442.2	173.55	3.548			
8,300.0	7,608.4	7,581.4	7,581.4	23.4	151.6	89.92	-249.5	-581.3	699.6	524.8	174.87	4.001			
8,400.0	7,608.3	7,581.3	7,581.3	24.8	151.6	89.90	-249.5	-581.3	787.3	611.0	176.26	4.467			
8,500.0	7,608.2	7,581.2	7,581.2	26.3	151.6	89.89	-249.5	-581.3	877.6	699.9	177.72	4.938			
8,600.0	7,608.1	7,581.1	7,581.1	27.8	151.6	89.87	-249.5	-581.3	969.8	790.5	179.24	5.411			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	5.0	5.0	0.0	0.0	89.99	0.0	61.6	61.6	61.6	0.01	N/A		
100.0	100.0	105.0	105.0	0.1	0.1	89.99	0.0	61.6	61.6	61.4	0.24	261.138		
200.0	200.0	205.0	205.0	0.3	0.3	89.99	0.0	61.6	61.6	60.9	0.69	89.900		
300.0	300.0	305.0	305.0	0.6	0.6	89.99	0.0	61.6	61.6	60.5	1.14	54.296		
400.0	400.0	405.0	405.0	0.8	0.8	89.99	0.0	61.6	61.6	60.0	1.58	38.893		
500.0	500.0	505.0	505.0	1.0	1.0	89.99	0.0	61.6	61.6	59.6	2.03	30.298		
600.0	600.0	605.0	605.0	1.2	1.2	89.99	0.0	61.6	61.6	59.1	2.48	24.814		
700.0	700.0	705.0	705.0	1.5	1.5	89.99	0.0	61.6	61.6	58.7	2.93	21.011		
800.0	800.0	805.0	805.0	1.7	1.7	89.99	0.0	61.6	61.6	58.2	3.38	18.219		
900.0	900.0	905.0	905.0	1.9	1.9	89.99	0.0	61.6	61.6	57.8	3.83	16.082		
964.9	964.9	969.9	969.9	2.1	2.1	89.99	0.0	61.6	61.6	57.5	4.12	14.944 CC		
1,000.0	1,000.0	1,004.9	1,004.9	2.1	2.1	89.99	0.0	61.6	61.6	57.4	4.28	14.397 ES		
1,100.0	1,100.0	1,102.9	1,102.8	2.4	2.4	89.48	0.6	63.4	63.4	58.7	4.72	13.446		
1,200.0	1,200.0	1,200.0	1,199.8	2.6	2.6	88.18	2.2	68.3	68.5	63.3	5.15	13.307		
1,300.0	1,300.0	1,297.8	1,297.3	2.8	2.8	86.41	4.8	76.3	76.9	71.3	5.59	13.754		
1,400.0	1,400.0	1,394.6	1,393.3	3.0	3.0	84.52	8.4	87.4	88.6	82.6	6.04	14.658		
1,500.0	1,500.0	1,493.6	1,491.5	3.3	3.3	82.87	12.5	100.1	101.8	95.3	6.52	15.619		
1,600.0	1,600.0	1,592.7	1,589.7	3.5	3.6	81.61	16.7	112.9	115.1	108.1	7.00	16.437		
1,700.0	1,700.0	1,691.8	1,687.9	3.7	3.8	80.60	20.8	125.6	128.4	121.0	7.49	17.138		
1,800.0	1,800.0	1,790.9	1,786.0	3.9	4.1	79.79	24.9	138.3	141.8	133.8	7.99	17.744		
1,900.0	1,900.0	1,889.8	1,884.0	4.2	4.4	135.22	29.0	151.0	156.4	148.2	8.24	18.986		
2,000.0	1,999.8	1,988.3	1,981.7	4.4	4.7	135.62	33.1	163.7	173.5	164.8	8.67	20.013		
2,100.0	2,099.5	2,086.3	2,078.7	4.6	5.0	136.61	37.2	176.2	193.1	184.0	9.10	21.226		
2,200.0	2,198.7	2,183.7	2,175.2	4.8	5.3	138.04	41.3	188.7	215.1	205.5	9.53	22.569		
2,300.0	2,297.9	2,281.0	2,271.6	5.1	5.6	139.46	45.4	201.2	237.7	227.7	9.98	23.814		
2,400.0	2,397.2	2,378.2	2,368.0	5.3	5.9	140.63	49.4	213.7	260.4	249.9	10.44	24.947		
2,500.0	2,496.4	2,475.5	2,464.3	5.6	6.3	141.61	53.5	226.2	283.2	272.3	10.90	25.981		
2,600.0	2,595.6	2,572.7	2,560.7	5.9	6.6	142.45	57.5	238.7	306.1	294.7	11.37	26.927		
2,700.0	2,694.8	2,670.0	2,657.1	6.1	6.9	143.17	61.6	251.2	329.0	317.2	11.84	27.794		
2,800.0	2,794.0	2,767.3	2,753.4	6.4	7.2	143.80	65.6	263.7	352.0	339.6	12.31	28.591		
2,900.0	2,893.2	2,864.5	2,849.8	6.7	7.5	144.35	69.7	276.1	375.0	362.2	12.79	29.325		
3,000.0	2,992.4	2,961.8	2,946.2	7.0	7.8	144.84	73.7	288.6	398.0	384.7	13.27	30.003		
3,100.0	3,091.6	3,059.0	3,042.5	7.3	8.2	145.27	77.8	301.1	421.1	407.3	13.75	30.630		
3,200.0	3,190.8	3,156.3	3,138.9	7.6	8.5	145.66	81.9	313.6	444.1	429.9	14.23	31.213		
3,300.0	3,290.0	3,253.5	3,235.3	7.9	8.8	146.01	85.9	326.1	467.2	452.5	14.71	31.754		
3,400.0	3,389.2	3,350.8	3,331.7	8.2	9.1	146.33	90.0	338.6	490.3	475.1	15.20	32.259		
3,500.0	3,488.4	3,448.1	3,428.0	8.5	9.4	146.62	94.0	351.1	513.5	497.8	15.69	32.731		
3,600.0	3,587.6	3,545.3	3,524.4	8.8	9.8	146.88	98.1	363.6	536.6	520.4	16.18	33.172		
3,700.0	3,686.9	3,642.6	3,620.8	9.1	10.1	147.13	102.1	376.0	559.7	543.1	16.67	33.585		
3,800.0	3,786.1	3,739.8	3,717.1	9.4	10.4	147.35	106.2	388.5	582.9	565.7	17.16	33.974		
3,900.0	3,885.3	3,837.1	3,813.5	9.7	10.7	147.55	110.2	401.0	606.1	588.4	17.65	34.339		
4,000.0	3,984.5	3,934.4	3,909.9	10.0	11.1	147.84	114.3	413.5	628.9	610.8	18.16	34.640		
4,100.0	4,084.1	4,032.3	4,006.9	10.2	11.4	148.08	118.4	426.1	649.4	630.7	18.65	34.827		
4,200.0	4,183.9	4,130.7	4,104.5	10.4	11.7	148.12	122.5	438.7	666.9	647.8	19.11	34.892		
4,300.0	4,283.9	4,229.6	4,202.4	10.5	12.0	147.99	126.6	451.4	681.5	662.0	19.56	34.846		
4,400.0	4,383.9	4,328.7	4,300.6	10.7	12.4	91.77	130.7	464.1	694.3	674.3	19.99	34.726		
4,500.0	4,483.9	4,427.8	4,398.8	10.9	12.7	91.40	134.9	476.9	707.0	686.6	20.45	34.578		
4,600.0	4,583.9	4,526.9	4,496.9	11.1	13.0	91.04	139.0	489.6	719.8	698.9	20.90	34.438		
4,700.0	4,683.9	4,625.9	4,595.1	11.3	13.4	90.70	143.1	502.3	732.5	711.2	21.35	34.305		
4,800.0	4,783.9	4,751.5	4,719.8	11.5	13.7	90.33	147.8	516.5	743.9	722.1	21.83	34.077		
4,900.0	4,883.9	4,884.1	4,852.0	11.7	14.0	90.09	150.8	525.9	751.0	728.7	22.29	33.694		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,983.9	5,017.3	4,985.2	11.9	14.2	90.00	152.0	529.6	753.7	731.0	22.74	33.152		
5,100.0	5,083.9	5,121.0	5,088.9	12.1	14.4	90.00	152.0	529.6	753.8	730.6	23.14	32.570		
5,200.0	5,183.9	5,221.0	5,188.9	12.3	14.5	90.00	152.0	529.6	753.8	730.2	23.55	32.001		
5,300.0	5,283.9	5,321.0	5,288.9	12.5	14.7	90.00	152.0	529.6	753.8	729.8	23.97	31.450		
5,400.0	5,383.9	5,421.0	5,388.9	12.7	14.9	90.00	152.0	529.6	753.8	729.4	24.38	30.916		
5,500.0	5,483.9	5,521.0	5,488.9	12.9	15.0	90.00	152.0	529.6	753.8	729.0	24.80	30.399		
5,600.0	5,583.9	5,621.0	5,588.9	13.1	15.2	90.00	152.0	529.6	753.8	728.5	25.21	29.897		
5,700.0	5,683.9	5,721.0	5,688.9	13.4	15.4	90.00	152.0	529.6	753.8	728.1	25.63	29.410		
5,800.0	5,783.9	5,821.0	5,788.9	13.6	15.6	90.00	152.0	529.6	753.8	727.7	26.05	28.937		
5,900.0	5,883.9	5,921.0	5,888.9	13.8	15.7	90.00	152.0	529.6	753.8	727.3	26.47	28.479		
6,000.0	5,983.9	6,021.0	5,988.9	14.0	15.9	90.00	152.0	529.6	753.8	726.9	26.89	28.033		
6,100.0	6,083.9	6,121.0	6,088.9	14.2	16.1	90.00	152.0	529.6	753.8	726.4	27.31	27.601		
6,200.0	6,183.9	6,221.0	6,188.9	14.4	16.3	90.00	152.0	529.6	753.8	726.0	27.73	27.180		
6,300.0	6,283.9	6,321.0	6,288.9	14.6	16.5	90.00	152.0	529.6	753.8	725.6	28.15	26.772		
6,400.0	6,383.9	6,421.0	6,388.9	14.8	16.6	90.00	152.0	529.6	753.8	725.2	28.58	26.375		
6,500.0	6,483.9	6,521.0	6,488.9	15.0	16.8	90.00	152.0	529.6	753.8	724.8	29.00	25.989		
6,600.0	6,583.9	6,621.0	6,588.9	15.2	17.0	90.00	152.0	529.6	753.8	724.3	29.43	25.613		
6,700.0	6,683.9	6,721.0	6,688.9	15.4	17.2	90.00	152.0	529.6	753.8	723.9	29.86	25.247		
6,800.0	6,783.9	6,821.0	6,788.9	15.7	17.4	90.00	152.0	529.6	753.8	723.5	30.28	24.891		
6,852.9	6,836.8	6,873.9	6,841.8	15.8	17.5	-90.06	152.0	529.6	753.8	723.3	30.50	24.713		
6,900.0	6,883.9	6,921.0	6,888.9	15.9	17.6	-90.08	152.0	529.6	753.8	723.1	30.70	24.555		
7,000.0	6,983.1	7,020.8	6,988.6	16.0	17.7	-90.91	151.4	529.6	753.9	722.8	31.02	24.302		
7,100.0	7,080.0	7,122.3	7,089.5	16.1	17.9	-91.96	140.5	529.6	754.2	723.0	31.26	24.128		
7,200.0	7,172.8	7,225.9	7,189.9	16.2	18.0	-92.99	115.8	529.6	754.8	723.4	31.46	23.996		
7,300.0	7,260.1	7,331.4	7,287.9	16.3	18.1	-93.98	76.8	529.6	755.6	724.0	31.66	23.868		
7,400.0	7,340.2	7,439.0	7,381.3	16.4	18.2	-94.90	23.7	529.6	756.6	724.6	31.93	23.692		
7,500.0	7,411.9	7,548.5	7,467.8	16.6	18.3	-95.75	-43.4	529.6	757.6	725.3	32.36	23.414		
7,600.0	7,473.8	7,659.9	7,545.0	16.8	18.5	-96.49	-123.6	529.6	758.7	725.6	33.02	22.976		
7,700.0	7,525.0	7,772.9	7,610.5	17.3	18.8	-97.11	-215.5	529.6	759.6	725.6	33.99	22.352		
7,800.0	7,564.5	7,887.3	7,662.4	18.0	19.3	-97.59	-317.4	529.6	760.4	725.1	35.30	21.541		
7,900.0	7,591.7	8,002.8	7,698.7	18.8	20.1	-97.93	-426.9	529.6	761.0	724.1	36.99	20.576		
8,000.0	7,606.2	8,118.9	7,718.2	19.8	21.1	-98.11	-541.3	529.6	761.4	722.4	39.02	19.511		
8,100.0	7,608.6	8,229.1	7,721.4	20.9	22.2	-98.14	-651.4	529.6	761.4	720.1	41.30	18.437		
8,200.0	7,608.5	8,329.1	7,721.2	22.1	23.4	-98.13	-751.4	529.6	761.4	717.7	43.71	17.421		
8,300.0	7,608.4	8,429.1	7,720.9	23.4	24.6	-98.12	-851.4	529.6	761.4	715.1	46.30	16.445		
8,400.0	7,608.3	8,529.1	7,720.7	24.8	25.9	-98.11	-951.4	529.6	761.4	712.3	49.05	15.522		
8,500.0	7,608.2	8,629.1	7,720.5	26.3	27.3	-98.10	-1,051.4	529.6	761.4	709.4	51.93	14.660		
8,600.0	7,608.1	8,729.1	7,720.3	27.8	28.8	-98.09	-1,151.4	529.6	761.3	706.4	54.93	13.860		
8,700.0	7,608.0	8,829.1	7,720.1	29.4	30.3	-98.08	-1,251.4	529.6	761.3	703.3	58.02	13.122		
8,800.0	7,608.0	8,929.1	7,719.9	31.0	31.9	-98.08	-1,351.4	529.6	761.3	700.1	61.19	12.442		
8,900.0	7,607.9	9,029.1	7,719.7	32.6	33.4	-98.07	-1,451.4	529.6	761.3	696.9	64.43	11.816		
9,000.0	7,607.8	9,129.1	7,719.5	34.2	35.1	-98.06	-1,551.4	529.6	761.3	693.6	67.72	11.241		
9,100.0	7,607.7	9,229.1	7,719.3	35.9	36.7	-98.05	-1,651.4	529.6	761.3	690.2	71.07	10.711		
9,200.0	7,607.6	9,329.1	7,719.1	37.6	38.4	-98.04	-1,751.4	529.6	761.2	686.8	74.46	10.223		
9,300.0	7,607.5	9,429.1	7,718.9	39.4	40.1	-98.03	-1,851.4	529.6	761.2	683.3	77.89	9.773		
9,400.0	7,607.4	9,529.1	7,718.6	41.1	41.8	-98.02	-1,951.4	529.6	761.2	679.9	81.35	9.357		
9,500.0	7,607.3	9,629.1	7,718.4	42.9	43.5	-98.01	-2,051.4	529.6	761.2	676.3	84.84	8.972		
9,600.0	7,607.3	9,729.1	7,718.2	44.6	45.3	-98.00	-2,151.4	529.6	761.2	672.8	88.36	8.615		
9,700.0	7,607.2	9,829.1	7,718.0	46.4	47.0	-97.99	-2,251.4	529.6	761.2	669.3	91.90	8.283		
9,800.0	7,607.1	9,929.1	7,717.8	48.2	48.8	-97.98	-2,351.4	529.6	761.1	665.7	95.45	7.974		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
9,900.0	7,607.0	10,029.1	7,717.6	50.0	50.6	-97.98	-2,451.4	529.6	761.1	662.1	99.03	7.686		
10,000.0	7,606.9	10,129.1	7,717.4	51.8	52.4	-97.97	-2,551.4	529.6	761.1	658.5	102.63	7.416		
10,100.0	7,606.8	10,229.1	7,717.2	53.6	54.2	-97.96	-2,651.4	529.6	761.1	654.9	106.23	7.164		
10,200.0	7,606.7	10,329.1	7,717.0	55.5	56.0	-97.95	-2,751.4	529.6	761.1	651.2	109.85	6.928		
10,300.0	7,606.7	10,429.1	7,716.8	57.3	57.8	-97.94	-2,851.4	529.6	761.1	647.6	113.49	6.706		
10,400.0	7,606.6	10,529.1	7,716.6	59.1	59.6	-97.93	-2,951.4	529.6	761.0	643.9	117.13	6.497		
10,500.0	7,606.5	10,629.1	7,716.3	61.0	61.4	-97.92	-3,051.4	529.6	761.0	640.2	120.78	6.301		
10,600.0	7,606.4	10,729.1	7,716.1	62.8	63.3	-97.91	-3,151.4	529.6	761.0	636.6	124.45	6.115		
10,700.0	7,606.3	10,829.1	7,715.9	64.7	65.1	-97.90	-3,251.4	529.6	761.0	632.9	128.12	5.940		
10,800.0	7,606.2	10,929.1	7,715.7	66.5	67.0	-97.89	-3,351.4	529.6	761.0	629.2	131.80	5.774		
10,900.0	7,606.1	11,029.1	7,715.5	68.4	68.8	-97.88	-3,451.4	529.6	761.0	625.5	135.48	5.617		
11,000.0	7,606.0	11,129.1	7,715.3	70.2	70.7	-97.87	-3,551.4	529.6	760.9	621.8	139.17	5.468		
11,100.0	7,606.0	11,229.1	7,715.1	72.1	72.5	-97.87	-3,651.4	529.6	760.9	618.0	142.87	5.326		
11,200.0	7,605.9	11,329.1	7,714.9	73.9	74.4	-97.86	-3,751.4	529.6	760.9	614.3	146.57	5.191		
11,300.0	7,605.8	11,429.1	7,714.7	75.8	76.2	-97.85	-3,851.4	529.6	760.9	610.6	150.28	5.063		
11,400.0	7,605.7	11,529.1	7,714.5	77.7	78.1	-97.84	-3,951.4	529.6	760.9	606.9	154.00	4.941		
11,500.0	7,605.6	11,629.1	7,714.2	79.6	79.9	-97.83	-4,051.4	529.6	760.9	603.1	157.71	4.824		
11,600.0	7,605.5	11,729.1	7,714.0	81.4	81.8	-97.82	-4,151.4	529.6	760.8	599.4	161.43	4.713		
11,700.0	7,605.4	11,829.1	7,713.8	83.3	83.7	-97.81	-4,251.4	529.6	760.8	595.7	165.16	4.607		
11,800.0	7,605.3	11,929.1	7,713.6	85.2	85.5	-97.80	-4,351.4	529.6	760.8	591.9	168.89	4.505		
11,900.0	7,605.3	12,029.1	7,713.4	87.1	87.4	-97.79	-4,451.4	529.6	760.8	588.2	172.62	4.407		
12,000.0	7,605.2	12,129.1	7,713.2	88.9	89.3	-97.78	-4,551.4	529.6	760.8	584.4	176.36	4.314		
12,100.0	7,605.1	12,229.1	7,713.0	90.8	91.2	-97.77	-4,651.4	529.6	760.8	580.7	180.10	4.224		
12,200.0	7,605.0	12,329.1	7,712.8	92.7	93.0	-97.77	-4,751.4	529.6	760.7	576.9	183.84	4.138		
12,300.0	7,604.9	12,429.1	7,712.6	94.6	94.9	-97.76	-4,851.4	529.6	760.7	573.1	187.58	4.055		
12,400.0	7,604.8	12,529.1	7,712.4	96.5	96.8	-97.75	-4,951.4	529.6	760.7	569.4	191.33	3.976		
12,500.0	7,604.7	12,629.1	7,712.2	98.4	98.7	-97.74	-5,051.4	529.6	760.7	565.6	195.08	3.899		
12,600.0	7,604.6	12,729.1	7,711.9	100.3	100.6	-97.73	-5,151.4	529.6	760.7	561.8	198.83	3.826		
12,700.0	7,604.6	12,829.1	7,711.7	102.1	102.4	-97.72	-5,251.4	529.6	760.7	558.1	202.58	3.755		
12,800.0	7,604.5	12,929.1	7,711.5	104.0	104.3	-97.71	-5,351.4	529.6	760.6	554.3	206.34	3.686		
12,900.0	7,604.4	13,029.1	7,711.3	105.9	106.2	-97.70	-5,451.4	529.6	760.6	550.5	210.09	3.620		
13,000.0	7,604.3	13,129.1	7,711.1	107.8	108.1	-97.69	-5,551.4	529.6	760.6	546.8	213.85	3.557		
13,100.0	7,604.2	13,229.1	7,710.9	109.7	110.0	-97.68	-5,651.4	529.6	760.6	543.0	217.61	3.495		
13,200.0	7,604.1	13,329.1	7,710.7	111.6	111.9	-97.67	-5,751.4	529.6	760.6	539.2	221.37	3.436		
13,300.0	7,604.0	13,429.1	7,710.5	113.5	113.8	-97.67	-5,851.4	529.6	760.6	535.4	225.14	3.378		
13,400.0	7,603.9	13,529.1	7,710.3	115.4	115.7	-97.66	-5,951.4	529.6	760.5	531.6	228.90	3.323		
13,500.0	7,603.9	13,629.1	7,710.1	117.3	117.6	-97.65	-6,051.4	529.6	760.5	527.9	232.67	3.269		
13,600.0	7,603.8	13,729.1	7,709.8	119.2	119.4	-97.64	-6,151.4	529.6	760.5	524.1	236.44	3.217		
13,700.0	7,603.7	13,829.1	7,709.6	121.1	121.3	-97.63	-6,251.4	529.6	760.5	520.3	240.21	3.166		
13,800.0	7,603.6	13,929.1	7,709.4	123.0	123.2	-97.62	-6,351.4	529.6	760.5	516.5	243.98	3.117		
13,900.0	7,603.5	14,029.1	7,709.2	124.9	125.1	-97.61	-6,451.4	529.6	760.5	512.7	247.75	3.069		
14,000.0	7,603.4	14,129.1	7,709.0	126.8	127.0	-97.60	-6,551.4	529.6	760.4	508.9	251.52	3.023		
14,100.0	7,603.3	14,229.1	7,708.8	128.7	128.9	-97.59	-6,651.4	529.6	760.4	505.1	255.30	2.979		
14,200.0	7,603.2	14,329.1	7,708.6	130.6	130.8	-97.58	-6,751.4	529.6	760.4	501.3	259.07	2.935		
14,300.0	7,603.2	14,429.1	7,708.4	132.5	132.7	-97.57	-6,851.4	529.6	760.4	497.5	262.85	2.893		
14,400.0	7,603.1	14,529.1	7,708.2	134.4	134.6	-97.56	-6,951.4	529.6	760.4	493.8	266.63	2.852		
14,460.2	7,603.0	14,589.4	7,708.0	135.5	135.8	-97.56	-7,011.6	529.6	760.4	491.5	268.90	2.828		
14,484.1	7,603.0	14,612.1	7,708.0	136.0	136.2	-97.56	-7,034.4	529.6	760.4	490.6	269.78	2.818 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	3.0	3.0	0.0	0.0	89.99	0.0	30.8	30.8	30.8	0.00	8,642.523		
100.0	100.0	103.0	103.0	0.1	0.1	89.99	0.0	30.8	30.8	30.6	0.23	133.104		
200.0	200.0	203.0	203.0	0.3	0.3	89.99	0.0	30.8	30.8	30.1	0.68	45.247		
300.0	300.0	303.0	303.0	0.6	0.6	89.99	0.0	30.8	30.8	29.7	1.13	27.256		
400.0	400.0	403.0	403.0	0.8	0.8	89.99	0.0	30.8	30.8	29.2	1.58	19.502		
500.0	500.0	503.0	503.0	1.0	1.0	89.99	0.0	30.8	30.8	28.8	2.03	15.182		
600.0	600.0	603.0	603.0	1.2	1.2	89.99	0.0	30.8	30.8	28.3	2.48	12.429		
700.0	700.0	703.0	703.0	1.5	1.5	89.99	0.0	30.8	30.8	27.9	2.93	10.522		
800.0	800.0	803.0	803.0	1.7	1.7	89.99	0.0	30.8	30.8	27.4	3.38	9.122		
900.0	900.0	903.0	903.0	1.9	1.9	89.99	0.0	30.8	30.8	27.0	3.83	8.050		
1,000.0	1,000.0	1,003.0	1,003.0	2.1	2.1	89.99	0.0	30.8	30.8	26.5	4.28	7.204		
1,100.0	1,100.0	1,103.0	1,103.0	2.4	2.4	89.99	0.0	30.8	30.8	26.1	4.73	6.519		
1,200.0	1,200.0	1,203.0	1,203.0	2.6	2.6	89.99	0.0	30.8	30.8	25.6	5.18	5.953		
1,300.0	1,300.0	1,303.0	1,303.0	2.8	2.8	89.99	0.0	30.8	30.8	25.2	5.63	5.477		
1,400.0	1,400.0	1,403.0	1,403.0	3.0	3.0	89.99	0.0	30.8	30.8	24.7	6.08	5.072		
1,500.0	1,500.0	1,503.0	1,503.0	3.3	3.3	89.99	0.0	30.8	30.8	24.3	6.52	4.723		
1,600.0	1,600.0	1,603.0	1,603.0	3.5	3.5	89.99	0.0	30.8	30.8	23.8	6.97	4.418		
1,700.0	1,700.0	1,703.0	1,703.0	3.7	3.7	89.99	0.0	30.8	30.8	23.4	7.42	4.151		
1,800.0	1,800.0	1,803.0	1,803.0	3.9	3.9	89.99	0.0	30.8	30.8	22.9	7.87	3.914 CC, ES		
1,900.0	1,900.0	1,903.0	1,903.0	4.2	4.2	147.58	0.0	30.8	32.3	24.0	8.31	3.882		
2,000.0	1,999.8	2,002.8	2,002.8	4.4	4.4	151.91	0.0	30.8	36.8	28.1	8.74	4.210		
2,100.0	2,099.5	2,102.5	2,102.5	4.6	4.6	157.11	0.0	30.8	44.7	35.5	9.16	4.878		
2,200.0	2,198.7	2,201.7	2,201.7	4.8	4.8	161.83	0.0	30.8	55.9	46.3	9.58	5.832		
2,300.0	2,297.9	2,300.9	2,300.9	5.1	5.1	165.13	0.0	30.8	67.9	57.9	10.02	6.780		
2,400.0	2,397.2	2,400.2	2,400.2	5.3	5.3	167.44	0.0	30.8	80.1	69.7	10.46	7.663		
2,500.0	2,496.4	2,499.4	2,499.4	5.6	5.5	169.13	0.0	30.8	92.4	81.5	10.90	8.481		
2,600.0	2,595.6	2,598.2	2,598.2	5.9	5.7	169.50	1.5	31.6	105.0	93.6	11.34	9.255		
2,700.0	2,694.8	2,696.9	2,696.7	6.1	5.9	168.13	5.9	34.2	117.9	106.1	11.79	10.004		
2,800.0	2,794.0	2,795.2	2,794.6	6.4	6.2	165.56	13.2	38.4	131.4	119.2	12.23	10.743		
2,900.0	2,893.2	2,893.0	2,891.8	6.7	6.4	162.20	23.3	44.1	145.9	133.2	12.69	11.495		
3,000.0	2,992.4	2,991.5	2,989.4	7.0	6.6	159.03	34.6	50.6	161.1	147.9	13.17	12.238		
3,100.0	3,091.6	3,090.0	3,087.0	7.3	6.9	156.40	45.8	57.0	176.7	163.1	13.65	12.949		
3,200.0	3,190.8	3,188.4	3,184.7	7.6	7.1	154.20	57.0	63.4	192.6	178.5	14.14	13.626		
3,300.0	3,290.0	3,286.9	3,282.3	7.9	7.4	152.34	68.2	69.8	208.8	194.2	14.64	14.266		
3,400.0	3,389.2	3,385.4	3,379.9	8.2	7.6	150.75	79.4	76.2	225.1	210.0	15.14	14.871		
3,500.0	3,488.4	3,483.9	3,477.5	8.5	7.9	149.37	90.7	82.6	241.6	226.0	15.65	15.441		
3,600.0	3,587.6	3,582.3	3,575.1	8.8	8.1	148.17	101.9	89.0	258.2	242.1	16.16	15.977		
3,700.0	3,686.9	3,680.8	3,672.8	9.1	8.4	147.11	113.1	95.5	274.9	258.3	16.68	16.483		
3,800.0	3,786.1	3,779.3	3,770.4	9.4	8.7	146.18	124.3	101.9	291.7	274.5	17.20	16.959		
3,900.0	3,885.3	3,880.3	3,870.6	9.7	9.0	145.39	135.5	108.3	308.4	290.7	17.72	17.405		
4,000.0	3,984.5	3,984.9	3,974.7	10.0	9.2	145.18	144.3	113.3	323.3	305.1	18.20	17.762		
4,100.0	4,084.1	4,090.5	4,080.0	10.2	9.4	145.32	149.8	116.4	333.9	315.3	18.63	17.923		
4,200.0	4,183.9	4,196.5	4,186.1	10.4	9.6	145.62	152.0	117.7	339.9	320.9	19.03	17.865		
4,300.0	4,283.9	4,297.3	4,286.9	10.5	9.8	145.86	152.0	117.7	341.8	322.4	19.40	17.623		
4,400.0	4,383.9	4,397.3	4,386.9	10.7	10.0	90.00	152.0	117.7	341.9	322.1	19.80	17.269		
4,500.0	4,483.9	4,497.3	4,486.9	10.9	10.2	90.00	152.0	117.7	341.9	321.6	20.22	16.907		
4,600.0	4,583.9	4,597.3	4,586.9	11.1	10.4	90.00	152.0	117.7	341.9	321.2	20.64	16.559		
4,700.0	4,683.9	4,697.3	4,686.9	11.3	10.6	90.00	152.0	117.7	341.9	320.8	21.07	16.225		
4,800.0	4,783.9	4,797.3	4,786.9	11.5	10.8	90.00	152.0	117.7	341.9	320.4	21.50	15.903		
4,900.0	4,883.9	4,897.3	4,886.9	11.7	11.1	90.00	152.0	117.7	341.9	319.9	21.92	15.592		
5,000.0	4,983.9	4,997.3	4,986.9	11.9	11.3	90.00	152.0	117.7	341.9	319.5	22.35	15.294		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-403 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
5,100.0	5,083.9	5,097.3	5,086.9	12.1	11.5	90.00	152.0	117.7	341.9	319.1	22.78	15.005		
5,200.0	5,183.9	5,197.3	5,186.9	12.3	11.7	90.00	152.0	117.7	341.9	318.6	23.21	14.728		
5,300.0	5,283.9	5,297.3	5,286.9	12.5	11.9	90.00	152.0	117.7	341.9	318.2	23.64	14.459		
5,400.0	5,383.9	5,397.3	5,386.9	12.7	12.1	90.00	152.0	117.7	341.9	317.8	24.07	14.200		
5,500.0	5,483.9	5,497.3	5,486.9	12.9	12.4	90.00	152.0	117.7	341.9	317.3	24.51	13.950		
5,600.0	5,583.9	5,597.3	5,586.9	13.1	12.6	90.00	152.0	117.7	341.9	316.9	24.94	13.708		
5,700.0	5,683.9	5,697.3	5,686.9	13.4	12.8	90.00	152.0	117.7	341.9	316.5	25.37	13.474		
5,800.0	5,783.9	5,797.3	5,786.9	13.6	13.0	90.00	152.0	117.7	341.9	316.0	25.81	13.247		
5,900.0	5,883.9	5,897.3	5,886.9	13.8	13.2	90.00	152.0	117.7	341.9	315.6	26.24	13.028		
6,000.0	5,983.9	5,997.3	5,986.9	14.0	13.4	90.00	152.0	117.7	341.9	315.2	26.67	12.815		
6,100.0	6,083.9	6,097.3	6,086.9	14.2	13.7	90.00	152.0	117.7	341.9	314.7	27.11	12.610		
6,200.0	6,183.9	6,197.3	6,186.9	14.4	13.9	90.00	152.0	117.7	341.9	314.3	27.55	12.410		
6,300.0	6,283.9	6,297.3	6,286.9	14.6	14.1	90.00	152.0	117.7	341.9	313.9	27.98	12.217		
6,400.0	6,383.9	6,397.3	6,386.9	14.8	14.3	90.00	152.0	117.7	341.9	313.4	28.42	12.029		
6,500.0	6,483.9	6,497.3	6,486.9	15.0	14.5	90.00	152.0	117.7	341.9	313.0	28.86	11.847		
6,600.0	6,583.9	6,597.3	6,586.9	15.2	14.8	90.00	152.0	117.7	341.9	312.6	29.29	11.670		
6,700.0	6,683.9	6,697.3	6,686.9	15.4	15.0	90.00	152.0	117.7	341.9	312.1	29.73	11.498		
6,800.0	6,783.9	6,797.3	6,786.9	15.7	15.2	90.00	152.0	117.7	341.9	311.7	30.17	11.331		
6,852.9	6,836.8	6,850.3	6,839.8	15.8	15.3	-90.12	152.0	117.7	341.9	311.5	30.40	11.247		
6,900.0	6,883.9	6,897.3	6,886.9	15.9	15.4	-90.17	152.0	117.7	341.9	311.3	30.60	11.173		
7,000.0	6,983.1	6,996.6	6,986.1	16.0	15.6	-92.08	152.0	117.7	342.1	311.1	30.97	11.047		
7,100.0	7,080.0	7,094.2	7,083.8	16.1	15.8	-95.92	151.8	117.7	343.8	312.6	31.29	10.988		
7,200.0	7,172.8	7,197.0	7,186.1	16.2	16.0	-100.42	142.7	117.7	348.1	316.6	31.49	11.054		
7,300.0	7,260.1	7,304.2	7,290.4	16.3	16.1	-104.74	118.6	117.7	354.4	322.9	31.56	11.229		
7,400.0	7,340.2	7,416.3	7,394.8	16.4	16.2	-108.77	78.1	117.7	362.4	330.9	31.53	11.494		
7,500.0	7,411.9	7,533.5	7,496.5	16.6	16.4	-112.42	19.9	117.7	371.4	340.0	31.44	11.811		
7,600.0	7,473.8	7,656.1	7,591.9	16.8	16.5	-115.61	-56.9	117.7	380.7	349.3	31.42	12.117		
7,700.0	7,525.0	7,784.0	7,677.0	17.3	16.9	-118.27	-152.0	117.7	389.5	357.9	31.61	12.323		
7,800.0	7,564.5	7,916.6	7,747.3	18.0	17.6	-120.35	-264.3	117.7	397.0	364.9	32.17	12.343		
7,900.0	7,591.7	8,053.1	7,798.3	18.8	18.5	-121.79	-390.8	117.7	402.6	369.3	33.24	12.111		
8,000.0	7,606.2	8,192.3	7,826.2	19.8	19.8	-122.56	-526.9	117.7	405.7	370.7	34.92	11.617		
8,100.0	7,608.6	8,315.7	7,831.1	20.9	21.1	-122.71	-650.2	117.7	406.3	369.3	36.99	10.985		
8,200.0	7,608.5	8,415.7	7,831.6	22.1	22.3	-122.77	-750.2	117.7	406.6	367.5	39.04	10.413		
8,300.0	7,608.4	8,515.7	7,832.0	23.4	23.6	-122.84	-850.2	117.7	406.9	365.6	41.26	9.861		
8,400.0	7,608.3	8,615.7	7,832.5	24.8	25.0	-122.90	-950.2	117.7	407.1	363.5	43.61	9.336		
8,500.0	7,608.2	8,715.7	7,832.9	26.3	26.4	-122.96	-1,050.2	117.7	407.4	361.4	46.07	8.843		
8,600.0	7,608.1	8,815.7	7,833.3	27.8	27.9	-123.02	-1,150.2	117.7	407.7	359.1	48.63	8.383		
8,700.0	7,608.0	8,915.7	7,833.8	29.4	29.5	-123.08	-1,250.2	117.7	408.0	356.7	51.27	7.957		
8,800.0	7,608.0	9,015.7	7,834.2	31.0	31.1	-123.15	-1,350.2	117.7	408.3	354.3	53.98	7.564		
8,900.0	7,607.9	9,115.7	7,834.6	32.6	32.7	-123.21	-1,450.2	117.7	408.6	351.8	56.75	7.200		
9,000.0	7,607.8	9,215.7	7,835.1	34.2	34.3	-123.27	-1,550.2	117.7	408.9	349.3	59.56	6.865		
9,100.0	7,607.7	9,315.7	7,835.5	35.9	36.0	-123.33	-1,650.2	117.7	409.1	346.7	62.41	6.555		
9,200.0	7,607.6	9,415.7	7,835.9	37.6	37.7	-123.39	-1,750.2	117.7	409.4	344.1	65.31	6.270		
9,300.0	7,607.5	9,515.7	7,836.4	39.4	39.4	-123.45	-1,850.2	117.7	409.7	341.5	68.23	6.005		
9,400.0	7,607.4	9,615.7	7,836.8	41.1	41.2	-123.51	-1,950.2	117.7	410.0	338.8	71.18	5.761		
9,500.0	7,607.3	9,715.7	7,837.3	42.9	42.9	-123.57	-2,050.2	117.7	410.3	336.2	74.15	5.534		
9,600.0	7,607.3	9,815.7	7,837.7	44.6	44.7	-123.63	-2,150.2	117.7	410.6	333.5	77.14	5.323		
9,700.0	7,607.2	9,915.7	7,838.1	46.4	46.5	-123.70	-2,250.2	117.7	410.9	330.7	80.14	5.127		
9,800.0	7,607.1	10,015.7	7,838.6	48.2	48.3	-123.76	-2,350.2	117.7	411.2	328.0	83.16	4.944		
9,900.0	7,607.0	10,115.7	7,839.0	50.0	50.1	-123.82	-2,450.2	117.7	411.5	325.3	86.20	4.773		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-403 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,000.0	7,606.9	10,215.7	7,839.4	51.8	51.9	-123.88	-2,550.2	117.7	411.8	322.5	89.24	4.614		
10,100.0	7,606.8	10,315.7	7,839.9	53.6	53.7	-123.94	-2,650.2	117.7	412.0	319.8	92.30	4.464		
10,200.0	7,606.7	10,415.7	7,840.3	55.5	55.5	-124.00	-2,750.2	117.7	412.3	317.0	95.36	4.324		
10,300.0	7,606.7	10,515.7	7,840.7	57.3	57.3	-124.06	-2,850.1	117.7	412.6	314.2	98.43	4.192		
10,400.0	7,606.6	10,615.7	7,841.2	59.1	59.2	-124.12	-2,950.1	117.7	412.9	311.4	101.51	4.068		
10,500.0	7,606.5	10,715.7	7,841.6	61.0	61.0	-124.18	-3,050.1	117.7	413.2	308.6	104.59	3.951		
10,600.0	7,606.4	10,815.7	7,842.1	62.8	62.8	-124.24	-3,150.1	117.7	413.5	305.8	107.68	3.840		
10,700.0	7,606.3	10,915.7	7,842.5	64.7	64.7	-124.30	-3,250.1	117.7	413.8	303.0	110.77	3.736		
10,800.0	7,606.2	11,015.7	7,842.9	66.5	66.5	-124.36	-3,350.1	117.7	414.1	300.2	113.86	3.637		
10,900.0	7,606.1	11,115.7	7,843.4	68.4	68.4	-124.42	-3,450.1	117.7	414.4	297.4	116.95	3.543		
11,000.0	7,606.0	11,215.7	7,843.8	70.2	70.3	-124.48	-3,550.1	117.7	414.7	294.6	120.05	3.454		
11,100.0	7,606.0	11,315.7	7,844.2	72.1	72.1	-124.54	-3,650.1	117.7	415.0	291.8	123.15	3.370		
11,200.0	7,605.9	11,415.7	7,844.7	73.9	74.0	-124.60	-3,750.1	117.7	415.3	289.0	126.25	3.289		
11,300.0	7,605.8	11,515.7	7,845.1	75.8	75.8	-124.66	-3,850.1	117.7	415.6	286.2	129.35	3.213		
11,400.0	7,605.7	11,615.7	7,845.5	77.7	77.7	-124.72	-3,950.1	117.7	415.9	283.4	132.45	3.140		
11,500.0	7,605.6	11,715.7	7,846.0	79.6	79.6	-124.78	-4,050.1	117.7	416.2	280.6	135.55	3.070		
11,600.0	7,605.5	11,815.7	7,846.4	81.4	81.5	-124.83	-4,150.1	117.7	416.5	277.8	138.66	3.004		
11,700.0	7,605.4	11,915.7	7,846.9	83.3	83.3	-124.89	-4,250.1	117.7	416.8	275.0	141.76	2.940		
11,800.0	7,605.3	12,015.7	7,847.3	85.2	85.2	-124.95	-4,350.1	117.7	417.1	272.2	144.86	2.879		
11,900.0	7,605.3	12,115.7	7,847.7	87.1	87.1	-125.01	-4,450.1	117.7	417.4	269.4	147.96	2.821		
12,000.0	7,605.2	12,215.7	7,848.2	88.9	89.0	-125.07	-4,550.1	117.7	417.7	266.6	151.06	2.765		
12,100.0	7,605.1	12,315.7	7,848.6	90.8	90.8	-125.13	-4,650.1	117.7	418.0	263.8	154.15	2.711		
12,200.0	7,605.0	12,415.7	7,849.0	92.7	92.7	-125.19	-4,750.1	117.7	418.3	261.0	157.25	2.660		
12,300.0	7,604.9	12,515.7	7,849.5	94.6	94.6	-125.25	-4,850.1	117.7	418.6	258.2	160.35	2.611		
12,400.0	7,604.8	12,615.7	7,849.9	96.5	96.5	-125.30	-4,950.1	117.7	418.9	255.5	163.44	2.563		
12,500.0	7,604.7	12,715.7	7,850.3	98.4	98.4	-125.36	-5,050.1	117.7	419.2	252.7	166.53	2.517		
12,600.0	7,604.6	12,815.7	7,850.8	100.3	100.3	-125.42	-5,150.1	117.7	419.5	249.9	169.62	2.473		
12,700.0	7,604.6	12,915.7	7,851.2	102.1	102.2	-125.48	-5,250.1	117.7	419.8	247.1	172.71	2.431		
12,800.0	7,604.5	13,015.7	7,851.7	104.0	104.0	-125.54	-5,350.1	117.7	420.1	244.3	175.80	2.390		
12,900.0	7,604.4	13,115.7	7,852.1	105.9	105.9	-125.60	-5,450.1	117.7	420.4	241.5	178.88	2.350		
13,000.0	7,604.3	13,215.7	7,852.5	107.8	107.8	-125.65	-5,550.1	117.7	420.7	238.7	181.97	2.312		
13,100.0	7,604.2	13,315.7	7,853.0	109.7	109.7	-125.71	-5,650.1	117.7	421.0	236.0	185.05	2.275		
13,200.0	7,604.1	13,415.7	7,853.4	111.6	111.6	-125.77	-5,750.1	117.7	421.3	233.2	188.13	2.240		
13,300.0	7,604.0	13,515.7	7,853.8	113.5	113.5	-125.83	-5,850.1	117.7	421.6	230.4	191.20	2.205		
13,400.0	7,603.9	13,615.7	7,854.3	115.4	115.4	-125.88	-5,950.1	117.7	421.9	227.7	194.27	2.172		
13,500.0	7,603.9	13,715.7	7,854.7	117.3	117.3	-125.94	-6,050.1	117.7	422.2	224.9	197.34	2.140		
13,600.0	7,603.8	13,815.7	7,855.1	119.2	119.2	-126.00	-6,150.1	117.7	422.6	222.1	200.41	2.108		
13,700.0	7,603.7	13,915.7	7,855.6	121.1	121.1	-126.06	-6,250.1	117.7	422.9	219.4	203.48	2.078		
13,800.0	7,603.6	14,015.7	7,856.0	123.0	123.0	-126.11	-6,350.1	117.7	423.2	216.6	206.54	2.049		
13,900.0	7,603.5	14,115.7	7,856.5	124.9	124.9	-126.17	-6,450.1	117.7	423.5	213.9	209.60	2.020		
14,000.0	7,603.4	14,215.7	7,856.9	126.8	126.8	-126.23	-6,550.1	117.7	423.8	211.1	212.66	1.993		
14,100.0	7,603.3	14,315.7	7,857.3	128.7	128.7	-126.29	-6,650.1	117.7	424.1	208.4	215.71	1.966		
14,200.0	7,603.2	14,415.6	7,857.8	130.6	130.6	-126.34	-6,750.1	117.7	424.4	205.6	218.77	1.940		
14,300.0	7,603.2	14,515.6	7,858.2	132.5	132.5	-126.40	-6,850.1	117.7	424.7	202.9	221.82	1.915		
14,400.0	7,603.1	14,615.6	7,858.6	134.4	134.3	-126.46	-6,950.1	117.7	425.0	200.2	224.81	1.891		
14,484.1	7,603.0	14,699.7	7,859.0	136.0	135.6	-126.50	-7,034.1	117.7	425.3	198.2	227.08	1.873 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-22.4	22.4					
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	0.0	-22.4	22.4	22.2	0.22	99.707		
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	0.0	-22.4	22.4	21.7	0.67	33.236		
300.0	300.0	300.0	300.0	0.6	0.6	-89.99	0.0	-22.4	22.4	21.3	1.12	19.941		
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	0.0	-22.4	22.4	20.8	1.57	14.244		
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	0.0	-22.4	22.4	20.4	2.02	11.079		
600.0	600.0	600.0	600.0	1.2	1.2	-89.99	0.0	-22.4	22.4	19.9	2.47	9.064		
700.0	700.0	700.0	700.0	1.5	1.5	-89.99	0.0	-22.4	22.4	19.5	2.92	7.670		
800.0	800.0	800.0	800.0	1.7	1.7	-89.99	0.0	-22.4	22.4	19.0	3.37	6.647		
900.0	900.0	900.0	900.0	1.9	1.9	-89.99	0.0	-22.4	22.4	18.6	3.82	5.865		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-89.99	0.0	-22.4	22.4	18.1	4.27	5.248		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-89.99	0.0	-22.4	22.4	17.7	4.72	4.748		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-89.99	0.0	-22.4	22.4	17.2	5.17	4.335		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-89.99	0.0	-22.4	22.4	16.8	5.62	3.988		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-89.99	0.0	-22.4	22.4	16.3	6.07	3.693 CC, ES		
1,500.0	1,500.0	1,499.2	1,499.2	3.3	3.2	-88.73	0.5	-24.0	24.1	17.6	6.51	3.698		
1,600.0	1,600.0	1,598.2	1,598.0	3.5	3.5	-85.83	2.1	-28.9	29.1	22.1	6.94	4.189		
1,700.0	1,700.0	1,696.7	1,696.2	3.7	3.7	-82.73	4.7	-37.0	37.5	30.1	7.38	5.082		
1,800.0	1,800.0	1,795.2	1,793.9	3.9	3.9	-80.22	8.3	-48.1	49.2	41.3	7.83	6.275		
1,900.0	1,900.0	1,894.6	1,892.6	4.2	4.2	-23.28	12.1	-59.9	59.9	51.7	8.24	7.275		
2,000.0	1,999.8	1,994.3	1,991.5	4.4	4.4	-23.68	15.9	-71.7	67.5	58.8	8.65	7.799		
2,100.0	2,099.5	2,094.2	2,090.6	4.6	4.7	-25.14	19.7	-83.5	71.9	62.8	9.07	7.927		
2,200.0	2,198.7	2,194.1	2,189.8	4.8	5.0	-27.57	23.6	-95.3	73.5	64.0	9.50	7.735		
2,300.0	2,297.9	2,294.0	2,288.9	5.1	5.2	-30.16	27.4	-107.2	74.6	64.7	9.95	7.497		
2,400.0	2,397.2	2,394.0	2,388.1	5.3	5.5	-32.66	31.2	-119.0	75.9	65.5	10.42	7.288		
2,500.0	2,496.4	2,493.9	2,487.2	5.6	5.8	-35.07	35.0	-130.9	77.4	66.5	10.90	7.102		
2,600.0	2,595.6	2,593.8	2,586.4	5.9	6.1	-37.40	38.8	-142.7	78.9	67.6	11.38	6.936		
2,700.0	2,694.8	2,693.8	2,685.6	6.1	6.4	-39.62	42.7	-154.6	80.6	68.8	11.88	6.787		
2,800.0	2,794.0	2,793.7	2,784.7	6.4	6.7	-41.76	46.5	-166.4	82.5	70.1	12.39	6.654		
2,900.0	2,893.2	2,893.7	2,883.9	6.7	7.0	-43.79	50.3	-178.2	84.4	71.5	12.91	6.533		
3,000.0	2,992.4	2,993.6	2,983.0	7.0	7.3	-45.74	54.1	-190.1	86.4	73.0	13.45	6.425		
3,100.0	3,091.6	3,093.5	3,082.2	7.3	7.6	-47.59	58.0	-201.9	88.5	74.5	13.99	6.326		
3,200.0	3,190.8	3,193.5	3,181.4	7.6	7.9	-49.36	61.8	-213.8	90.7	76.2	14.55	6.237		
3,300.0	3,290.0	3,293.4	3,280.5	7.9	8.2	-51.04	65.6	-225.6	93.0	77.9	15.11	6.156		
3,400.0	3,389.2	3,393.3	3,379.7	8.2	8.5	-52.64	69.4	-237.5	95.4	79.7	15.68	6.082		
3,500.0	3,488.4	3,493.3	3,478.8	8.5	8.8	-54.16	73.3	-249.3	97.8	81.6	16.26	6.015		
3,600.0	3,587.6	3,593.2	3,578.0	8.8	9.2	-55.60	77.1	-261.1	100.3	83.5	16.85	5.954		
3,700.0	3,686.9	3,693.2	3,677.2	9.1	9.5	-56.98	80.9	-273.0	102.9	85.4	17.44	5.898		
3,800.0	3,786.1	3,793.1	3,776.3	9.4	9.8	-58.28	84.7	-284.8	105.5	87.5	18.04	5.847		
3,900.0	3,885.3	3,893.0	3,875.5	9.7	10.1	-59.53	88.6	-296.7	108.2	89.5	18.65	5.801		
4,000.0	3,984.5	3,993.0	3,974.6	10.0	10.4	-60.58	92.4	-308.5	111.1	91.8	19.24	5.773		
4,100.0	4,084.1	4,092.9	4,073.8	10.2	10.7	-60.33	96.2	-320.3	115.4	95.7	19.72	5.854		
4,200.0	4,183.9	4,192.6	4,172.7	10.4	11.0	-58.72	100.0	-332.2	121.6	101.5	20.11	6.045		
4,300.0	4,283.9	4,292.1	4,271.4	10.5	11.4	-56.01	103.8	-343.9	129.7	109.3	20.42	6.354		
4,400.0	4,383.9	4,391.3	4,369.9	10.7	11.7	-108.65	107.6	-355.7	139.5	118.8	20.70	6.740		
4,500.0	4,483.9	4,490.5	4,468.3	10.9	12.0	-105.81	111.4	-367.5	149.7	128.7	21.02	7.122		
4,600.0	4,583.9	4,589.7	4,566.8	11.1	12.3	-103.35	115.2	-379.2	160.3	138.9	21.36	7.502		
4,700.0	4,683.9	4,689.0	4,665.2	11.3	12.6	-101.19	119.0	-391.0	171.1	149.3	21.72	7.876		
4,800.0	4,783.9	4,788.2	4,763.7	11.5	12.9	-99.29	122.8	-402.7	182.1	160.0	22.08	8.244		
4,900.0	4,883.9	4,887.4	4,862.1	11.7	13.2	-97.60	126.6	-414.5	193.2	170.8	22.46	8.602		
5,000.0	4,983.9	4,986.6	4,960.6	11.9	13.6	-96.10	130.4	-426.2	204.6	181.7	22.85	8.952		

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 Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,083.9	5,085.9	5,059.0	12.1	13.9	-94.76	134.2	-438.0	216.0	192.8	23.25	9.292		
5,200.0	5,183.9	5,185.1	5,157.5	12.3	14.2	-93.55	138.0	-449.8	227.6	203.9	23.65	9.622		
5,300.0	5,283.9	5,284.3	5,255.9	12.5	14.5	-92.46	141.8	-461.5	239.2	215.1	24.06	9.942		
5,400.0	5,383.9	5,384.5	5,355.4	12.7	14.8	-91.47	145.6	-473.4	250.9	226.4	24.47	10.252		
5,500.0	5,483.9	5,493.2	5,463.5	12.9	15.1	-90.66	149.0	-483.9	260.5	235.6	24.87	10.475		
5,600.0	5,583.9	5,602.6	5,572.6	13.1	15.3	-90.19	151.1	-490.5	266.5	241.3	25.27	10.548		
5,700.0	5,683.9	5,712.3	5,682.3	13.4	15.5	-90.00	152.0	-493.1	269.0	243.3	25.67	10.477		
5,800.0	5,783.9	5,813.9	5,783.9	13.6	15.6	-90.00	152.0	-493.2	269.0	242.9	26.08	10.315		
5,900.0	5,883.9	5,913.9	5,883.9	13.8	15.8	-90.00	152.0	-493.2	269.0	242.5	26.50	10.152		
6,000.0	5,983.9	6,013.9	5,983.9	14.0	16.0	-90.00	152.0	-493.2	269.0	242.1	26.92	9.994		
6,100.0	6,083.9	6,113.9	6,083.9	14.2	16.2	-90.00	152.0	-493.2	269.0	241.7	27.34	9.841		
6,200.0	6,183.9	6,213.9	6,183.9	14.4	16.3	-90.00	152.0	-493.2	269.0	241.2	27.76	9.691		
6,300.0	6,283.9	6,313.9	6,283.9	14.6	16.5	-90.00	152.0	-493.2	269.0	240.8	28.18	9.546		
6,400.0	6,383.9	6,413.9	6,383.9	14.8	16.7	-90.00	152.0	-493.2	269.0	240.4	28.60	9.405		
6,500.0	6,483.9	6,513.9	6,483.9	15.0	16.9	-90.00	152.0	-493.2	269.0	240.0	29.03	9.268		
6,600.0	6,583.9	6,613.9	6,583.9	15.2	17.1	-90.00	152.0	-493.2	269.0	239.5	29.45	9.134		
6,700.0	6,683.9	6,713.9	6,683.9	15.4	17.3	-90.00	152.0	-493.2	269.0	239.1	29.88	9.004		
6,800.0	6,783.9	6,813.9	6,783.9	15.7	17.4	-90.00	152.0	-493.2	269.0	238.7	30.30	8.878		
6,852.9	6,836.8	6,866.8	6,836.8	15.8	17.5	90.15	152.0	-493.2	269.0	238.5	30.52	8.815		
6,900.0	6,883.9	6,913.8	6,883.9	15.9	17.6	90.21	152.0	-493.2	269.0	238.3	30.71	8.760		
7,000.0	6,983.1	7,013.1	6,983.1	16.0	17.8	92.65	152.0	-493.2	269.3	238.3	30.97	8.696		
7,100.0	7,080.0	7,110.6	7,080.6	16.1	18.0	97.50	151.9	-493.2	271.5	240.4	31.11	8.729		
7,200.0	7,172.8	7,213.3	7,182.8	16.2	18.1	103.23	143.2	-493.2	277.0	245.8	31.15	8.890		
7,300.0	7,260.1	7,320.5	7,287.3	16.3	18.3	108.62	119.6	-493.2	285.1	254.0	31.12	9.159		
7,400.0	7,340.2	7,432.6	7,391.9	16.4	18.4	113.55	79.5	-493.2	295.2	264.2	31.00	9.523		
7,500.0	7,411.9	7,550.0	7,493.9	16.6	18.5	117.91	21.6	-493.2	306.5	275.7	30.78	9.955		
7,600.0	7,473.8	7,672.9	7,589.9	16.8	18.6	121.64	-55.0	-493.2	318.0	287.4	30.55	10.408		
7,700.0	7,525.0	7,801.1	7,675.6	17.3	18.8	124.68	-150.1	-493.2	328.8	298.4	30.41	10.811		
7,800.0	7,564.5	7,934.3	7,746.4	18.0	19.3	127.00	-262.7	-493.2	337.9	307.4	30.51	11.078		
7,900.0	7,591.7	8,071.4	7,797.9	18.8	20.0	128.59	-389.6	-493.2	344.7	313.7	30.98	11.125		
8,000.0	7,606.2	8,211.3	7,826.2	19.8	21.1	129.44	-526.5	-493.2	348.4	316.4	31.96	10.901		
8,100.0	7,608.6	8,335.2	7,831.1	20.9	22.4	129.60	-650.2	-493.2	349.1	315.6	33.50	10.423		
8,200.0	7,608.5	8,435.2	7,831.6	22.1	23.5	129.67	-750.2	-493.2	349.5	314.1	35.35	9.885		
8,300.0	7,608.4	8,535.2	7,832.0	23.4	24.8	129.73	-850.2	-493.2	349.8	312.4	37.37	9.361		
8,400.0	7,608.3	8,635.2	7,832.4	24.8	26.1	129.80	-950.2	-493.2	350.1	310.6	39.52	8.860		
8,500.0	7,608.2	8,735.2	7,832.9	26.3	27.5	129.87	-1,050.2	-493.2	350.5	308.7	41.78	8.389		
8,600.0	7,608.1	8,835.2	7,833.3	27.8	28.9	129.93	-1,150.2	-493.2	350.8	306.7	44.13	7.949		
8,700.0	7,608.0	8,935.2	7,833.7	29.4	30.4	130.00	-1,250.2	-493.2	351.1	304.6	46.57	7.541		
8,800.0	7,608.0	9,035.2	7,834.2	31.0	32.0	130.06	-1,350.2	-493.2	351.5	302.4	49.07	7.163		
8,900.0	7,607.9	9,135.2	7,834.6	32.6	33.6	130.13	-1,450.2	-493.2	351.8	300.2	51.62	6.815		
9,000.0	7,607.8	9,235.2	7,835.1	34.2	35.2	130.19	-1,550.2	-493.2	352.2	297.9	54.22	6.495		
9,100.0	7,607.7	9,335.2	7,835.5	35.9	36.8	130.26	-1,650.2	-493.2	352.5	295.6	56.86	6.199		
9,200.0	7,607.6	9,435.2	7,835.9	37.6	38.5	130.32	-1,750.2	-493.2	352.8	293.3	59.54	5.926		
9,300.0	7,607.5	9,535.2	7,836.4	39.4	40.2	130.39	-1,850.2	-493.2	353.2	290.9	62.24	5.674		
9,400.0	7,607.4	9,635.2	7,836.8	41.1	41.9	130.45	-1,950.2	-493.2	353.5	288.5	64.97	5.441		
9,500.0	7,607.3	9,735.2	7,837.2	42.9	43.6	130.52	-2,050.2	-493.2	353.9	286.1	67.72	5.225		
9,600.0	7,607.3	9,835.2	7,837.7	44.6	45.4	130.58	-2,150.2	-493.2	354.2	283.7	70.49	5.025		
9,700.0	7,607.2	9,935.2	7,838.1	46.4	47.1	130.65	-2,250.1	-493.2	354.5	281.3	73.27	4.839		
9,800.0	7,607.1	10,035.2	7,838.5	48.2	48.9	130.71	-2,350.1	-493.2	354.9	278.8	76.07	4.665		
9,900.0	7,607.0	10,135.2	7,839.0	50.0	50.7	130.77	-2,450.1	-493.2	355.2	276.3	78.88	4.503		

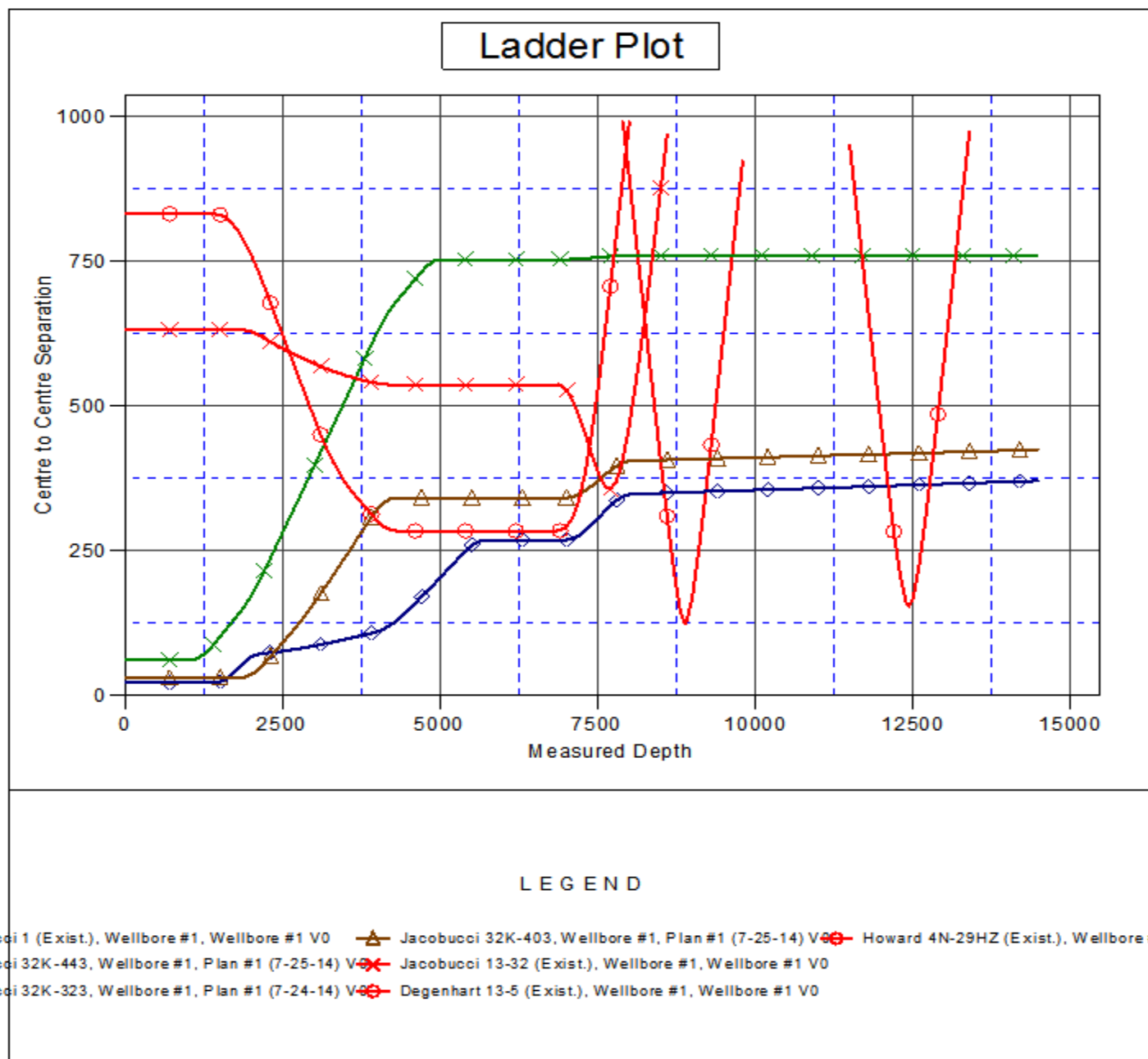
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)									Offset Site Error:		0.0 ft
Survey Program: 0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
10,000.0	7,606.9	10,235.2	7,839.4	51.8	52.5	130.84	-2,550.1	-493.2	355.6	273.9	81.69	4.352	
10,100.0	7,606.8	10,335.2	7,839.9	53.6	54.3	130.90	-2,650.1	-493.2	355.9	271.4	84.52	4.211	
10,200.0	7,606.7	10,435.2	7,840.3	55.5	56.1	130.97	-2,750.1	-493.2	356.2	268.9	87.35	4.078	
10,300.0	7,606.7	10,535.2	7,840.7	57.3	57.9	131.03	-2,850.1	-493.2	356.6	266.4	90.19	3.954	
10,400.0	7,606.6	10,635.2	7,841.2	59.1	59.7	131.09	-2,950.1	-493.2	356.9	263.9	93.03	3.837	
10,500.0	7,606.5	10,735.2	7,841.6	61.0	61.5	131.16	-3,050.1	-493.2	357.3	261.4	95.88	3.726	
10,600.0	7,606.4	10,835.2	7,842.0	62.8	63.3	131.22	-3,150.1	-493.2	357.6	258.9	98.73	3.622	
10,700.0	7,606.3	10,935.2	7,842.5	64.7	65.2	131.28	-3,250.1	-493.2	358.0	256.4	101.58	3.524	
10,800.0	7,606.2	11,035.2	7,842.9	66.5	67.0	131.34	-3,350.1	-493.2	358.3	253.9	104.44	3.431	
10,900.0	7,606.1	11,135.2	7,843.3	68.4	68.9	131.41	-3,450.1	-493.2	358.7	251.4	107.30	3.343	
11,000.0	7,606.0	11,235.2	7,843.8	70.2	70.7	131.47	-3,550.1	-493.2	359.0	248.8	110.15	3.259	
11,100.0	7,606.0	11,335.2	7,844.2	72.1	72.6	131.53	-3,650.1	-493.2	359.3	246.3	113.01	3.180	
11,200.0	7,605.9	11,435.2	7,844.7	73.9	74.4	131.60	-3,750.1	-493.2	359.7	243.8	115.87	3.104	
11,300.0	7,605.8	11,535.2	7,845.1	75.8	76.3	131.66	-3,850.1	-493.2	360.0	241.3	118.73	3.033	
11,400.0	7,605.7	11,635.2	7,845.5	77.7	78.1	131.72	-3,950.1	-493.2	360.4	238.8	121.59	2.964	
11,500.0	7,605.6	11,735.2	7,846.0	79.6	80.0	131.78	-4,050.1	-493.2	360.7	236.3	124.44	2.899	
11,600.0	7,605.5	11,835.2	7,846.4	81.4	81.9	131.84	-4,150.1	-493.2	361.1	233.8	127.30	2.837	
11,700.0	7,605.4	11,935.2	7,846.8	83.3	83.7	131.91	-4,250.1	-493.2	361.4	231.3	130.16	2.777	
11,800.0	7,605.3	12,035.2	7,847.3	85.2	85.6	131.97	-4,350.1	-493.2	361.8	228.8	133.01	2.720	
11,900.0	7,605.3	12,135.2	7,847.7	87.1	87.5	132.03	-4,450.1	-493.2	362.1	226.3	135.86	2.665	
12,000.0	7,605.2	12,235.2	7,848.1	88.9	89.3	132.09	-4,550.1	-493.2	362.5	223.8	138.71	2.613	
12,100.0	7,605.1	12,335.2	7,848.6	90.8	91.2	132.15	-4,650.1	-493.2	362.8	221.3	141.56	2.563	
12,200.0	7,605.0	12,435.2	7,849.0	92.7	93.1	132.21	-4,750.1	-493.2	363.2	218.8	144.41	2.515	
12,300.0	7,604.9	12,535.2	7,849.5	94.6	95.0	132.27	-4,850.1	-493.2	363.5	216.3	147.25	2.469	
12,400.0	7,604.8	12,635.2	7,849.9	96.5	96.8	132.33	-4,950.1	-493.2	363.9	213.8	150.10	2.424	
12,500.0	7,604.7	12,735.2	7,850.3	98.4	98.7	132.40	-5,050.1	-493.2	364.3	211.3	152.94	2.382	
12,600.0	7,604.6	12,835.2	7,850.8	100.3	100.6	132.46	-5,150.1	-493.2	364.6	208.8	155.77	2.341	
12,700.0	7,604.6	12,935.2	7,851.2	102.1	102.5	132.52	-5,250.1	-493.2	365.0	206.3	158.61	2.301	
12,800.0	7,604.5	13,035.2	7,851.6	104.0	104.4	132.58	-5,350.1	-493.2	365.3	203.9	161.44	2.263	
12,900.0	7,604.4	13,135.2	7,852.1	105.9	106.3	132.64	-5,450.1	-493.2	365.7	201.4	164.27	2.226	
13,000.0	7,604.3	13,235.2	7,852.5	107.8	108.1	132.70	-5,550.1	-493.2	366.0	198.9	167.10	2.190	
13,100.0	7,604.2	13,335.2	7,852.9	109.7	110.0	132.76	-5,650.1	-493.2	366.4	196.5	169.92	2.156	
13,200.0	7,604.1	13,435.2	7,853.4	111.6	111.9	132.82	-5,750.1	-493.2	366.7	194.0	172.74	2.123	
13,300.0	7,604.0	13,535.2	7,853.8	113.5	113.8	132.88	-5,850.1	-493.2	367.1	191.5	175.56	2.091	
13,400.0	7,603.9	13,635.2	7,854.3	115.4	115.7	132.94	-5,950.1	-493.2	367.4	189.1	178.38	2.060	
13,500.0	7,603.9	13,735.2	7,854.7	117.3	117.6	133.00	-6,050.1	-493.2	367.8	186.6	181.19	2.030	
13,600.0	7,603.8	13,835.2	7,855.1	119.2	119.5	133.06	-6,150.1	-493.2	368.2	184.2	184.00	2.001	
13,700.0	7,603.7	13,935.2	7,855.6	121.1	121.4	133.12	-6,250.1	-493.2	368.5	181.7	186.80	1.973	
13,800.0	7,603.6	14,035.2	7,856.0	123.0	123.3	133.18	-6,350.1	-493.2	368.9	179.3	189.61	1.945	
13,900.0	7,603.5	14,135.2	7,856.4	124.9	125.2	133.24	-6,450.1	-493.2	369.2	176.8	192.40	1.919	
14,000.0	7,603.4	14,235.2	7,856.9	126.8	127.1	133.30	-6,550.0	-493.2	369.6	174.4	195.20	1.893	
14,100.0	7,603.3	14,335.2	7,857.3	128.7	129.0	133.35	-6,650.0	-493.2	370.0	172.0	197.99	1.869	
14,200.0	7,603.2	14,435.2	7,857.7	130.6	130.8	133.41	-6,750.0	-493.2	370.3	169.5	200.78	1.844	
14,300.0	7,603.2	14,535.2	7,858.2	132.5	132.7	133.47	-6,850.0	-493.2	370.7	167.1	203.57	1.821	
14,400.0	7,603.1	14,635.2	7,858.6	134.4	134.6	133.53	-6,950.0	-493.2	371.0	164.7	206.35	1.798	
14,484.1	7,603.0	14,719.2	7,859.0	136.0	136.2	133.58	-7,034.1	-493.2	371.3	162.7	208.68	1.779 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (7-25-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5060.0ft (Original Well Elev) Coordinates are relative to: Jacobucci 32K-243
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.37°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Jacobucci 32K-243
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5060.0ft (Original Well Elev)
Reference Site:	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5060.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Jacobucci 32K-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
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Reference Depths are relative to WELL @ 5060.0ft (Original Well Elev) Coordinates are relative to: Jacobucci 32K-243
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
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