

# PETROLEUM DEVELOPMENT CORP Weld County CO

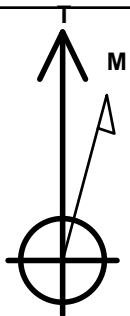
Well Name: **Anderson 34E-223**

Surface Location: Anderson 34E-HZ Pad Sec.34-T7N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4930.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1439642.34	3202274.01	40.537940	-104.772240	
RKB -15' WELL @ 4945.0ft (RKB -15')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
BHL 500'FSL, 510'FWL	7194.0	-4572.2	-211.3	Point



Azimuths to True North  
Magnetic North: 8.63°

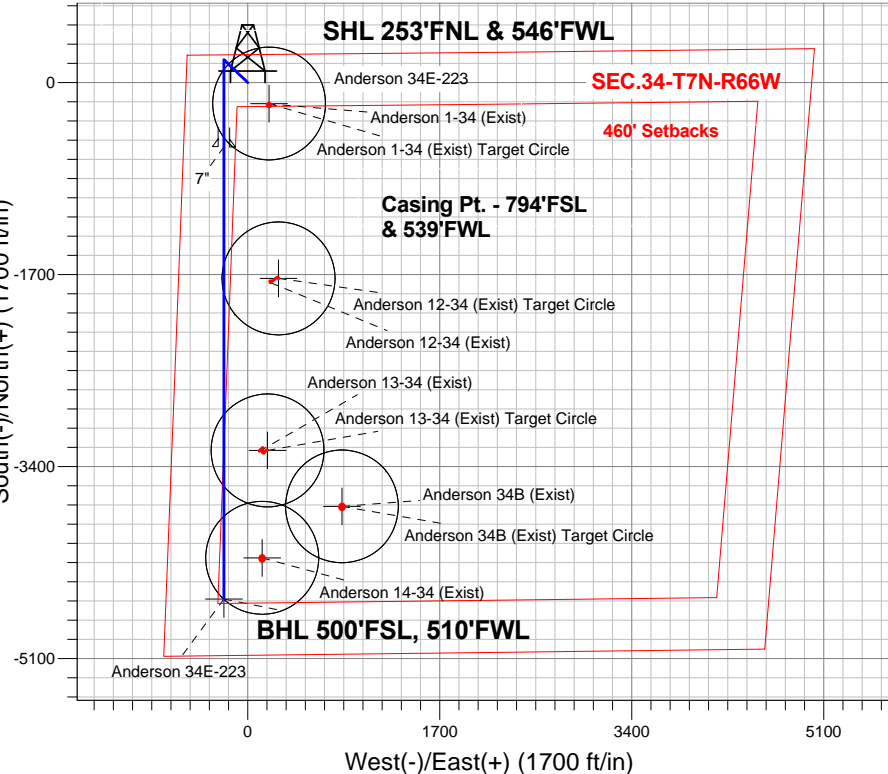
Magnetic Field  
Strength: 53004.3srT  
Dip Angle: 67.10°  
Date: 4/30/2013  
Model: IGRF2010

## ANNOTATIONS

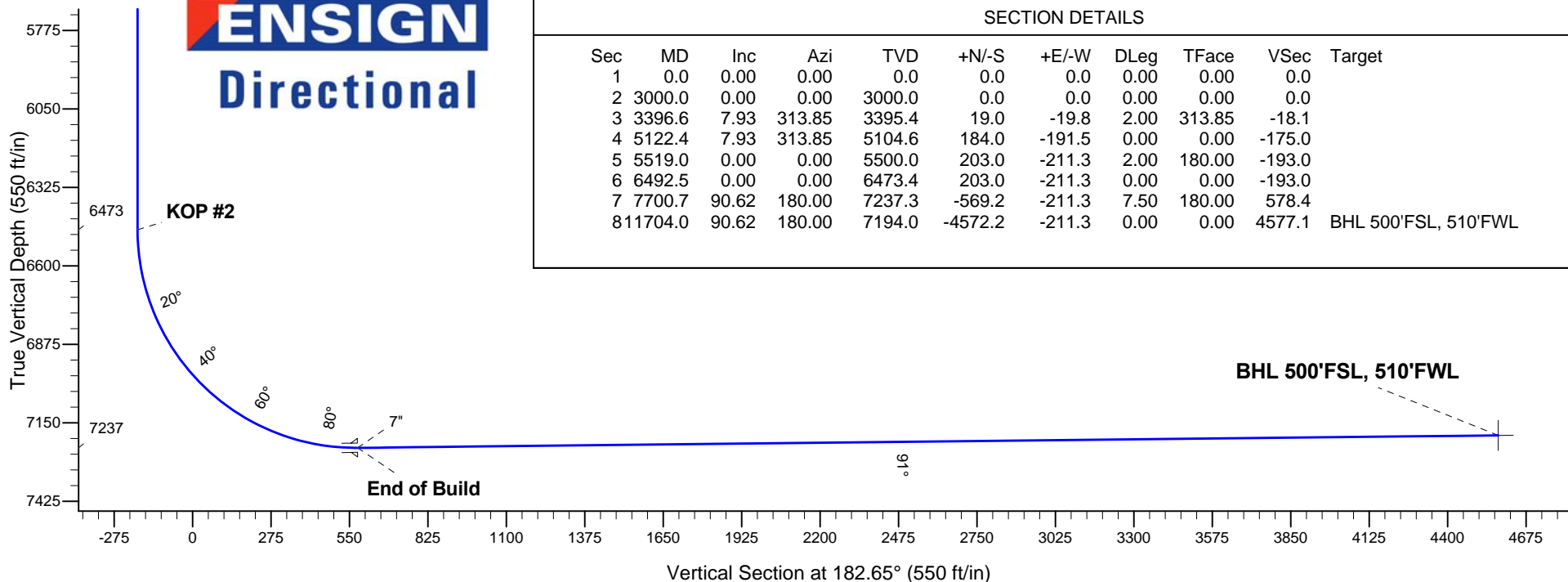
TVD	MD	Annotation
3000.0	3000.0	KOP #1
6473.5	6492.5	KOP #2
7237.3	7700.7	End of Build

Anderson 34E-HZ Pad Sec.34-T7N-R66W  
Anderson 34E-223  
Plan #1 (4-25-13)  
15:33, April 30 2013

South(-)/North(+) (1700 ft/in)



**ENSIGN**  
Directional



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3396.6	7.93	313.85	3395.4	19.0	-19.8	2.00	313.85	-18.1	
4	5122.4	7.93	313.85	5104.6	184.0	-191.5	0.00	0.00	-175.0	
5	5519.0	0.00	0.00	5500.0	203.0	-211.3	2.00	180.00	-193.0	
6	6492.5	0.00	0.00	6473.4	203.0	-211.3	0.00	0.00	-193.0	
7	7700.7	90.62	180.00	7237.3	-569.2	-211.3	7.50	180.00	578.4	
8	11704.0	90.62	180.00	7194.0	-4572.2	-211.3	0.00	0.00	4577.1	BHL 500'FSL, 510'FWL



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.34-T7N-R66W**

**Anderson 34E-HZ Pad Sec.34-T7N-R66W**

**Anderson 34E-223**

**Wellbore #1**

**Plan: Plan #1 (4-25-13)**

## **Standard Planning Report**

**30 April, 2013**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

<b>Project</b>	SEC.34-T7N-R66W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		Anderson 34E-HZ Pad Sec.34-T7N-R66W			
Site Position:		Northing:	1,439,642.58 ft	Latitude:	40.537940
From:	Lat/Long	Easting:	3,202,301.80 ft	Longitude:	-104.772140
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.47 °

Well	Anderson 34E-223					
Well Position	+N/-S	0.0 ft	Northing:	1,439,642.34 ft	Latitude:	40.537940
	+E/-W	-27.8 ft	Easting:	3,202,274.01 ft	Longitude:	-104.772240
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,930.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/30/2013	8.63	67.10	53,004

<b>Design</b>	Plan #1 (4-25-13)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	182.65

<b>Plan Sections</b>										
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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,396.6	7.93	313.85	3,395.4	19.0	-19.8	2.00	2.00	0.00	313.85	
5,122.4	7.93	313.85	5,104.6	184.0	-191.5	0.00	0.00	0.00	0.00	
5,519.0	0.00	0.00	5,500.0	203.0	-211.3	2.00	-2.00	0.00	180.00	
6,492.5	0.00	0.00	6,473.4	203.0	-211.3	0.00	0.00	0.00	0.00	
7,700.7	90.62	180.00	7,237.3	-569.2	-211.3	7.50	7.50	0.00	180.00	
11,704.0	90.62	180.00	7,194.0	-4,572.2	-211.3	0.00	0.00	0.00	0.00	BHL 500'FSL, 510'F

COMPASS 2003.21 Build 46

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

## 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)
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
3,040.0	0.80	313.85	3,040.0	0.2	-0.2	-0.2	2.00	2.00	0.00
3,080.0	1.60	313.85	3,080.0	0.8	-0.8	-0.7	2.00	2.00	0.00
3,120.0	2.40	313.85	3,120.0	1.7	-1.8	-1.7	2.00	2.00	0.00
3,160.0	3.20	313.85	3,159.9	3.1	-3.2	-2.9	2.00	2.00	0.00
3,200.0	4.00	313.85	3,199.8	4.8	-5.0	-4.6	2.00	2.00	0.00
3,240.0	4.80	313.85	3,239.7	7.0	-7.2	-6.6	2.00	2.00	0.00
3,280.0	5.60	313.85	3,279.6	9.5	-9.9	-9.0	2.00	2.00	0.00
3,320.0	6.40	313.85	3,319.3	12.4	-12.9	-11.8	2.00	2.00	0.00
3,360.0	7.20	313.85	3,359.1	15.7	-16.3	-14.9	2.00	2.00	0.00
3,396.6	7.93	313.85	3,395.4	19.0	-19.8	-18.1	2.00	2.00	0.00
3,400.0	7.93	313.85	3,398.7	19.3	-20.1	-18.4	0.00	0.00	0.00
3,440.0	7.93	313.85	3,438.3	23.1	-24.1	-22.0	0.00	0.00	0.00
3,480.0	7.93	313.85	3,477.9	27.0	-28.1	-25.6	0.00	0.00	0.00
3,520.0	7.93	313.85	3,517.6	30.8	-32.0	-29.3	0.00	0.00	0.00
3,560.0	7.93	313.85	3,557.2	34.6	-36.0	-32.9	0.00	0.00	0.00
3,600.0	7.93	313.85	3,596.8	38.4	-40.0	-36.6	0.00	0.00	0.00
3,640.0	7.93	313.85	3,636.4	42.3	-44.0	-40.2	0.00	0.00	0.00
3,680.0	7.93	313.85	3,676.0	46.1	-48.0	-43.8	0.00	0.00	0.00
3,720.0	7.93	313.85	3,715.6	49.9	-51.9	-47.5	0.00	0.00	0.00
3,760.0	7.93	313.85	3,755.3	53.7	-55.9	-51.1	0.00	0.00	0.00
3,800.0	7.93	313.85	3,794.9	57.6	-59.9	-54.7	0.00	0.00	0.00
3,840.0	7.93	313.85	3,834.5	61.4	-63.9	-58.4	0.00	0.00	0.00
3,880.0	7.93	313.85	3,874.1	65.2	-67.9	-62.0	0.00	0.00	0.00
3,920.0	7.93	313.85	3,913.7	69.0	-71.9	-65.6	0.00	0.00	0.00
3,960.0	7.93	313.85	3,953.3	72.9	-75.8	-69.3	0.00	0.00	0.00
4,000.0	7.93	313.85	3,993.0	76.7	-79.8	-72.9	0.00	0.00	0.00
4,040.0	7.93	313.85	4,032.6	80.5	-83.8	-76.6	0.00	0.00	0.00
4,080.0	7.93	313.85	4,072.2	84.3	-87.8	-80.2	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

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)
4,120.0	7.93	313.85	4,111.8	88.2	-91.8	-83.8	0.00	0.00	0.00
4,160.0	7.93	313.85	4,151.4	92.0	-95.7	-87.5	0.00	0.00	0.00
4,200.0	7.93	313.85	4,191.0	95.8	-99.7	-91.1	0.00	0.00	0.00
4,240.0	7.93	313.85	4,230.7	99.6	-103.7	-94.7	0.00	0.00	0.00
4,280.0	7.93	313.85	4,270.3	103.5	-107.7	-98.4	0.00	0.00	0.00
4,320.0	7.93	313.85	4,309.9	107.3	-111.7	-102.0	0.00	0.00	0.00
4,360.0	7.93	313.85	4,349.5	111.1	-115.6	-105.7	0.00	0.00	0.00
4,400.0	7.93	313.85	4,389.1	114.9	-119.6	-109.3	0.00	0.00	0.00
4,440.0	7.93	313.85	4,428.7	118.8	-123.6	-112.9	0.00	0.00	0.00
4,480.0	7.93	313.85	4,468.4	122.6	-127.6	-116.6	0.00	0.00	0.00
4,520.0	7.93	313.85	4,508.0	126.4	-131.6	-120.2	0.00	0.00	0.00
4,560.0	7.93	313.85	4,547.6	130.2	-135.5	-123.8	0.00	0.00	0.00
4,600.0	7.93	313.85	4,587.2	134.1	-139.5	-127.5	0.00	0.00	0.00
4,640.0	7.93	313.85	4,626.8	137.9	-143.5	-131.1	0.00	0.00	0.00
4,680.0	7.93	313.85	4,666.5	141.7	-147.5	-134.7	0.00	0.00	0.00
4,720.0	7.93	313.85	4,706.1	145.5	-151.5	-138.4	0.00	0.00	0.00
4,760.0	7.93	313.85	4,745.7	149.4	-155.4	-142.0	0.00	0.00	0.00
4,800.0	7.93	313.85	4,785.3	153.2	-159.4	-145.7	0.00	0.00	0.00
4,840.0	7.93	313.85	4,824.9	157.0	-163.4	-149.3	0.00	0.00	0.00
4,880.0	7.93	313.85	4,864.5	160.8	-167.4	-152.9	0.00	0.00	0.00
4,920.0	7.93	313.85	4,904.2	164.7	-171.4	-156.6	0.00	0.00	0.00
4,960.0	7.93	313.85	4,943.8	168.5	-175.4	-160.2	0.00	0.00	0.00
5,000.0	7.93	313.85	4,983.4	172.3	-179.3	-163.8	0.00	0.00	0.00
5,040.0	7.93	313.85	5,023.0	176.1	-183.3	-167.5	0.00	0.00	0.00
5,080.0	7.93	313.85	5,062.6	180.0	-187.3	-171.1	0.00	0.00	0.00
5,120.0	7.93	313.85	5,102.2	183.8	-191.3	-174.8	0.00	0.00	0.00
5,122.4	7.93	313.85	5,104.6	184.0	-191.5	-175.0	0.00	0.00	0.00
5,160.0	7.18	313.85	5,141.9	187.4	-195.1	-178.2	2.00	-2.00	0.00
5,200.0	6.38	313.85	5,181.6	190.7	-198.5	-181.3	2.00	-2.00	0.00
5,240.0	5.58	313.85	5,221.4	193.6	-201.5	-184.1	2.00	-2.00	0.00
5,280.0	4.78	313.85	5,261.2	196.1	-204.1	-186.5	2.00	-2.00	0.00
5,320.0	3.98	313.85	5,301.1	198.2	-206.3	-188.5	2.00	-2.00	0.00
5,360.0	3.18	313.85	5,341.0	199.9	-208.1	-190.1	2.00	-2.00	0.00
5,400.0	2.38	313.85	5,381.0	201.3	-209.5	-191.4	2.00	-2.00	0.00
5,440.0	1.58	313.85	5,421.0	202.2	-210.5	-192.3	2.00	-2.00	0.00
5,480.0	0.78	313.85	5,461.0	202.8	-211.1	-192.9	2.00	-2.00	0.00
5,519.0	0.00	0.00	5,500.0	203.0	-211.3	-193.0	2.00	-2.00	0.00
5,520.0	0.00	0.00	5,501.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,560.0	0.00	0.00	5,541.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,581.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,640.0	0.00	0.00	5,621.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,680.0	0.00	0.00	5,661.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,720.0	0.00	0.00	5,701.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,760.0	0.00	0.00	5,741.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,781.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,840.0	0.00	0.00	5,821.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,880.0	0.00	0.00	5,861.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,920.0	0.00	0.00	5,901.0	203.0	-211.3	-193.0	0.00	0.00	0.00
5,960.0	0.00	0.00	5,941.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,981.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,040.0	0.00	0.00	6,021.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,080.0	0.00	0.00	6,061.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,120.0	0.00	0.00	6,101.0	203.0	-211.3	-193.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

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)
6,160.0	0.00	0.00	6,141.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,181.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,240.0	0.00	0.00	6,221.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,261.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,301.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,360.0	0.00	0.00	6,341.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,381.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,421.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,461.0	203.0	-211.3	-193.0	0.00	0.00	0.00
6,492.5	0.00	0.00	6,473.5	203.0	-211.3	-193.0	0.00	0.00	0.00
<b>KOP #2</b>									
6,520.0	2.07	180.00	6,500.9	202.5	-211.3	-192.5	7.51	7.51	0.00
6,560.0	5.07	180.00	6,540.9	200.0	-211.3	-190.1	7.50	7.50	0.00
6,600.0	8.07	180.00	6,580.6	195.4	-211.3	-185.5	7.50	7.50	0.00
6,640.0	11.07	180.00	6,620.0	188.8	-211.3	-178.8	7.50	7.50	0.00
6,680.0	14.07	180.00	6,659.1	180.1	-211.3	-170.2	7.50	7.50	0.00
6,720.0	17.07	180.00	6,697.6	169.4	-211.3	-159.4	7.50	7.50	0.00
6,760.0	20.07	180.00	6,735.5	156.6	-211.3	-146.7	7.50	7.50	0.00
6,800.0	23.07	180.00	6,772.7	141.9	-211.3	-132.0	7.50	7.50	0.00
6,840.0	26.07	180.00	6,809.1	125.3	-211.3	-115.4	7.50	7.50	0.00
6,880.0	29.07	180.00	6,844.5	106.8	-211.3	-96.9	7.50	7.50	0.00
6,920.0	32.07	180.00	6,879.0	86.5	-211.3	-76.6	7.50	7.50	0.00
6,960.0	35.07	180.00	6,912.3	64.3	-211.3	-54.5	7.50	7.50	0.00
7,000.0	38.07	180.00	6,944.4	40.5	-211.3	-30.7	7.50	7.50	0.00
7,040.0	41.07	180.00	6,975.3	15.0	-211.3	-5.3	7.50	7.50	0.00
7,080.0	44.07	180.00	7,004.7	-12.0	-211.3	21.8	7.50	7.50	0.00
7,120.0	47.07	180.00	7,032.7	-40.6	-211.3	50.3	7.50	7.50	0.00
7,160.0	50.07	180.00	7,059.2	-70.6	-211.3	80.2	7.50	7.50	0.00
7,200.0	53.07	180.00	7,084.1	-101.9	-211.3	111.5	7.50	7.50	0.00
7,240.0	56.07	180.00	7,107.2	-134.5	-211.3	144.1	7.50	7.50	0.00
7,280.0	59.07	180.00	7,128.7	-168.2	-211.3	177.8	7.50	7.50	0.00
7,320.0	62.07	180.00	7,148.3	-203.1	-211.3	212.6	7.50	7.50	0.00
7,360.0	65.07	180.00	7,166.2	-238.9	-211.3	248.4	7.50	7.50	0.00
7,400.0	68.07	180.00	7,182.1	-275.6	-211.3	285.0	7.50	7.50	0.00
7,440.0	71.07	180.00	7,196.0	-313.0	-211.3	322.5	7.50	7.50	0.00
7,480.0	74.07	180.00	7,208.0	-351.2	-211.3	360.6	7.50	7.50	0.00
7,520.0	77.07	180.00	7,218.0	-389.9	-211.3	399.3	7.50	7.50	0.00
7,560.0	80.07	180.00	7,225.9	-429.1	-211.3	438.4	7.50	7.50	0.00
7,600.0	83.07	180.00	7,231.8	-468.7	-211.3	478.0	7.50	7.50	0.00
7,640.0	86.07	180.00	7,235.6	-508.5	-211.3	517.7	7.50	7.50	0.00
7,680.0	89.07	180.00	7,237.3	-548.5	-211.3	557.6	7.50	7.50	0.00
7,700.7	90.62	180.00	7,237.3	-569.2	-211.3	578.3	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,720.0	90.62	180.00	7,237.1	-588.5	-211.3	597.6	0.01	0.01	0.00
7,760.0	90.62	180.00	7,236.7	-628.5	-211.3	637.6	0.00	0.00	0.00
7,800.0	90.62	180.00	7,236.2	-668.5	-211.3	677.5	0.00	0.00	0.00
7,840.0	90.62	180.00	7,235.8	-708.5	-211.3	717.5	0.00	0.00	0.00
7,880.0	90.62	180.00	7,235.4	-748.5	-211.3	757.4	0.00	0.00	0.00
7,920.0	90.62	180.00	7,234.9	-788.5	-211.3	797.4	0.00	0.00	0.00
7,960.0	90.62	180.00	7,234.5	-828.5	-211.3	837.3	0.00	0.00	0.00
8,000.0	90.62	180.00	7,234.1	-868.5	-211.3	877.3	0.00	0.00	0.00
8,040.0	90.62	180.00	7,233.6	-908.5	-211.3	917.2	0.00	0.00	0.00
8,080.0	90.62	180.00	7,233.2	-948.5	-211.3	957.2	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

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)
8,120.0	90.62	180.00	7,232.8	-988.5	-211.3	997.2	0.00	0.00	0.00
8,160.0	90.62	180.00	7,232.3	-1,028.5	-211.3	1,037.1	0.00	0.00	0.00
8,200.0	90.62	180.00	7,231.9	-1,068.4	-211.3	1,077.1	0.00	0.00	0.00
8,240.0	90.62	180.00	7,231.5	-1,108.4	-211.3	1,117.0	0.00	0.00	0.00
8,280.0	90.62	180.00	7,231.1	-1,148.4	-211.3	1,157.0	0.00	0.00	0.00
8,320.0	90.62	180.00	7,230.6	-1,188.4	-211.3	1,196.9	0.00	0.00	0.00
8,360.0	90.62	180.00	7,230.2	-1,228.4	-211.3	1,236.9	0.00	0.00	0.00
8,400.0	90.62	180.00	7,229.8	-1,268.4	-211.3	1,276.8	0.00	0.00	0.00
8,440.0	90.62	180.00	7,229.3	-1,308.4	-211.3	1,316.8	0.00	0.00	0.00
8,480.0	90.62	180.00	7,228.9	-1,348.4	-211.3	1,356.7	0.00	0.00	0.00
8,520.0	90.62	180.00	7,228.5	-1,388.4	-211.3	1,396.7	0.00	0.00	0.00
8,560.0	90.62	180.00	7,228.0	-1,428.4	-211.3	1,436.7	0.00	0.00	0.00
8,600.0	90.62	180.00	7,227.6	-1,468.4	-211.3	1,476.6	0.00	0.00	0.00
8,640.0	90.62	180.00	7,227.2	-1,508.4	-211.3	1,516.6	0.00	0.00	0.00
8,680.0	90.62	180.00	7,226.7	-1,548.4	-211.3	1,556.5	0.00	0.00	0.00
8,720.0	90.62	180.00	7,226.3	-1,588.4	-211.3	1,596.5	0.00	0.00	0.00
8,760.0	90.62	180.00	7,225.9	-1,628.4	-211.3	1,636.4	0.00	0.00	0.00
8,800.0	90.62	180.00	7,225.4	-1,668.4	-211.3	1,676.4	0.00	0.00	0.00
8,840.0	90.62	180.00	7,225.0	-1,708.4	-211.3	1,716.3	0.00	0.00	0.00
8,880.0	90.62	180.00	7,224.6	-1,748.4	-211.3	1,756.3	0.00	0.00	0.00
8,920.0	90.62	180.00	7,224.1	-1,788.4	-211.3	1,796.3	0.00	0.00	0.00
8,960.0	90.62	180.00	7,223.7	-1,828.4	-211.3	1,836.2	0.00	0.00	0.00
9,000.0	90.62	180.00	7,223.3	-1,868.4	-211.3	1,876.2	0.00	0.00	0.00
9,040.0	90.62	180.00	7,222.8	-1,908.4	-211.3	1,916.1	0.00	0.00	0.00
9,080.0	90.62	180.00	7,222.4	-1,948.4	-211.3	1,956.1	0.00	0.00	0.00
9,120.0	90.62	180.00	7,222.0	-1,988.4	-211.3	1,996.0	0.00	0.00	0.00
9,160.0	90.62	180.00	7,221.5	-2,028.4	-211.3	2,036.0	0.00	0.00	0.00
9,200.0	90.62	180.00	7,221.1	-2,068.4	-211.3	2,075.9	0.00	0.00	0.00
9,240.0	90.62	180.00	7,220.7	-2,108.4	-211.3	2,115.9	0.00	0.00	0.00
9,280.0	90.62	180.00	7,220.2	-2,148.4	-211.3	2,155.8	0.00	0.00	0.00
9,320.0	90.62	180.00	7,219.8	-2,188.4	-211.3	2,195.8	0.00	0.00	0.00
9,360.0	90.62	180.00	7,219.4	-2,228.4	-211.3	2,235.8	0.00	0.00	0.00
9,400.0	90.62	180.00	7,218.9	-2,268.4	-211.3	2,275.7	0.00	0.00	0.00
9,440.0	90.62	180.00	7,218.5	-2,308.4	-211.3	2,315.7	0.00	0.00	0.00
9,480.0	90.62	180.00	7,218.1	-2,348.4	-211.3	2,355.6	0.00	0.00	0.00
9,520.0	90.62	180.00	7,217.6	-2,388.4	-211.3	2,395.6	0.00	0.00	0.00
9,560.0	90.62	180.00	7,217.2	-2,428.4	-211.3	2,435.5	0.00	0.00	0.00
9,600.0	90.62	180.00	7,216.8	-2,468.4	-211.3	2,475.5	0.00	0.00	0.00
9,640.0	90.62	180.00	7,216.3	-2,508.4	-211.3	2,515.4	0.00	0.00	0.00
9,680.0	90.62	180.00	7,215.9	-2,548.4	-211.3	2,555.4	0.00	0.00	0.00
9,720.0	90.62	180.00	7,215.5	-2,588.4	-211.3	2,595.4	0.00	0.00	0.00
9,760.0	90.62	180.00	7,215.0	-2,628.4	-211.3	2,635.3	0.00	0.00	0.00
9,800.0	90.62	180.00	7,214.6	-2,668.4	-211.3	2,675.3	0.00	0.00	0.00
9,840.0	90.62	180.00	7,214.2	-2,708.4	-211.3	2,715.2	0.00	0.00	0.00
9,880.0	90.62	180.00	7,213.7	-2,748.4	-211.3	2,755.2	0.00	0.00	0.00
9,920.0	90.62	180.00	7,213.3	-2,788.3	-211.3	2,795.1	0.00	0.00	0.00
9,960.0	90.62	180.00	7,212.9	-2,828.3	-211.3	2,835.1	0.00	0.00	0.00
10,000.0	90.62	180.00	7,212.4	-2,868.3	-211.3	2,875.0	0.00	0.00	0.00
10,040.0	90.62	180.00	7,212.0	-2,908.3	-211.3	2,915.0	0.00	0.00	0.00
10,080.0	90.62	180.00	7,211.6	-2,948.3	-211.3	2,954.9	0.00	0.00	0.00
10,120.0	90.62	180.00	7,211.1	-2,988.3	-211.3	2,994.9	0.00	0.00	0.00
10,160.0	90.62	180.00	7,210.7	-3,028.3	-211.3	3,034.9	0.00	0.00	0.00
10,200.0	90.62	180.00	7,210.3	-3,068.3	-211.3	3,074.8	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

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)
10,240.0	90.62	180.00	7,209.8	-3,108.3	-211.3	3,114.8	0.00	0.00	0.00
10,280.0	90.62	180.00	7,209.4	-3,148.3	-211.3	3,154.7	0.00	0.00	0.00
10,320.0	90.62	180.00	7,209.0	-3,188.3	-211.3	3,194.7	0.00	0.00	0.00
10,360.0	90.62	180.00	7,208.5	-3,228.3	-211.3	3,234.6	0.00	0.00	0.00
10,400.0	90.62	180.00	7,208.1	-3,268.3	-211.3	3,274.6	0.00	0.00	0.00
10,440.0	90.62	180.00	7,207.7	-3,308.3	-211.3	3,314.5	0.00	0.00	0.00
10,480.0	90.62	180.00	7,207.2	-3,348.3	-211.3	3,354.5	0.00	0.00	0.00
10,520.0	90.62	180.00	7,206.8	-3,388.3	-211.3	3,394.5	0.00	0.00	0.00
10,560.0	90.62	180.00	7,206.4	-3,428.3	-211.3	3,434.4	0.00	0.00	0.00
10,600.0	90.62	180.00	7,205.9	-3,468.3	-211.3	3,474.4	0.00	0.00	0.00
10,640.0	90.62	180.00	7,205.5	-3,508.3	-211.3	3,514.3	0.00	0.00	0.00
10,680.0	90.62	180.00	7,205.1	-3,548.3	-211.3	3,554.3	0.00	0.00	0.00
10,720.0	90.62	180.00	7,204.6	-3,588.3	-211.3	3,594.2	0.00	0.00	0.00
10,760.0	90.62	180.00	7,204.2	-3,628.3	-211.3	3,634.2	0.00	0.00	0.00
10,800.0	90.62	180.00	7,203.8	-3,668.3	-211.3	3,674.1	0.00	0.00	0.00
10,840.0	90.62	180.00	7,203.3	-3,708.3	-211.3	3,714.1	0.00	0.00	0.00
10,880.0	90.62	180.00	7,202.9	-3,748.3	-211.3	3,754.1	0.00	0.00	0.00
10,920.0	90.62	180.00	7,202.5	-3,788.3	-211.3	3,794.0	0.00	0.00	0.00
10,960.0	90.62	180.00	7,202.1	-3,828.3	-211.3	3,834.0	0.00	0.00	0.00
11,000.0	90.62	180.00	7,201.6	-3,868.3	-211.3	3,873.9	0.00	0.00	0.00
11,040.0	90.62	180.00	7,201.2	-3,908.3	-211.3	3,913.9	0.00	0.00	0.00
11,080.0	90.62	180.00	7,200.8	-3,948.3	-211.3	3,953.8	0.00	0.00	0.00
11,120.0	90.62	180.00	7,200.3	-3,988.3	-211.3	3,993.8	0.00	0.00	0.00
11,160.0	90.62	180.00	7,199.9	-4,028.3	-211.3	4,033.7	0.00	0.00	0.00
11,200.0	90.62	180.00	7,199.5	-4,068.3	-211.3	4,073.7	0.00	0.00	0.00
11,240.0	90.62	180.00	7,199.0	-4,108.3	-211.3	4,113.6	0.00	0.00	0.00
11,280.0	90.62	180.00	7,198.6	-4,148.3	-211.3	4,153.6	0.00	0.00	0.00
11,320.0	90.62	180.00	7,198.2	-4,188.3	-211.3	4,193.6	0.00	0.00	0.00
11,360.0	90.62	180.00	7,197.7	-4,228.3	-211.3	4,233.5	0.00	0.00	0.00
11,400.0	90.62	180.00	7,197.3	-4,268.3	-211.3	4,273.5	0.00	0.00	0.00
11,440.0	90.62	180.00	7,196.9	-4,308.3	-211.3	4,313.4	0.00	0.00	0.00
11,480.0	90.62	180.00	7,196.4	-4,348.3	-211.3	4,353.4	0.00	0.00	0.00
11,520.0	90.62	180.00	7,196.0	-4,388.3	-211.3	4,393.3	0.00	0.00	0.00
11,560.0	90.62	180.00	7,195.6	-4,428.3	-211.3	4,433.3	0.00	0.00	0.00
11,600.0	90.62	180.00	7,195.1	-4,468.3	-211.3	4,473.2	0.00	0.00	0.00
11,640.0	90.62	180.00	7,194.7	-4,508.2	-211.3	4,513.2	0.00	0.00	0.00
11,680.0	90.62	180.00	7,194.3	-4,548.2	-211.3	4,553.2	0.00	0.00	0.00
11,696.7	90.62	180.00	7,194.1	-4,564.9	-211.3	4,569.8	0.00	0.00	0.00
<b>BHL 500'FSL, 1280'FWL</b>									
11,704.0	90.62	180.00	7,194.0	-4,572.2	-211.3	4,577.1	0.00	0.00	0.00
<b>BHL 500'FSL, 510'FWL</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Project:</b>	SEC.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-25-13)		

## Targets

### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Anderson 12-34 (Exis - plan misses target center by 1755.4ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Circle (radius 500.0)	0.00	0.00	0.0	-1,734.1	272.4	1,437,910.54	3,202,560.63	40.533180	-104.771260
BHL 500'FSL, 510'FW - plan hits target center - Point	0.00	0.00	7,194.0	-4,572.2	-211.3	1,435,068.70	3,202,100.26	40.525390	-104.773000
Anderson 1-34 (Exist) - plan misses target center by 265.0ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Circle (radius 500.0)	0.00	0.00	0.0	-185.8	189.0	1,439,458.11	3,202,464.53	40.537430	-104.771560
Anderson 13-34 (Exis - plan misses target center by 3261.7ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Circle (radius 500.0)	0.00	0.00	0.0	-3,257.0	175.1	1,436,386.98	3,202,475.86	40.529000	-104.771610
BHL 500'FSL, 1280'F - plan misses target center by 767.3ft at 11696.7ft MD (7194.1 TVD, -4564.9 N, -211.3 E) - Point	0.00	0.00	7,194.0	-4,564.9	556.0	1,435,082.29	3,202,867.44	40.525410	-104.770240
Anderson 14-34 (Exis - plan misses target center by 4209.8ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Circle (radius 500.0)	0.00	0.00	0.0	-4,207.9	127.9	1,435,435.78	3,202,436.41	40.526390	-104.771780
Anderson 34B (Exist) - plan misses target center by 3844.0ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Circle (radius 500.0)	0.00	0.00	0.0	-3,752.5	834.0	1,435,896.96	3,203,138.73	40.527640	-104.769240

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,700.7	7,237.3	7"	7	7-1/2

## Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
3,000.0	3,000.0	0.0	0.0	KOP #1
6,492.5	6,473.5	203.0	-211.3	KOP #2
7,700.7	7,237.3	-569.2	-211.3	End of Build



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.34-T7N-R66W**

**Anderson 34E-HZ Pad Sec.34-T7N-R66W**

**Anderson 34E-223**

**Wellbore #1**

**Plan #1 (4-25-13)**

## **Anticollision Report**

**30 April, 2013**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (4-25-13)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 4/26/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,703.3	Plan #1 (4-25-13) (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						
Anderson (Existing Wells) Sec.34-T7N-R66W						
Anderson 12-34 (Exist) - Wellbore #1 - Wellbore #1	8,902.2	7,200.0	410.0	357.8	7.856	CC, ES
Anderson 12-34 (Exist) - Wellbore #1 - Wellbore #1	9,000.0	7,200.0	421.5	367.6	7.818	SF
Anderson 13-34 (Exist) - Wellbore #1 - Wellbore #1	10,391.3	7,201.2	315.9	236.0	3.957	CC
Anderson 13-34 (Exist) - Wellbore #1 - Wellbore #1	10,400.0	7,201.4	316.0	236.0	3.951	ES, SF
Anderson 1-34 (Exist) - Wellbore #1 - Wellbore #1	1,920.9	1,920.9	265.1	257.6	35.211	CC
Anderson 1-34 (Exist) - Wellbore #1 - Wellbore #1	2,000.0	1,998.8	265.3	257.5	33.930	ES
Anderson 1-34 (Exist) - Wellbore #1 - Wellbore #1	7,350.0	7,160.8	387.1	358.4	13.516	SF
Anderson 14-34 (Exist) - Wellbore #1 - Wellbore #1	11,339.6	7,197.9	339.2	112.3	1.495	Level 3, CC, ES, SF
Anderson 34B (Exist) - Wellbore #1 - Wellbore #1						Out of range
Anderson 34E-HZ Pad Sec.34-T7N-R66W						
Anderson 34E-403 - Wellbore #1 - Plan #1 (4-25-13)	400.0	400.0	30.6	29.0	19.433	CC, ES
Anderson 34E-403 - Wellbore #1 - Plan #1 (4-25-13)	11,704.0	11,864.4	376.1	217.0	2.364	SF
Anderson 34J-203 - Wellbore #1 - Plan #1 (4-25-13)	200.0	200.0	58.4	57.7	86.564	CC, ES
Anderson 34J-203 - Wellbore #1 - Plan #1 (4-25-13)	11,704.0	11,706.5	767.3	588.0	4.279	SF
Anderson 34J-443 - Wellbore #1 - Plan #1 (4-25-13)	1,500.0	1,500.0	27.8	21.3	4.264	CC, ES
Anderson 34J-443 - Wellbore #1 - Plan #1 (4-25-13)	11,704.0	11,843.8	476.2	308.7	2.843	SF

<b>Offset Design</b> Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 12-34 (Exist) - Wellbore #1 - Wellbore #1											
Survey Program: 100-NS-GYRO-MS											
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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)
8,000.0	7,234.1	7,183.9	7,182.3	23.4	14.3	-86.22	-1,770.0	198.2	990.9	953.5	37.39
8,100.0	7,233.0	7,185.9	7,184.2	24.9	14.3	-86.50	-1,770.1	198.3	900.8	861.9	38.86
8,200.0	7,231.9	7,187.9	7,186.2	26.4	14.3	-86.77	-1,770.1	198.3	813.0	772.6	40.39
8,300.0	7,230.8	7,189.9	7,188.2	27.9	14.3	-87.05	-1,770.2	198.3	728.4	686.5	41.98
8,400.0	7,229.8	7,191.8	7,190.2	29.5	14.3	-87.32	-1,770.2	198.4	648.3	604.7	43.60
8,500.0	7,228.7	7,193.8	7,192.1	31.2	14.3	-87.60	-1,770.3	198.4	574.3	529.0	45.26
8,600.0	7,227.6	7,195.8	7,194.1	32.9	14.3	-87.87	-1,770.4	198.5	509.3	462.4	46.95
8,700.0	7,226.5	7,200.0	7,198.3	34.6	14.3	-88.46	-1,770.5	198.6	457.1	408.5	48.68
8,800.0	7,225.4	7,200.0	7,198.3	36.3	14.3	-88.46	-1,770.5	198.6	422.5	372.1	50.41
8,900.0	7,224.3	7,200.0	7,198.3	38.0	14.3	-88.46	-1,770.5	198.6	410.0	357.8	52.15
											7.862

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 12-34 (Exist) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
8,902.2	7,224.3	7,200.0	7,198.3	38.1	14.3	-88.46	-1,770.5	198.6	410.0	357.8	52.19	7.856 CC, ES	
9,000.0	7,223.3	7,200.0	7,198.3	39.8	14.3	-88.46	-1,770.5	198.6	421.5	367.6	53.91	7.818 SF	
9,100.0	7,222.2	7,205.5	7,203.8	41.5	14.3	-89.23	-1,770.7	198.7	455.2	399.5	55.72	8.169	
9,200.0	7,221.1	7,207.3	7,205.6	43.3	14.3	-89.48	-1,770.7	198.7	506.7	449.2	57.51	8.810	
9,300.0	7,220.0	7,209.1	7,207.4	45.1	14.3	-89.73	-1,770.8	198.8	571.2	511.9	59.32	9.629	
9,400.0	7,218.9	7,210.8	7,209.1	46.9	14.3	-89.97	-1,770.8	198.8	644.8	583.7	61.13	10.547	
9,500.0	7,217.8	7,212.5	7,210.8	48.7	14.3	-90.21	-1,770.9	198.8	724.8	661.8	62.96	11.512	
9,600.0	7,216.8	7,214.2	7,212.5	50.6	14.3	-90.44	-1,770.9	198.9	809.2	744.4	64.79	12.490	
9,700.0	7,215.7	7,215.8	7,214.1	52.4	14.3	-90.67	-1,771.0	198.9	896.8	830.2	66.62	13.461	
9,800.0	7,214.6	7,217.4	7,215.7	54.2	14.3	-90.90	-1,771.0	199.0	986.8	918.3	68.46	14.414	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 13-34 (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 100-NS-GYRO-MS											Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
9,500.0	7,217.8	7,181.9	7,180.0	48.7	14.7	-87.61	-3,259.1	104.9	945.4	882.2	63.21	14.956		
9,600.0	7,216.8	7,184.1	7,182.2	50.6	14.7	-88.00	-3,259.1	104.8	851.8	786.8	65.06	13.093		
9,700.0	7,215.7	7,186.2	7,184.3	52.4	14.7	-88.38	-3,259.2	104.8	759.9	693.0	66.92	11.356		
9,800.0	7,214.6	7,188.3	7,186.4	54.2	14.7	-88.77	-3,259.3	104.8	670.3	601.5	68.78	9.745		
9,900.0	7,213.5	7,190.5	7,188.6	56.1	14.7	-89.16	-3,259.3	104.7	584.0	513.3	70.64	8.267		
10,000.0	7,212.4	7,192.7	7,190.7	57.9	14.7	-89.55	-3,259.4	104.7	502.8	430.3	72.50	6.935		
10,100.0	7,211.4	7,194.8	7,192.9	59.8	14.7	-89.95	-3,259.5	104.6	429.6	355.3	74.37	5.777		
10,200.0	7,210.3	7,197.0	7,195.1	61.6	14.7	-90.34	-3,259.6	104.6	369.3	293.0	76.24	4.843		
10,300.0	7,209.2	7,199.2	7,197.3	63.5	14.7	-90.73	-3,259.6	104.6	328.8	250.7	78.11	4.209		
10,391.3	7,208.2	7,201.2	7,199.3	65.2	14.7	-91.10	-3,259.7	104.5	315.9	236.0	79.82	3.957 CC		
10,400.0	7,208.1	7,201.4	7,199.4	65.4	14.7	-91.13	-3,259.7	104.5	316.0	236.0	79.98	3.951 ES, SF		
10,500.0	7,207.0	7,203.6	7,201.7	67.2	14.7	-91.54	-3,259.8	104.5	334.0	252.2	81.85	4.081		
10,600.0	7,205.9	7,205.9	7,204.0	69.1	14.7	-91.95	-3,259.9	104.4	378.5	294.8	83.72	4.522		
10,700.0	7,204.9	7,208.2	7,206.3	71.0	14.7	-92.37	-3,259.9	104.4	441.6	356.0	85.58	5.160		
10,800.0	7,203.8	7,210.6	7,208.7	72.8	14.7	-92.80	-3,260.0	104.3	516.4	429.0	87.44	5.906		
10,900.0	7,202.7	7,213.0	7,211.1	74.7	14.7	-93.24	-3,260.1	104.3	598.7	509.4	89.30	6.704		
11,000.0	7,201.6	7,215.5	7,213.5	76.6	14.7	-93.69	-3,260.2	104.2	685.6	594.5	91.16	7.521		
11,100.0	7,200.5	7,218.0	7,216.1	78.5	14.7	-94.15	-3,260.3	104.2	775.7	682.7	93.01	8.340		
11,200.0	7,199.5	7,220.6	7,218.6	80.4	14.7	-94.61	-3,260.4	104.1	868.0	773.1	94.85	9.151		
11,300.0	7,198.4	7,223.2	7,221.3	82.3	14.7	-95.09	-3,260.4	104.1	961.8	865.1	96.69	9.947		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 1-34 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 115-NS-GYRO-MS												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	15.0	15.0	0.0	0.0	134.51	-185.8	189.0	265.5				
100.0	100.0	98.4	98.4	0.1	0.1	134.47	-185.8	189.3	265.3	265.1	0.22	1,188.851	
200.0	200.0	198.8	198.8	0.3	0.4	134.36	-185.9	190.1	265.9	265.2	0.69	384.416	
300.0	300.0	299.4	299.4	0.6	0.6	134.27	-185.8	190.7	266.2	265.1	1.18	225.543	
400.0	400.0	399.9	399.9	0.8	0.9	134.21	-185.8	190.9	266.4	264.7	1.67	159.849	
500.0	500.0	499.3	499.3	1.0	1.1	134.20	-185.8	191.1	266.5	264.4	2.14	124.581	
600.0	600.0	599.7	599.7	1.2	1.4	134.19	-185.9	191.3	266.7	264.1	2.60	102.674	
700.0	700.0	699.9	699.9	1.5	1.6	134.18	-186.0	191.3	266.8	263.8	3.05	87.397	
800.0	800.0	800.2	800.1	1.7	1.8	134.16	-185.9	191.4	266.8	263.3	3.49	76.471	
900.0	900.0	900.1	900.1	1.9	2.0	134.14	-185.7	191.4	266.7	262.8	3.91	68.297	
1,000.0	1,000.0	1,000.1	1,000.1	2.1	2.2	134.12	-185.6	191.5	266.7	262.4	4.32	61.706	
1,100.0	1,100.0	1,100.1	1,100.1	2.4	2.4	134.09	-185.5	191.5	266.6	261.9	4.76	56.015	
1,200.0	1,200.0	1,200.5	1,200.4	2.6	2.6	134.07	-185.4	191.5	266.6	261.4	5.16	51.649	
1,300.0	1,300.0	1,300.4	1,300.4	2.8	2.7	134.06	-185.2	191.4	266.4	260.8	5.52	48.229	
1,400.0	1,400.0	1,400.4	1,400.4	3.0	2.8	134.08	-185.2	191.2	266.2	260.4	5.85	45.482	
1,500.0	1,500.0	1,500.5	1,500.5	3.3	2.9	134.16	-185.3	190.9	266.1	259.9	6.14	43.360	
1,600.0	1,600.0	1,600.4	1,600.4	3.5	2.9	134.25	-185.5	190.4	265.9	259.5	6.43	41.350	
1,700.0	1,700.0	1,701.0	1,700.9	3.7	3.0	134.34	-185.7	190.0	265.7	258.9	6.75	39.345	
1,800.0	1,800.0	1,800.8	1,800.8	3.9	3.2	134.43	-185.7	189.4	265.3	258.2	7.10	37.372	
1,900.0	1,900.0	1,900.2	1,900.2	4.2	3.3	134.52	-185.9	189.0	265.1	257.6	7.45	35.566	
1,920.9	1,920.9	1,920.9	1,920.9	4.2	3.3	134.54	-185.9	189.0	265.1	257.6	7.53	35.211 CC	
2,000.0	2,000.0	1,998.8	1,998.7	4.4	3.4	134.58	-186.2	188.9	265.3	257.5	7.82	33.930 ES	
2,100.0	2,100.0	2,097.8	2,097.8	4.6	3.6	134.59	-186.7	189.4	265.9	257.7	8.20	32.416	
2,200.0	2,200.0	2,198.0	2,198.0	4.8	3.8	134.57	-187.2	190.0	266.8	258.2	8.61	30.997	
2,300.0	2,300.0	2,297.9	2,297.9	5.1	4.0	134.55	-187.7	190.6	267.5	258.5	9.02	29.655	
2,400.0	2,400.0	2,397.8	2,397.7	5.3	4.2	134.51	-188.1	191.4	268.3	258.9	9.45	28.411	
2,500.0	2,500.0	2,497.7	2,497.6	5.5	4.4	134.47	-188.6	192.1	269.2	259.3	9.88	27.256	
2,600.0	2,600.0	2,597.7	2,597.7	5.7	4.6	134.38	-188.9	193.0	270.1	259.8	10.32	26.175	
2,700.0	2,700.0	2,697.2	2,697.2	6.0	4.8	134.27	-189.2	194.0	271.0	260.2	10.76	25.176	
2,800.0	2,800.0	2,796.9	2,796.9	6.2	5.0	134.13	-189.4	195.3	272.1	260.9	11.22	24.261	
2,900.0	2,900.0	2,896.3	2,896.2	6.4	5.3	134.00	-189.9	196.6	273.4	261.7	11.67	23.427	
3,000.0	3,000.0	2,996.0	2,995.9	6.6	5.5	133.89	-190.5	198.0	274.8	262.7	12.13	22.664	
3,100.0	3,100.0	3,095.8	3,095.8	6.9	5.7	179.89	-191.0	199.6	278.1	265.5	12.57	22.116	
3,200.0	3,199.8	3,196.0	3,195.9	7.1	6.0	179.78	-191.7	201.0	284.8	271.7	13.00	21.898	
3,300.0	3,299.5	3,296.0	3,295.9	7.3	6.2	179.73	-192.3	202.2	294.7	281.3	13.42	21.966	
3,396.6	3,395.4	3,391.8	3,391.6	7.5	6.4	179.71	-193.0	203.1	307.6	293.8	13.80	22.287	
3,400.0	3,398.7	3,395.1	3,395.0	7.5	6.4	179.71	-193.0	203.1	308.1	294.3	13.82	22.299	
3,500.0	3,497.7	3,494.4	3,494.3	7.8	6.7	179.72	-193.8	203.9	323.1	308.8	14.26	22.653	
3,600.0	3,596.8	3,593.1	3,593.0	8.0	6.9	179.80	-194.8	204.4	337.9	323.2	14.69	22.995	
3,700.0	3,695.8	3,691.6	3,691.5	8.3	7.1	179.90	-196.0	204.9	352.9	337.8	15.13	23.328	
3,800.0	3,794.9	3,790.6	3,790.5	8.5	7.3	-179.99	-197.4	205.3	367.9	352.3	15.56	23.645	
3,900.0	3,893.9	3,889.2	3,889.0	8.8	7.5	-179.87	-198.7	205.6	382.9	366.9	15.99	23.942	
4,000.0	3,993.0	3,988.3	3,988.1	9.1	7.7	-179.78	-200.1	206.1	398.0	381.5	16.43	24.218	
4,100.0	4,092.0	4,086.5	4,086.4	9.3	8.0	-179.68	-201.5	206.4	413.0	396.1	16.87	24.475	
4,200.0	4,191.0	4,185.3	4,185.1	9.6	8.2	-179.59	-203.0	206.9	428.2	410.9	17.32	24.721	
4,300.0	4,290.1	4,284.4	4,284.2	9.9	8.4	-179.49	-204.6	207.3	443.3	425.6	17.77	24.950	
4,400.0	4,389.1	4,386.4	4,386.2	10.2	8.6	-179.38	-206.1	207.3	458.2	440.0	18.21	25.169	
4,500.0	4,488.2	4,488.2	4,488.0	10.5	8.8	-179.22	-207.3	206.6	472.3	453.7	18.60	25.387	
4,600.0	4,587.2	4,587.8	4,587.6	10.8	8.9	-179.07	-208.3	205.5	486.0	467.1	18.98	25.607	
4,700.0	4,686.3	4,689.2	4,689.0	11.1	9.1	-178.92	-209.2	204.2	499.6	480.2	19.35	25.817	
4,800.0	4,785.3	4,790.2	4,789.9	11.4	9.2	-178.76	-209.9	202.5	512.6	492.9	19.71	26.010	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 1-34 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 115-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance		Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
4,900.0	4,884.3	4,891.2	4,890.9	11.7	9.3	-178.58	-210.4	200.4	525.4	505.3	20.06	26.187	
5,000.0	4,983.4	4,990.6	4,990.3	12.0	9.4	-178.42	-210.8	198.2	537.9	517.5	20.42	26.347	
5,100.0	5,082.4	5,089.9	5,089.5	12.3	9.6	-178.27	-211.1	196.0	550.4	529.6	20.77	26.497	
5,122.4	5,104.6	5,112.1	5,111.8	12.3	9.6	-178.24	-211.2	195.5	553.2	532.4	20.85	26.530	
5,200.0	5,181.6	5,190.9	5,190.5	12.5	9.7	-178.13	-211.4	193.7	561.8	540.6	21.17	26.540	
5,300.0	5,281.2	5,291.4	5,291.0	12.8	9.8	-177.96	-211.6	191.1	569.5	547.9	21.53	26.453	
5,400.0	5,381.0	5,390.7	5,390.3	13.0	9.9	-177.77	-211.9	188.4	573.7	551.8	21.87	26.233	
5,500.0	5,481.0	5,493.3	5,492.9	13.1	10.1	-177.56	-212.1	185.5	574.3	552.1	22.19	25.880	
5,519.0	5,500.0	5,513.1	5,512.6	13.2	10.1	-177.56	-212.1	184.9	574.0	551.7	22.25	25.797	
5,600.0	5,581.0	5,591.0	5,590.5	13.3	10.2	-177.56	-212.0	182.8	572.4	549.9	22.52	25.420	
5,700.0	5,681.0	5,688.8	5,688.3	13.5	10.4	-177.56	-211.9	180.9	570.9	548.1	22.87	24.960	
5,800.0	5,781.0	5,793.0	5,792.5	13.7	10.5	-177.56	-211.4	179.1	569.4	546.2	23.23	24.507	
5,900.0	5,881.0	5,894.0	5,893.4	13.9	10.6	-177.56	-210.1	177.2	567.2	543.6	23.58	24.052	
6,000.0	5,981.0	5,994.6	5,994.0	14.1	10.8	-177.56	-208.6	175.6	565.0	541.1	23.93	23.613	
6,100.0	6,081.0	6,095.9	6,095.3	14.3	10.9	-177.56	-206.4	174.3	562.6	538.3	24.27	23.180	
6,200.0	6,181.0	6,196.2	6,195.5	14.5	11.0	-177.56	-203.9	173.1	560.0	535.3	24.61	22.750	
6,300.0	6,281.0	6,291.9	6,291.2	14.8	11.1	-177.56	-201.6	172.3	557.7	532.7	24.95	22.347	
6,400.0	6,381.0	6,387.9	6,387.2	15.0	11.2	-177.56	-199.8	172.2	556.2	530.9	25.30	21.984	
6,492.5	6,473.4	6,482.8	6,482.0	15.2	11.4	-177.56	-198.3	172.1	555.1	529.5	25.63	21.658	
6,500.0	6,481.0	6,490.7	6,490.0	15.2	11.4	-177.56	-198.2	172.1	555.0	529.3	25.65	21.634	
6,550.0	6,530.9	6,540.1	6,539.3	15.2	11.5	-177.56	-197.1	172.0	552.6	526.8	25.75	21.459	
6,600.0	6,580.6	6,586.5	6,585.8	15.3	11.5	-177.56	-196.3	172.1	548.1	522.3	25.80	21.247	
6,650.0	6,629.8	6,634.2	6,633.5	15.4	11.6	-177.56	-195.6	172.3	541.6	515.8	25.80	20.990	
6,700.0	6,678.4	6,684.0	6,683.3	15.4	11.7	-177.56	-194.8	172.5	533.0	507.2	25.79	20.669	
6,750.0	6,726.1	6,732.3	6,731.5	15.4	11.7	-177.56	-194.1	172.5	522.2	496.4	25.75	20.277	
6,800.0	6,772.7	6,778.5	6,777.7	15.5	11.8	-177.56	-193.4	172.5	509.7	483.9	25.73	19.809	
6,850.0	6,818.0	6,823.4	6,822.6	15.5	11.9	-177.56	-192.7	172.5	495.6	469.9	25.73	19.259	
6,900.0	6,861.9	6,866.7	6,865.9	15.5	11.9	-177.56	-192.1	172.5	480.4	454.6	25.80	18.622	
6,950.0	6,904.1	6,908.3	6,907.5	15.6	12.0	-177.56	-191.5	172.5	464.5	438.5	25.94	17.906	
7,000.0	6,944.4	6,947.2	6,946.4	15.6	12.1	-177.56	-191.0	172.6	448.3	422.1	26.16	17.135	
7,050.0	6,982.8	6,984.0	6,983.2	15.6	12.1	-177.56	-190.5	172.7	432.5	406.0	26.46	16.343	
7,100.0	7,018.9	7,018.9	7,018.1	15.7	12.2	-177.56	-190.1	172.9	417.8	390.9	26.83	15.573	
7,150.0	7,052.7	7,052.5	7,051.7	15.7	12.2	-177.56	-189.8	173.1	404.8	377.6	27.23	14.869	
7,200.0	7,084.1	7,083.6	7,082.8	15.8	12.3	-177.56	-189.6	173.3	394.5	366.8	27.62	14.281	
7,250.0	7,112.8	7,112.2	7,111.4	15.9	12.3	-177.56	-189.4	173.4	387.5	359.5	27.99	13.846	
7,300.0	7,138.7	7,137.9	7,137.1	16.1	12.4	-177.56	-189.2	173.5	384.9	356.5	28.32	13.587	
7,303.2	7,140.3	7,139.5	7,138.7	16.1	12.4	-177.56	-189.2	173.6	384.8	356.5	28.35	13.576	
7,350.0	7,161.9	7,160.8	7,160.0	16.4	12.4	-177.56	-189.1	173.6	387.1	358.4	28.64	13.516 SF	
7,400.0	7,182.1	7,180.7	7,179.9	16.7	12.4	-177.56	-189.0	173.7	394.6	365.7	28.96	13.627	
7,450.0	7,199.2	7,197.6	7,196.8	17.1	12.5	-177.56	-188.9	173.8	407.6	378.3	29.32	13.905	
7,500.0	7,213.2	7,211.3	7,210.5	17.5	12.5	-177.56	-188.8	173.9	425.9	396.1	29.73	14.324	
7,550.0	7,224.1	7,221.9	7,221.1	18.0	12.5	-177.56	-188.8	173.9	448.9	418.7	30.22	14.857	
7,600.0	7,231.8	7,229.3	7,228.5	18.4	12.5	-177.56	-188.7	174.0	476.2	445.5	30.76	15.480	
7,650.0	7,236.2	7,233.5	7,232.7	19.0	12.5	-177.56	-188.7	174.0	507.2	475.8	31.34	16.182	
7,700.7	7,237.3	7,234.3	7,233.5	19.5	12.5	-177.56	-188.7	174.0	541.5	509.6	31.88	16.984	
7,800.0	7,236.2	7,232.7	7,231.9	20.7	12.5	-177.56	-188.7	174.0	615.3	582.3	33.06	18.611	
7,900.0	7,235.2	7,231.1	7,230.3	22.0	12.5	-177.56	-188.7	174.0	696.1	661.7	34.35	20.263	
8,000.0	7,234.1	7,229.5	7,228.7	23.4	12.5	-177.56	-188.7	174.0	781.3	745.6	35.73	21.868	
8,100.0	7,233.0	7,227.9	7,227.1	24.9	12.5	-177.56	-188.7	173.9	869.7	832.5	37.18	23.393	
8,200.0	7,231.9	7,226.3	7,225.5	26.4	12.5	-177.56	-188.7	173.9	960.4	921.7	38.69	24.825	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson (Existing Wells) Sec.34-T7N-R66W - Anderson 14-34 (Exist) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft		
Survey Program: 7800-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)			
10,400.0	7,208.1	7,208.1	7,208.1	65.4	144.2	-91.72	-4,207.9	127.9	998.9	789.5	209.38	4.771		
10,500.0	7,207.0	7,207.0	7,207.0	67.2	144.1	-91.53	-4,207.9	127.9	905.5	694.3	211.24	4.287		
10,600.0	7,205.9	7,205.9	7,205.9	69.1	144.1	-91.35	-4,207.9	127.9	813.6	600.5	213.11	3.818		
10,700.0	7,204.9	7,204.9	7,204.9	71.0	144.1	-91.17	-4,207.9	127.9	724.0	509.0	214.97	3.368		
10,800.0	7,203.8	7,203.8	7,203.8	72.8	144.1	-90.99	-4,207.9	127.9	637.3	420.5	216.84	2.939		
10,900.0	7,202.7	7,202.7	7,202.7	74.7	144.1	-90.80	-4,207.9	127.9	555.2	336.5	218.70	2.539		
11,000.0	7,201.6	7,201.6	7,201.6	76.6	144.0	-90.62	-4,207.9	127.9	480.0	259.4	220.57	2.176		
11,100.0	7,200.5	7,200.5	7,200.5	78.5	144.0	-90.44	-4,207.9	127.9	415.3	192.8	222.44	1.867		
11,200.0	7,199.5	7,199.5	7,199.5	80.4	144.0	-90.26	-4,207.9	127.9	366.8	142.5	224.30	1.635		
11,300.0	7,198.4	7,198.4	7,198.4	82.3	144.0	-90.07	-4,207.9	127.9	341.5	115.3	226.17	1.510		
11,339.6	7,197.9	7,197.9	7,197.9	83.0	144.0	-90.00	-4,207.9	127.9	339.2	112.3	226.91	1.495	Level 3, CC, ES, SF	
11,400.0	7,197.3	7,197.3	7,197.3	84.1	143.9	-89.89	-4,207.9	127.9	344.5	116.5	228.04	1.511		
11,500.0	7,196.2	7,196.2	7,196.2	86.0	143.9	-89.71	-4,207.9	127.9	375.2	145.3	229.90	1.632		
11,600.0	7,195.1	7,195.1	7,195.1	87.9	143.9	-89.52	-4,207.9	127.9	427.6	195.8	231.77	1.845		
11,704.0	7,194.0	7,194.0	7,194.0	89.5	143.9	-89.33	-4,207.9	127.9	497.8	264.4	233.33	2.133		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34E-403 - Wellbore #1 - Plan #1 (4-25-13)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-89.98	0.0	-30.6	30.6				
100.0	100.0	100.0	100.0	0.1	0.1	-89.98	0.0	-30.6	30.6	30.4	0.22	136.029	CC, ES
200.0	200.0	200.0	200.0	0.3	0.3	-89.98	0.0	-30.6	30.6	29.9	0.67	45.343	
300.0	300.0	300.0	300.0	0.6	0.6	-89.98	0.0	-30.6	30.6	29.5	1.12	27.206	
400.0	400.0	400.0	400.0	0.8	0.8	-89.98	0.0	-30.6	30.6	29.0	1.57	19.433	
500.0	500.0	499.0	499.0	1.0	1.0	-88.86	0.6	-32.2	32.2	30.2	2.01	15.980	
600.0	600.0	597.7	597.6	1.2	1.2	-86.07	2.5	-36.9	37.1	34.6	2.46	15.085	
700.0	700.0	696.0	695.5	1.5	1.5	-82.78	5.7	-44.8	45.3	42.4	2.91	15.573	
800.0	800.0	794.9	793.7	1.7	1.7	-79.93	9.8	-55.1	56.3	52.9	3.38	16.658	
900.0	900.0	894.2	892.4	1.9	2.0	-77.97	14.0	-65.6	67.5	63.6	3.85	17.529	
1,000.0	1,000.0	993.6	991.1	2.1	2.3	-76.57	18.2	-76.1	78.8	74.4	4.33	18.191	
1,100.0	1,100.0	1,092.9	1,089.8	2.4	2.6	-75.52	22.4	-86.6	90.1	85.2	4.81	18.709	
1,200.0	1,200.0	1,192.3	1,188.5	2.6	2.9	-74.70	26.6	-97.2	101.4	96.1	5.30	19.121	
1,300.0	1,300.0	1,291.6	1,287.2	2.8	3.2	-74.05	30.8	-107.7	112.7	106.9	5.79	19.458	
1,400.0	1,400.0	1,391.0	1,385.9	3.0	3.5	-73.52	35.0	-118.2	124.1	117.8	6.29	19.737	
1,500.0	1,500.0	1,490.3	1,484.6	3.3	3.8	-73.07	39.2	-128.7	135.4	128.6	6.78	19.971	
1,600.0	1,600.0	1,589.6	1,583.3	3.5	4.1	-72.70	43.4	-139.2	146.8	139.5	7.28	20.171	
1,700.0	1,700.0	1,689.0	1,682.0	3.7	4.4	-72.38	47.6	-149.8	158.2	150.4	7.77	20.343	
1,800.0	1,800.0	1,788.3	1,780.7	3.9	4.7	-72.10	51.8	-160.3	169.5	161.3	8.27	20.493	
1,900.0	1,900.0	1,887.7	1,879.4	4.2	5.0	-71.86	56.0	-170.8	180.9	172.1	8.77	20.624	
2,000.0	2,000.0	1,987.0	1,978.1	4.4	5.3	-71.64	60.2	-181.3	192.3	183.0	9.27	20.741	
2,100.0	2,100.0	2,086.4	2,076.8	4.6	5.6	-71.45	64.4	-191.8	203.7	193.9	9.77	20.844	
2,200.0	2,200.0	2,185.7	2,175.5	4.8	5.9	-71.28	68.6	-202.4	215.1	204.8	10.27	20.937	
2,300.0	2,300.0	2,285.1	2,274.2	5.1	6.2	-71.13	72.8	-212.9	226.5	215.7	10.77	21.021	
2,400.0	2,400.0	2,384.4	2,372.9	5.3	6.5	-70.99	77.0	-223.4	237.8	226.6	11.27	21.096	
2,500.0	2,500.0	2,483.8	2,471.6	5.5	6.8	-70.87	81.2	-233.9	249.2	237.5	11.78	21.165	
2,600.0	2,600.0	2,583.1	2,570.3	5.7	7.1	-70.75	85.4	-244.5	260.6	248.3	12.28	21.228	
2,700.0	2,700.0	2,682.5	2,669.0	6.0	7.4	-70.65	89.6	-255.0	272.0	259.2	12.78	21.286	
2,800.0	2,800.0	2,781.8	2,767.7	6.2	7.7	-70.55	93.8	-265.5	283.4	270.1	13.28	21.339	
2,900.0	2,900.0	2,881.2	2,866.4	6.4	8.0	-70.46	98.0	-276.0	294.8	281.0	13.78	21.388	
3,000.0	3,000.0	2,980.5	2,965.1	6.6	8.4	-70.38	102.2	-286.5	306.2	291.9	14.29	21.433	
3,100.0	3,100.0	3,080.0	3,064.0	6.9	8.7	-24.21	106.4	-297.1	316.0	302.1	13.87	22.781	
3,200.0	3,199.8	3,179.8	3,163.1	7.1	9.0	-24.46	110.6	-307.6	322.6	308.3	14.32	22.527	
3,300.0	3,299.5	3,279.7	3,262.3	7.3	9.3	-24.98	114.8	-318.2	326.1	311.4	14.76	22.091	
3,396.6	3,395.4	3,376.2	3,358.2	7.5	9.6	-25.74	118.9	-328.4	326.5	311.4	15.18	21.512	
3,400.0	3,398.7	3,379.6	3,361.6	7.5	9.6	-25.78	119.0	-328.8	326.5	311.3	15.19	21.488	
3,500.0	3,497.7	3,479.4	3,460.8	7.8	9.9	-26.70	123.2	-339.4	325.5	309.8	15.65	20.792	
3,600.0	3,596.8	3,579.3	3,560.0	8.0	10.2	-27.64	127.5	-349.9	324.6	308.4	16.12	20.136	
3,700.0	3,695.8	3,679.1	3,659.2	8.3	10.5	-28.57	131.7	-360.5	323.7	307.1	16.59	19.515	
3,800.0	3,794.9	3,779.0	3,758.4	8.5	10.8	-29.52	135.9	-371.1	323.0	305.9	17.06	18.929	
3,900.0	3,893.9	3,878.8	3,857.6	8.8	11.1	-30.46	140.1	-381.7	322.3	304.7	17.54	18.373	
4,000.0	3,993.0	3,978.7	3,956.8	9.1	11.4	-31.41	144.3	-392.2	321.7	303.7	18.03	17.847	
4,100.0	4,092.0	4,078.6	4,056.0	9.3	11.8	-32.37	148.6	-402.8	321.2	302.7	18.52	17.348	
4,200.0	4,191.0	4,178.4	4,155.2	9.6	12.1	-33.32	152.8	-413.4	320.8	301.8	19.01	16.874	
4,300.0	4,290.1	4,278.3	4,254.4	9.9	12.4	-34.28	157.0	-424.0	320.5	301.0	19.51	16.424	
4,400.0	4,389.1	4,378.1	4,353.6	10.2	12.7	-35.24	161.2	-434.5	320.3	300.3	20.02	15.996	
4,500.0	4,488.2	4,478.0	4,452.8	10.5	13.0	-36.20	165.4	-445.1	320.1	299.6	20.54	15.589	
4,596.4	4,583.6	4,574.2	4,548.4	10.8	13.3	-37.13	169.5	-455.3	320.1	299.1	21.04	15.216	
4,600.0	4,587.2	4,577.8	4,552.0	10.8	13.3	-37.16	169.7	-455.7	320.1	299.0	21.06	15.202	
4,700.0	4,686.3	4,677.7	4,651.2	11.1	13.6	-38.13	173.9	-466.3	320.2	298.6	21.58	14.833	
4,800.0	4,785.3	4,777.5	4,750.4	11.4	13.9	-39.09	178.1	-476.8	320.3	298.2	22.12	14.482	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34E-403 - Wellbore #1 - Plan #1 (4-25-13)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,884.3	4,877.4	4,849.6	11.7	14.2	-40.05	182.3	-487.4	320.5	297.9	22.66	14.147	
5,000.0	4,983.4	4,977.2	4,948.8	12.0	14.5	-41.01	186.5	-498.0	320.8	297.6	23.20	13.827	
5,100.0	5,082.4	5,077.1	5,048.0	12.3	14.9	-41.96	190.8	-508.6	321.2	297.5	23.76	13.523	
5,122.4	5,104.6	5,099.5	5,070.3	12.3	14.9	-42.18	191.7	-510.9	321.4	297.5	23.88	13.456	
5,200.0	5,181.6	5,177.0	5,147.3	12.5	15.2	-42.80	195.0	-519.1	322.5	298.2	24.30	13.275	
5,300.0	5,281.2	5,285.6	5,255.3	12.8	15.5	-43.36	199.1	-529.5	325.3	300.6	24.77	13.133	
5,400.0	5,381.0	5,397.4	5,366.9	13.0	15.7	-43.71	201.9	-536.4	327.2	302.0	25.18	12.995	
5,500.0	5,481.0	5,509.3	5,478.7	13.1	15.9	-43.85	203.0	-539.2	328.0	302.4	25.53	12.845	
5,519.0	5,500.0	5,530.6	5,500.0	13.2	15.9	-90.00	203.0	-539.3	328.0	302.4	25.60	12.814	
5,600.0	5,581.0	5,611.6	5,581.0	13.3	16.0	-90.00	203.0	-539.3	328.0	302.1	25.90	12.664	
5,700.0	5,681.0	5,711.6	5,681.0	13.5	16.2	-90.00	203.0	-539.3	328.0	301.7	26.30	12.469	
5,800.0	5,781.0	5,811.6	5,781.0	13.7	16.3	-90.00	203.0	-539.3	328.0	301.3	26.71	12.279	
5,900.0	5,881.0	5,911.6	5,881.0	13.9	16.5	-90.00	203.0	-539.3	328.0	300.9	27.12	12.095	
6,000.0	5,981.0	6,011.6	5,981.0	14.1	16.7	-90.00	203.0	-539.3	328.0	300.5	27.53	11.915	
6,100.0	6,081.0	6,111.6	6,081.0	14.3	16.8	-90.00	203.0	-539.3	328.0	300.1	27.94	11.740	
6,200.0	6,181.0	6,211.6	6,181.0	14.5	17.0	-90.00	203.0	-539.3	328.0	299.6	28.35	11.570	
6,300.0	6,281.0	6,311.6	6,281.0	14.8	17.2	-90.00	203.0	-539.3	328.0	299.2	28.76	11.404	
6,400.0	6,381.0	6,411.6	6,381.0	15.0	17.4	-90.00	203.0	-539.3	328.0	298.8	29.18	11.242	
6,492.5	6,473.4	6,504.0	6,473.4	15.2	17.5	-90.00	203.0	-539.3	328.0	298.4	29.56	11.096	
6,492.5	6,473.4	6,504.0	6,473.4	15.2	17.5	-90.00	203.0	-539.3	328.0	298.4	29.56	11.096	
6,500.0	6,481.0	6,511.6	6,481.0	15.2	17.5	90.01	203.0	-539.3	328.0	298.4	29.59	11.085	
6,504.8	6,485.8	6,516.4	6,485.8	15.2	17.5	90.02	203.0	-539.3	328.0	298.4	29.60	11.079	
6,550.0	6,530.9	6,561.5	6,530.9	15.2	17.6	90.38	203.0	-539.3	328.0	298.3	29.75	11.027	
6,600.0	6,580.6	6,611.2	6,580.6	15.3	17.7	91.31	203.0	-539.3	328.1	298.2	29.86	10.987	
6,650.0	6,629.8	6,660.6	6,630.0	15.4	17.8	92.76	203.0	-539.3	328.4	298.5	29.94	10.970	
6,700.0	6,678.4	6,711.1	6,680.4	15.4	17.9	94.41	200.7	-539.3	329.0	299.0	29.98	10.974	
6,750.0	6,726.1	6,762.2	6,731.2	15.4	17.9	96.05	195.1	-539.3	329.9	299.9	30.00	10.995	
6,800.0	6,772.7	6,814.0	6,782.2	15.5	18.0	97.66	185.9	-539.3	331.1	301.0	30.02	11.029	
6,850.0	6,818.0	6,866.5	6,833.1	15.5	18.0	99.24	173.0	-539.3	332.5	302.4	30.02	11.074	
6,900.0	6,861.9	6,919.8	6,883.7	15.5	18.1	100.78	156.5	-539.3	334.1	304.1	30.02	11.127	
6,950.0	6,904.1	6,973.8	6,933.7	15.6	18.1	102.27	136.2	-539.3	335.9	305.9	30.03	11.186	
7,000.0	6,944.4	7,028.5	6,982.8	15.6	18.1	103.70	112.0	-539.3	337.9	307.8	30.04	11.247	
7,050.0	6,982.8	7,084.0	7,030.7	15.6	18.2	105.07	84.0	-539.3	340.0	309.9	30.07	11.307	
7,100.0	7,018.9	7,140.3	7,077.1	15.7	18.2	106.36	52.1	-539.3	342.2	312.1	30.12	11.360	
7,150.0	7,052.7	7,197.3	7,121.5	15.7	18.2	107.57	16.4	-539.3	344.4	314.2	30.20	11.404	
7,200.0	7,084.1	7,255.0	7,163.6	15.8	18.3	108.70	-23.0	-539.3	346.6	316.3	30.32	11.432	
7,250.0	7,112.8	7,313.4	7,203.1	15.9	18.3	109.74	-65.9	-539.3	348.8	318.3	30.50	11.437	
7,300.0	7,138.7	7,372.4	7,239.6	16.1	18.4	110.68	-112.3	-539.3	350.9	320.1	30.73	11.417	
7,350.0	7,161.9	7,432.1	7,272.7	16.4	18.6	111.52	-162.0	-539.3	352.8	321.8	31.04	11.368	
7,400.0	7,182.1	7,492.3	7,302.1	16.7	18.7	112.25	-214.5	-539.3	354.6	323.2	31.42	11.286	
7,450.0	7,199.2	7,553.0	7,327.5	17.1	19.0	112.87	-269.6	-539.3	356.1	324.2	31.89	11.169	
7,500.0	7,213.2	7,614.1	7,348.5	17.5	19.3	113.38	-327.0	-539.3	357.4	325.0	32.45	11.014	
7,550.0	7,224.1	7,675.6	7,364.9	18.0	19.7	113.78	-386.2	-539.3	358.5	325.4	33.11	10.826	
7,600.0	7,231.8	7,737.3	7,376.6	18.4	20.2	114.06	-446.8	-539.3	359.2	325.4	33.87	10.606	
7,650.0	7,236.2	7,793.9	7,383.3	19.0	20.7	114.25	-503.0	-539.3	359.8	325.2	34.67	10.380	
7,700.7	7,237.3	7,844.5	7,388.6	19.5	21.1	114.73	-553.3	-539.3	361.6	326.2	35.40	10.214	
7,800.0	7,236.2	7,958.9	7,395.0	20.7	22.4	115.82	-667.5	-539.3	364.4	327.0	37.38	9.747	
7,900.0	7,235.2	8,060.6	7,394.6	22.0	23.6	115.93	-769.2	-539.3	364.7	325.0	39.70	9.186	
8,000.0	7,234.1	8,160.6	7,394.2	23.4	24.9	116.02	-869.2	-539.3	365.0	322.8	42.16	8.657	
8,100.0	7,233.0	8,260.6	7,393.7	24.9	26.3	116.11	-969.2	-539.3	365.3	320.5	44.75	8.162	
8,200.0	7,231.9	8,360.6	7,393.3	26.4	27.7	116.20	-1,069.2	-539.3	365.6	318.1	47.46	7.703	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34E-403 - Wellbore #1 - Plan #1 (4-25-13)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,300.0	7,230.8	8,460.5	7,392.9	27.9	29.2	116.29	-1,169.1	-539.3	365.8	315.6	50.26	7.279	
8,400.0	7,229.8	8,560.5	7,392.4	29.5	30.8	116.38	-1,269.1	-539.3	366.1	313.0	53.13	6.891	
8,500.0	7,228.7	8,660.5	7,392.0	31.2	32.3	116.47	-1,369.1	-539.3	366.4	310.3	56.07	6.535	
8,600.0	7,227.6	8,760.5	7,391.6	32.9	34.0	116.56	-1,469.1	-539.3	366.7	307.6	59.07	6.208	
8,700.0	7,226.5	8,860.5	7,391.1	34.6	35.6	116.65	-1,569.1	-539.3	367.0	304.9	62.11	5.909	
8,800.0	7,225.4	8,960.5	7,390.7	36.3	37.3	116.74	-1,669.1	-539.3	367.3	302.1	65.19	5.634	
8,900.0	7,224.3	9,060.5	7,390.2	38.0	39.0	116.83	-1,769.1	-539.3	367.6	299.3	68.30	5.382	
9,000.0	7,223.3	9,160.5	7,389.8	39.8	40.7	116.92	-1,869.1	-539.3	367.9	296.4	71.44	5.150	
9,100.0	7,222.2	9,260.5	7,389.4	41.5	42.4	117.01	-1,969.1	-539.3	368.2	293.6	74.60	4.935	
9,200.0	7,221.1	9,360.5	7,388.9	43.3	44.2	117.10	-2,069.1	-539.3	368.5	290.7	77.78	4.737	
9,300.0	7,220.0	9,460.5	7,388.5	45.1	46.0	117.19	-2,169.1	-539.3	368.8	287.8	80.98	4.554	
9,400.0	7,218.9	9,560.5	7,388.1	46.9	47.7	117.28	-2,269.1	-539.3	369.1	284.9	84.19	4.383	
9,500.0	7,217.8	9,660.5	7,387.6	48.7	49.5	117.37	-2,369.1	-539.3	369.4	281.9	87.42	4.225	
9,600.0	7,216.8	9,760.5	7,387.2	50.6	51.3	117.45	-2,469.1	-539.3	369.7	279.0	90.66	4.078	
9,700.0	7,215.7	9,860.5	7,386.8	52.4	53.1	117.54	-2,569.1	-539.3	369.9	276.0	93.90	3.940	
9,800.0	7,214.6	9,960.5	7,386.3	54.2	54.9	117.63	-2,669.1	-539.3	370.2	273.1	97.15	3.811	
9,900.0	7,213.5	10,060.5	7,385.9	56.1	56.8	117.72	-2,769.1	-539.3	370.6	270.1	100.41	3.690	
10,000.0	7,212.4	10,160.5	7,385.4	57.9	58.6	117.81	-2,869.1	-539.3	370.9	267.2	103.68	3.577	
10,100.0	7,211.4	10,260.5	7,385.0	59.8	60.4	117.90	-2,969.1	-539.3	371.2	264.2	106.95	3.470	
10,200.0	7,210.3	10,360.5	7,384.6	61.6	62.3	117.98	-3,069.1	-539.3	371.5	261.2	110.22	3.370	
10,300.0	7,209.2	10,460.5	7,384.1	63.5	64.1	118.07	-3,169.1	-539.3	371.8	258.3	113.49	3.276	
10,400.0	7,208.1	10,560.5	7,383.7	65.4	65.9	118.16	-3,269.1	-539.3	372.1	255.3	116.77	3.186	
10,500.0	7,207.0	10,660.5	7,383.3	67.2	67.8	118.25	-3,369.1	-539.3	372.4	252.3	120.05	3.102	
10,600.0	7,205.9	10,760.5	7,382.8	69.1	69.7	118.33	-3,469.1	-539.3	372.7	249.4	123.33	3.022	
10,700.0	7,204.9	10,860.5	7,382.4	71.0	71.5	118.42	-3,569.1	-539.3	373.0	246.4	126.61	2.946	
10,800.0	7,203.8	10,960.5	7,382.0	72.8	73.4	118.51	-3,669.1	-539.3	373.3	243.4	129.89	2.874	
10,900.0	7,202.7	11,060.5	7,381.5	74.7	75.2	118.60	-3,769.1	-539.3	373.6	240.4	133.17	2.806	
11,000.0	7,201.6	11,160.5	7,381.1	76.6	77.1	118.68	-3,869.1	-539.3	373.9	237.5	136.45	2.740	
11,100.0	7,200.5	11,260.5	7,380.6	78.5	79.0	118.77	-3,969.1	-539.3	374.2	234.5	139.73	2.678	
11,200.0	7,199.5	11,360.5	7,380.2	80.4	80.9	118.86	-4,069.1	-539.3	374.5	231.5	143.00	2.619	
11,300.0	7,198.4	11,460.5	7,379.8	82.3	82.7	118.94	-4,169.1	-539.3	374.9	228.6	146.28	2.563	
11,400.0	7,197.3	11,560.5	7,379.3	84.1	84.6	119.03	-4,269.1	-539.3	375.2	225.6	149.55	2.509	
11,500.0	7,196.2	11,660.5	7,378.9	86.0	86.5	119.11	-4,369.1	-539.3	375.5	222.7	152.83	2.457	
11,600.0	7,195.1	11,760.5	7,378.5	87.9	88.4	119.20	-4,469.0	-539.3	375.8	219.7	156.10	2.407	
11,704.0	7,194.0	11,864.4	7,378.0	89.5	90.3	119.29	-4,573.0	-539.3	376.1	217.0	159.14	2.364 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-203 - Wellbore #1 - Plan #1 (4-25-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	58.4	58.4					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	58.4	58.4	58.1	0.22	259.693		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	58.4	58.4	57.7	0.67	86.564 CC, ES		
300.0	300.0	298.1	298.1	0.6	0.6	89.40	0.6	59.9	60.0	58.8	1.11	53.845		
400.0	400.0	396.0	395.8	0.8	0.8	87.76	2.5	64.6	64.8	63.2	1.56	41.535		
500.0	500.0	493.4	492.9	1.0	1.0	85.52	5.7	72.3	72.8	70.8	2.02	35.993		
600.0	600.0	592.5	591.4	1.2	1.3	83.29	9.7	82.1	83.1	80.6	2.51	33.138		
700.0	700.0	691.9	690.3	1.5	1.6	81.53	13.7	91.9	93.4	90.4	3.00	31.186		
800.0	800.0	791.4	789.1	1.7	1.9	80.13	17.7	101.8	103.9	100.4	3.49	29.782		
900.0	900.0	890.8	888.0	1.9	2.1	78.99	21.7	111.6	114.3	110.4	3.98	28.730		
1,000.0	1,000.0	990.2	986.8	2.1	2.4	78.04	25.7	121.5	124.9	120.4	4.47	27.915		
1,100.0	1,100.0	1,089.6	1,085.7	2.4	2.7	77.23	29.8	131.3	135.4	130.4	4.97	27.266		
1,200.0	1,200.0	1,189.1	1,184.6	2.6	3.0	76.54	33.8	141.2	146.0	140.5	5.46	26.738		
1,300.0	1,300.0	1,288.5	1,283.4	2.8	3.3	75.95	37.8	151.0	156.6	150.6	5.95	26.301		
1,400.0	1,400.0	1,387.9	1,382.3	3.0	3.6	75.43	41.8	160.9	167.2	160.7	6.45	25.933		
1,500.0	1,500.0	1,487.3	1,481.1	3.3	3.9	74.97	45.8	170.7	177.8	170.9	6.94	25.620		
1,600.0	1,600.0	1,586.8	1,580.0	3.5	4.2	74.57	49.9	180.6	188.4	181.0	7.43	25.350		
1,700.0	1,700.0	1,686.2	1,678.8	3.7	4.5	74.20	53.9	190.4	199.0	191.1	7.93	25.115		
1,800.0	1,800.0	1,785.6	1,777.7	3.9	4.8	73.88	57.9	200.3	209.7	201.3	8.42	24.908		
1,900.0	1,900.0	1,885.0	1,876.5	4.2	5.1	73.58	61.9	210.2	220.3	211.4	8.91	24.725		
2,000.0	2,000.0	1,984.5	1,975.4	4.4	5.4	73.32	65.9	220.0	231.0	221.6	9.40	24.562		
2,100.0	2,100.0	2,083.9	2,074.2	4.6	5.7	73.07	70.0	229.9	241.6	231.7	9.90	24.416		
2,200.0	2,200.0	2,183.3	2,173.1	4.8	6.0	72.85	74.0	239.7	252.3	241.9	10.39	24.284		
2,300.0	2,300.0	2,282.7	2,272.0	5.1	6.3	72.65	78.0	249.6	263.0	252.1	10.88	24.165		
2,400.0	2,400.0	2,382.2	2,370.8	5.3	6.6	72.46	82.0	259.4	273.6	262.3	11.37	24.056		
2,500.0	2,500.0	2,481.6	2,469.7	5.5	6.9	72.28	86.0	269.3	284.3	272.4	11.87	23.957		
2,600.0	2,600.0	2,581.0	2,568.5	5.7	7.2	72.12	90.1	279.1	295.0	282.6	12.36	23.865		
2,700.0	2,700.0	2,680.4	2,667.4	6.0	7.5	71.97	94.1	289.0	305.7	292.8	12.85	23.781		
2,800.0	2,800.0	2,779.9	2,766.2	6.2	7.8	71.83	98.1	298.8	316.3	303.0	13.35	23.704		
2,900.0	2,900.0	2,879.3	2,865.1	6.4	8.1	71.70	102.1	308.7	327.0	313.2	13.84	23.632		
3,000.0	3,000.0	2,978.7	2,963.9	6.6	8.4	71.57	106.1	318.5	337.7	323.4	14.33	23.565		
3,100.0	3,100.0	3,078.0	3,062.7	6.9	8.7	117.65	110.1	328.4	349.2	335.3	13.89	25.141		
3,200.0	3,199.8	3,177.1	3,161.2	7.1	9.0	118.04	114.1	338.2	362.3	348.0	14.32	25.294		
3,300.0	3,299.5	3,275.8	3,259.3	7.3	9.3	118.83	118.1	348.0	377.1	362.4	14.75	25.559		
3,396.6	3,395.4	3,370.6	3,353.6	7.5	9.6	119.90	122.0	357.4	393.2	378.0	15.17	25.920		
3,400.0	3,398.7	3,373.9	3,356.9	7.5	9.6	119.95	122.1	357.7	393.8	378.6	15.18	25.933		
3,500.0	3,497.7	3,471.8	3,454.2	7.8	9.9	121.44	126.1	367.4	411.5	395.8	15.64	26.303		
3,600.0	3,596.8	3,569.7	3,551.5	8.0	10.2	122.80	130.0	377.1	429.4	413.3	16.11	26.654		
3,700.0	3,695.8	3,667.5	3,648.8	8.3	10.5	124.06	134.0	386.8	447.6	431.0	16.59	26.989		
3,800.0	3,794.9	3,765.4	3,746.1	8.5	10.7	125.21	137.9	396.5	466.0	448.9	17.06	27.308		
3,900.0	3,893.9	3,863.3	3,843.4	8.8	11.0	126.28	141.9	406.2	484.5	467.0	17.55	27.612		
4,000.0	3,993.0	3,961.2	3,940.7	9.1	11.3	127.28	145.8	415.9	503.2	485.2	18.04	27.901		
4,100.0	4,092.0	4,059.0	4,038.0	9.3	11.6	128.20	149.8	425.6	522.1	503.5	18.53	28.177		
4,200.0	4,191.0	4,156.9	4,135.4	9.6	11.9	129.05	153.8	435.3	541.0	522.0	19.02	28.442		
4,300.0	4,290.1	4,254.8	4,232.7	9.9	12.2	129.85	157.7	445.0	560.1	540.6	19.52	28.694		
4,400.0	4,389.1	4,352.7	4,330.0	10.2	12.5	130.60	161.7	454.7	579.2	559.2	20.02	28.936		
4,500.0	4,488.2	4,450.5	4,427.3	10.5	12.8	131.30	165.6	464.4	598.5	578.0	20.52	29.167		
4,600.0	4,587.2	4,548.4	4,524.6	10.8	13.1	131.96	169.6	474.1	617.8	596.8	21.02	29.389		
4,700.0	4,686.3	4,646.3	4,621.9	11.1	13.4	132.57	173.5	483.8	637.2	615.7	21.53	29.602		
4,800.0	4,785.3	4,744.2	4,719.2	11.4	13.7	133.15	177.5	493.5	656.7	634.7	22.03	29.806		
4,900.0	4,884.3	4,842.0	4,816.5	11.7	14.0	133.70	181.5	503.2	676.2	653.7	22.54	30.003		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-203 - Wellbore #1 - Plan #1 (4-25-13)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,983.4	4,939.9	4,913.9	12.0	14.3	134.21	185.4	512.9	695.8	672.8	23.05	30.192	
5,100.0	5,082.4	5,037.8	5,011.2	12.3	14.6	134.70	189.4	522.6	715.5	691.9	23.56	30.373	
5,122.4	5,104.6	5,059.7	5,033.0	12.3	14.6	134.81	190.3	524.8	719.9	696.2	23.67	30.413	
5,200.0	5,181.6	5,135.8	5,108.7	12.5	14.9	135.31	193.3	532.3	734.4	710.3	24.09	30.482	
5,300.0	5,281.2	5,238.7	5,210.9	12.8	15.2	135.75	197.5	542.5	751.0	726.4	24.60	30.527	
5,400.0	5,381.0	5,370.2	5,342.1	13.0	15.4	136.03	201.4	552.0	762.5	737.4	25.09	30.385	
5,500.0	5,481.0	5,502.9	5,474.7	13.1	15.7	136.14	203.0	555.9	767.2	741.6	25.53	30.052	
5,519.0	5,500.0	5,528.3	5,500.0	13.2	15.7	90.00	203.0	556.0	767.3	741.7	25.61	29.964	
5,600.0	5,581.0	5,609.2	5,581.0	13.3	15.8	90.00	203.0	556.0	767.3	741.4	25.91	29.614	
5,700.0	5,681.0	5,709.2	5,681.0	13.5	16.0	90.00	203.0	556.0	767.3	741.0	26.31	29.160	
5,800.0	5,781.0	5,809.2	5,781.0	13.7	16.2	90.00	203.0	556.0	767.3	740.6	26.72	28.717	
5,900.0	5,881.0	5,909.2	5,881.0	13.9	16.3	90.00	203.0	556.0	767.3	740.2	27.12	28.287	
6,000.0	5,981.0	6,009.2	5,981.0	14.1	16.5	90.00	203.0	556.0	767.3	739.7	27.53	27.868	
6,100.0	6,081.0	6,109.2	6,081.0	14.3	16.7	90.00	203.0	556.0	767.3	739.3	27.94	27.460	
6,200.0	6,181.0	6,209.2	6,181.0	14.5	16.8	90.00	203.0	556.0	767.3	738.9	28.35	27.062	
6,300.0	6,281.0	6,309.2	6,281.0	14.8	17.0	90.00	203.0	556.0	767.3	738.5	28.76	26.675	
6,400.0	6,381.0	6,409.2	6,381.0	15.0	17.2	90.00	203.0	556.0	767.3	738.1	29.18	26.298	
6,461.6	6,442.6	6,470.8	6,442.6	15.1	17.3	90.00	203.0	556.0	767.3	737.8	29.43	26.070	
6,492.5	6,473.4	6,501.7	6,473.4	15.2	17.4	90.00	203.0	556.0	767.3	737.7	29.56	25.957	
6,500.0	6,481.0	6,509.2	6,481.0	15.2	17.4	-90.00	203.0	556.0	767.3	737.7	29.59	25.933	
6,550.0	6,530.9	6,559.2	6,530.9	15.2	17.4	-90.00	200.8	556.0	767.3	737.5	29.75	25.794	
6,600.0	6,580.6	6,609.2	6,580.6	15.3	17.5	-90.00	195.4	556.0	767.3	737.4	29.88	25.683	
6,650.0	6,629.8	6,659.2	6,629.8	15.4	17.5	-90.00	186.8	556.0	767.3	737.3	29.98	25.594	
6,700.0	6,678.4	6,709.2	6,678.4	15.4	17.6	-90.00	175.0	556.0	767.3	737.2	30.06	25.522	
6,750.0	6,726.1	6,759.2	6,726.1	15.4	17.6	-90.00	160.0	556.0	767.3	737.1	30.13	25.464	
6,800.0	6,772.7	6,809.2	6,772.7	15.5	17.7	-90.00	141.9	556.0	767.3	737.1	30.19	25.413	
6,850.0	6,818.0	6,859.2	6,818.0	15.5	17.7	-90.00	120.8	556.0	767.3	737.0	30.25	25.363	
6,900.0	6,861.9	6,909.2	6,861.9	15.5	17.7	-90.00	96.8	556.0	767.3	737.0	30.32	25.307	
6,950.0	6,904.1	6,959.2	6,904.1	15.6	17.7	-90.00	70.0	556.0	767.3	736.9	30.40	25.236	
7,000.0	6,944.4	7,009.2	6,944.4	15.6	17.8	-90.00	40.5	556.0	767.3	736.8	30.52	25.144	
7,050.0	6,982.8	7,059.2	6,982.7	15.6	17.8	-90.00	8.4	556.0	767.3	736.6	30.67	25.021	
7,100.0	7,018.9	7,109.2	7,018.9	15.7	17.8	-90.00	-26.2	556.0	767.3	736.4	30.86	24.861	
7,150.0	7,052.7	7,159.2	7,052.7	15.7	17.9	-90.00	-63.0	556.0	767.3	736.2	31.12	24.657	
7,200.0	7,084.1	7,209.2	7,084.0	15.8	18.0	-90.00	-101.9	556.0	767.3	735.8	31.44	24.405	
7,250.0	7,112.8	7,259.2	7,112.7	15.9	18.1	-89.99	-142.8	556.0	767.3	735.4	31.83	24.103	
7,300.0	7,138.7	7,309.2	7,138.7	16.1	18.3	-89.99	-185.6	556.0	767.3	735.0	32.31	23.748	
7,350.0	7,161.9	7,359.2	7,161.8	16.4	18.4	-89.99	-229.9	556.0	767.3	734.4	32.87	23.344	
7,400.0	7,182.1	7,409.2	7,182.0	16.7	18.7	-89.99	-275.6	556.0	767.3	733.8	33.51	22.895	
7,450.0	7,199.2	7,459.2	7,199.1	17.1	19.0	-89.99	-322.6	556.0	767.3	733.0	34.25	22.406	
7,500.0	7,213.2	7,509.1	7,213.2	17.5	19.3	-89.99	-370.5	556.0	767.3	732.2	35.06	21.884	
7,550.0	7,224.1	7,559.1	7,224.0	18.0	19.7	-89.99	-419.3	556.0	767.3	731.3	35.96	21.338	
7,600.0	7,231.8	7,609.1	7,231.7	18.4	20.1	-89.99	-468.7	556.0	767.3	730.4	36.93	20.777	
7,650.0	7,236.2	7,659.1	7,236.1	19.0	20.6	-89.99	-518.5	556.0	767.3	729.3	37.97	20.208	
7,700.7	7,237.3	7,709.9	7,237.2	19.5	21.1	-89.99	-569.2	556.0	767.3	728.2	39.08	19.631	
7,712.3	7,237.2	7,721.4	7,237.1	19.7	21.2	-89.99	-580.8	556.0	767.3	727.9	39.36	19.494	
7,800.0	7,236.2	7,809.1	7,236.2	20.7	22.2	-89.99	-668.5	556.0	767.3	725.8	41.45	18.511	
7,900.0	7,235.2	7,909.1	7,235.1	22.0	23.4	-89.99	-768.5	556.0	767.3	723.2	44.04	17.424	
8,000.0	7,234.1	8,009.1	7,234.0	23.4	24.7	-89.99	-868.5	556.0	767.3	720.5	46.80	16.396	
8,100.0	7,233.0	8,109.1	7,232.9	24.9	26.1	-89.99	-968.5	556.0	767.3	717.6	49.70	15.438	
8,200.0	7,231.9	8,209.1	7,231.8	26.4	27.6	-89.99	-1,068.4	556.0	767.3	714.6	52.73	14.552	
8,300.0	7,230.8	8,309.1	7,230.8	27.9	29.1	-89.99	-1,168.4	556.0	767.3	711.4	55.85	13.738	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-203 - Wellbore #1 - Plan #1 (4-25-13)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
8,400.0	7,229.8	8,409.1	7,229.7	29.5	30.6	-89.99	-1,268.4	556.0	767.3	708.2	59.06	12.991	
8,500.0	7,228.7	8,509.1	7,228.6	31.2	32.2	-89.99	-1,368.4	556.0	767.3	704.9	62.35	12.306	
8,600.0	7,227.6	8,609.1	7,227.5	32.9	33.8	-89.99	-1,468.4	556.0	767.3	701.6	65.69	11.680	
8,700.0	7,226.5	8,709.1	7,226.4	34.6	35.5	-89.99	-1,568.4	556.0	767.3	698.2	69.09	11.105	
8,800.0	7,225.4	8,809.1	7,225.3	36.3	37.2	-89.99	-1,668.4	556.0	767.3	694.7	72.53	10.578	
8,900.0	7,224.3	8,909.1	7,224.3	38.0	38.9	-89.99	-1,768.4	556.0	767.3	691.3	76.01	10.094	
9,000.0	7,223.3	9,009.1	7,223.2	39.8	40.6	-89.99	-1,868.4	556.0	767.3	687.8	79.53	9.648	
9,100.0	7,222.2	9,109.1	7,222.1	41.5	42.3	-89.99	-1,968.4	556.0	767.3	684.2	83.07	9.236	
9,200.0	7,221.1	9,209.1	7,221.0	43.3	44.1	-89.99	-2,068.4	556.0	767.3	680.6	86.64	8.856	
9,300.0	7,220.0	9,309.1	7,219.9	45.1	45.9	-89.99	-2,168.4	556.0	767.3	677.0	90.24	8.503	
9,400.0	7,218.9	9,409.1	7,218.9	46.9	47.6	-89.99	-2,268.4	556.0	767.3	673.4	93.85	8.176	
9,500.0	7,217.8	9,509.1	7,217.8	48.7	49.4	-89.99	-2,368.4	556.0	767.3	669.8	97.48	7.871	
9,600.0	7,216.8	9,609.1	7,216.7	50.6	51.2	-89.99	-2,468.4	556.0	767.3	666.2	101.13	7.587	
9,700.0	7,215.7	9,709.1	7,215.6	52.4	53.0	-89.99	-2,568.4	556.0	767.3	662.5	104.79	7.322	
9,800.0	7,214.6	9,809.1	7,214.5	54.2	54.9	-89.99	-2,668.4	556.0	767.3	658.8	108.46	7.074	
9,900.0	7,213.5	9,909.1	7,213.4	56.1	56.7	-89.99	-2,768.3	556.0	767.3	655.1	112.15	6.841	
10,000.0	7,212.4	10,009.1	7,212.4	57.9	58.5	-89.99	-2,868.3	556.0	767.3	651.4	115.85	6.623	
10,100.0	7,211.4	10,109.1	7,211.3	59.8	60.4	-89.99	-2,968.3	556.0	767.3	647.7	119.55	6.418	
10,200.0	7,210.3	10,209.1	7,210.2	61.6	62.2	-89.99	-3,068.3	556.0	767.3	644.0	123.27	6.224	
10,300.0	7,209.2	10,309.1	7,209.1	63.5	64.0	-89.99	-3,168.3	556.0	767.3	640.3	126.99	6.042	
10,400.0	7,208.1	10,409.1	7,208.0	65.4	65.9	-89.99	-3,268.3	556.0	767.3	636.6	130.72	5.870	
10,500.0	7,207.0	10,509.1	7,206.9	67.2	67.7	-89.99	-3,368.3	556.0	767.3	632.8	134.46	5.706	
10,600.0	7,205.9	10,609.1	7,205.9	69.1	69.6	-89.99	-3,468.3	556.0	767.3	629.1	138.20	5.552	
10,700.0	7,204.9	10,709.1	7,204.8	71.0	71.5	-89.99	-3,568.3	556.0	767.3	625.3	141.95	5.405	
10,800.0	7,203.8	10,809.1	7,203.7	72.8	73.3	-89.99	-3,668.3	556.0	767.3	621.6	145.70	5.266	
10,900.0	7,202.7	10,909.1	7,202.6	74.7	75.2	-89.99	-3,768.3	556.0	767.3	617.8	149.46	5.134	
11,000.0	7,201.6	11,009.1	7,201.5	76.6	77.1	-89.99	-3,868.3	556.0	767.3	614.1	153.22	5.008	
11,100.0	7,200.5	11,109.1	7,200.5	78.5	78.9	-89.99	-3,968.3	556.0	767.3	610.3	156.99	4.887	
11,200.0	7,199.5	11,209.1	7,199.4	80.4	80.8	-89.99	-4,068.3	556.0	767.3	606.5	160.76	4.773	
11,300.0	7,198.4	11,309.1	7,198.3	82.3	82.7	-89.99	-4,168.3	556.0	767.3	602.7	164.53	4.663	
11,400.0	7,197.3	11,409.1	7,197.2	84.1	84.6	-89.99	-4,268.3	556.0	767.3	599.0	168.31	4.559	
11,500.0	7,196.2	11,509.1	7,196.1	86.0	86.5	-89.99	-4,368.3	556.0	767.3	595.2	172.09	4.459	
11,600.0	7,195.1	11,609.1	7,195.0	87.9	88.3	-89.99	-4,468.2	556.0	767.3	591.4	175.88	4.363	
11,661.4	7,194.5	11,670.5	7,194.4	88.9	89.5	-89.99	-4,529.7	556.0	767.3	589.3	177.98	4.311	
11,704.0	7,194.0	11,706.5	7,194.0	89.5	90.2	-89.99	-4,565.6	556.0	767.3	588.0	179.31	4.279 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-443 - Wellbore #1 - Plan #1 (4-25-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.97	89.97	0.0	27.8	27.8				
100.0	100.0	100.0	100.0	0.1	0.1	89.97	89.97	0.0	27.8	27.8	27.6	0.22	123.663	
200.0	200.0	200.0	200.0	0.3	0.3	89.97	89.97	0.0	27.8	27.8	27.1	0.67	41.221	
300.0	300.0	300.0	300.0	0.6	0.6	89.97	89.97	0.0	27.8	27.8	26.7	1.12	24.733	
400.0	400.0	400.0	400.0	0.8	0.8	89.97	89.97	0.0	27.8	27.8	26.2	1.57	17.666	
500.0	500.0	500.0	500.0	1.0	1.0	89.97	89.97	0.0	27.8	27.8	25.8	2.02	13.740	
600.0	600.0	600.0	600.0	1.2	1.2	89.97	89.97	0.0	27.8	27.8	25.3	2.47	11.242	
700.0	700.0	700.0	700.0	1.5	1.5	89.97	89.97	0.0	27.8	27.8	24.9	2.92	9.513	
800.0	800.0	800.0	800.0	1.7	1.7	89.97	89.97	0.0	27.8	27.8	24.4	3.37	8.244	
900.0	900.0	900.0	900.0	1.9	1.9	89.97	89.97	0.0	27.8	27.8	24.0	3.82	7.274	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	89.97	89.97	0.0	27.8	27.8	23.5	4.27	6.509	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	89.97	89.97	0.0	27.8	27.8	23.1	4.72	5.889	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	89.97	89.97	0.0	27.8	27.8	22.6	5.17	5.377	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	89.97	89.97	0.0	27.8	27.8	22.2	5.62	4.947	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	89.97	89.97	0.0	27.8	27.8	21.7	6.07	4.580	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	89.97	89.97	0.0	27.8	27.8	21.3	6.52	4.264 CC, ES	
1,600.0	1,600.0	1,599.3	1,599.3	3.5	3.5	87.56	87.56	1.2	29.0	29.0	22.1	6.96	4.171	
1,700.0	1,700.0	1,698.3	1,698.2	3.7	3.7	81.46	81.46	4.9	32.6	33.0	25.6	7.40	4.462	
1,800.0	1,800.0	1,796.9	1,796.4	3.9	3.9	74.15	74.15	11.0	38.6	40.3	32.4	7.85	5.133	
1,900.0	1,900.0	1,896.3	1,895.2	4.2	4.2	68.17	68.17	18.4	45.9	49.7	41.4	8.30	5.988	
2,000.0	2,000.0	1,995.7	1,994.1	4.4	4.4	64.13	64.13	25.8	53.3	59.5	50.7	8.76	6.793	
2,100.0	2,100.0	2,095.2	2,093.0	4.6	4.6	61.23	61.23	33.3	60.6	69.5	60.3	9.22	7.538	
2,200.0	2,200.0	2,194.6	2,191.9	4.8	4.9	59.07	59.07	40.7	67.9	79.6	69.9	9.68	8.223	
2,300.0	2,300.0	2,294.1	2,290.8	5.1	5.1	57.39	57.39	48.2	75.3	89.8	79.7	10.15	8.851	
2,400.0	2,400.0	2,393.5	2,389.7	5.3	5.4	56.06	56.06	55.6	82.6	100.1	89.5	10.62	9.428	
2,500.0	2,500.0	2,493.0	2,488.6	5.5	5.7	54.98	54.98	63.0	89.9	110.4	99.3	11.09	9.958	
2,600.0	2,600.0	2,592.4	2,587.5	5.7	5.9	54.08	54.08	70.5	97.3	120.8	109.2	11.56	10.447	
2,700.0	2,700.0	2,691.9	2,686.4	6.0	6.2	53.32	53.32	77.9	104.6	131.2	119.1	12.04	10.897	
2,800.0	2,800.0	2,791.3	2,785.3	6.2	6.5	52.68	52.68	85.4	112.0	141.6	129.0	12.51	11.314	
2,900.0	2,900.0	2,890.8	2,884.2	6.4	6.7	52.12	52.12	92.8	119.3	152.0	139.0	12.99	11.700	
3,000.0	3,000.0	2,990.2	2,983.1	6.6	7.0	51.64	51.64	100.2	126.6	162.4	148.9	13.47	12.059	
3,100.0	3,100.0	3,089.6	3,081.9	6.9	7.3	97.72	97.72	107.7	134.0	173.1	159.4	13.68	12.651	
3,200.0	3,199.8	3,188.9	3,180.7	7.1	7.6	98.71	98.71	115.1	141.3	184.2	170.1	14.12	13.044	
3,300.0	3,299.5	3,288.0	3,279.2	7.3	7.9	100.55	100.55	122.5	148.6	196.1	181.5	14.57	13.458	
3,396.6	3,395.4	3,383.3	3,374.0	7.5	8.1	102.98	102.98	129.7	155.6	208.5	193.5	15.01	13.892	
3,400.0	3,398.7	3,386.7	3,377.3	7.5	8.1	103.08	103.08	129.9	155.9	209.0	193.9	15.02	13.908	
3,500.0	3,497.7	3,485.1	3,475.3	7.8	8.4	105.93	105.93	137.3	163.2	222.7	207.2	15.49	14.374	
3,600.0	3,596.8	3,583.6	3,573.2	8.0	8.7	108.44	108.44	144.6	170.4	236.9	220.9	15.97	14.835	
3,700.0	3,695.8	3,682.1	3,671.1	8.3	9.0	110.67	110.67	152.0	177.7	251.5	235.0	16.45	15.286	
3,800.0	3,794.9	3,780.6	3,769.0	8.5	9.2	112.66	112.66	159.4	185.0	266.4	249.5	16.94	15.725	
3,900.0	3,893.9	3,879.0	3,867.0	8.8	9.5	114.43	114.43	166.7	192.2	281.7	264.2	17.44	16.150	
4,000.0	3,993.0	3,977.5	3,964.9	9.1	9.8	116.02	116.02	174.1	199.5	297.1	279.2	17.94	16.560	
4,100.0	4,092.0	4,076.0	4,062.8	9.3	10.1	117.45	117.45	181.5	206.8	312.8	294.4	18.45	16.956	
4,200.0	4,191.0	4,174.5	4,160.8	9.6	10.4	118.75	118.75	188.8	214.0	328.6	309.7	18.96	17.335	
4,300.0	4,290.1	4,279.9	4,265.7	9.9	10.7	120.07	120.07	196.2	221.3	344.0	324.6	19.47	17.670	
4,400.0	4,389.1	4,390.4	4,376.0	10.2	10.9	121.65	121.65	201.1	226.1	356.6	336.6	19.96	17.868	
4,500.0	4,488.2	4,501.2	4,486.8	10.5	11.1	123.48	123.48	203.0	228.0	366.1	345.6	20.43	17.919	
4,600.0	4,587.2	4,601.7	4,587.2	10.8	11.2	125.26	125.26	203.0	228.0	373.9	353.0	20.90	17.895	
4,700.0	4,686.3	4,700.7	4,686.3	11.1	11.4	126.94	126.94	203.0	228.0	382.1	360.7	21.38	17.873	
4,800.0	4,785.3	4,799.8	4,785.3	11.4	11.6	128.55	128.55	203.0	228.0	390.6	368.8	21.86	17.868	
4,900.0	4,884.3	4,898.8	4,884.3	11.7	11.8	130.09	130.09	203.0	228.0	399.4	377.1	22.34	17.878	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-443 - Wellbore #1 - Plan #1 (4-25-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,983.4	4,997.9	4,983.4	12.0	12.0	131.56		203.0	228.0	408.5	385.7	22.82	17.902	
5,100.0	5,082.4	5,096.9	5,082.4	12.3	12.2	132.97		203.0	228.0	417.8	394.5	23.29	17.937	
5,122.4	5,104.6	5,119.1	5,104.6	12.3	12.3	133.28		203.0	228.0	419.9	396.5	23.40	17.946	
5,200.0	5,181.6	5,196.1	5,181.6	12.5	12.4	134.31		203.0	228.0	426.7	402.9	23.78	17.942	
5,300.0	5,281.2	5,295.6	5,281.2	12.8	12.6	135.29		203.0	228.0	433.3	409.1	24.23	17.885	
5,400.0	5,381.0	5,395.5	5,381.0	13.0	12.8	135.89		203.0	228.0	437.5	412.8	24.65	17.749	
5,500.0	5,481.0	5,495.4	5,481.0	13.1	13.0	136.14		203.0	228.0	439.2	414.2	25.05	17.536	
5,519.0	5,500.0	5,514.5	5,500.0	13.2	13.1	90.00		203.0	228.0	439.3	414.2	25.12	17.486	
5,600.0	5,581.0	5,595.4	5,581.0	13.3	13.2	90.00		203.0	228.0	439.3	413.8	25.45	17.264	
5,700.0	5,681.0	5,695.4	5,681.0	13.5	13.4	90.00		203.0	228.0	439.3	413.4	25.87	16.982	
5,800.0	5,781.0	5,795.4	5,781.0	13.7	13.6	90.00		203.0	228.0	439.3	413.0	26.29	16.708	
5,900.0	5,881.0	5,895.4	5,881.0	13.9	13.9	90.00		203.0	228.0	439.3	412.6	26.71	16.443	
6,000.0	5,981.0	5,995.4	5,981.0	14.1	14.1	90.00		203.0	228.0	439.3	412.1	27.14	16.186	
6,100.0	6,081.0	6,095.4	6,081.0	14.3	14.3	90.00		203.0	228.0	439.3	411.7	27.57	15.936	
6,200.0	6,181.0	6,195.4	6,181.0	14.5	14.5	90.00		203.0	228.0	439.3	411.3	27.99	15.693	
6,300.0	6,281.0	6,295.4	6,281.0	14.8	14.7	90.00		203.0	228.0	439.3	410.9	28.42	15.457	
6,400.0	6,381.0	6,395.4	6,381.0	15.0	14.9	90.00		203.0	228.0	439.3	410.4	28.85	15.228	
6,492.5	6,473.4	6,487.9	6,473.4	15.2	15.1	90.00		203.0	228.0	439.3	410.0	29.24	15.022	
6,492.8	6,473.7	6,488.2	6,473.7	15.2	15.1	-90.00		203.0	228.0	439.3	410.0	29.24	15.021	
6,500.0	6,481.0	6,495.4	6,481.0	15.2	15.1	-90.01		203.0	228.0	439.3	410.0	29.27	15.006	
6,504.7	6,485.7	6,500.1	6,485.7	15.2	15.1	-90.01		203.0	228.0	439.3	410.0	29.29	14.997	
6,550.0	6,530.9	6,545.4	6,530.9	15.2	15.2	-90.28		203.0	228.0	439.3	409.8	29.46	14.913	
6,600.0	6,580.6	6,595.1	6,580.6	15.3	15.3	-90.98		203.0	228.0	439.3	409.7	29.63	14.830	
6,650.0	6,629.8	6,644.5	6,630.0	15.4	15.4	-92.07		203.0	228.0	439.6	409.8	29.78	14.761	
6,700.0	6,678.4	6,694.9	6,680.4	15.4	15.5	-93.30		200.7	228.0	440.0	410.1	29.89	14.720	
6,750.0	6,726.1	6,746.1	6,731.2	15.4	15.6	-94.53		195.1	228.0	440.7	410.7	29.98	14.698	
6,800.0	6,772.7	6,797.9	6,782.2	15.5	15.6	-95.74		185.9	228.0	441.6	411.5	30.05	14.694	
6,850.0	6,818.0	6,850.4	6,833.1	15.5	15.7	-96.93		173.0	228.0	442.6	412.5	30.10	14.705	
6,900.0	6,861.9	6,903.6	6,883.7	15.5	15.7	-98.09		156.5	228.0	443.8	413.7	30.14	14.727	
6,950.0	6,904.1	6,957.6	6,933.7	15.6	15.7	-99.22		136.2	228.0	445.2	415.0	30.17	14.756	
7,000.0	6,944.4	7,012.4	6,982.8	15.6	15.8	-100.32		112.0	228.0	446.7	416.5	30.21	14.788	
7,050.0	6,982.8	7,067.9	7,030.7	15.6	15.8	-101.36		84.0	228.0	448.3	418.0	30.26	14.815	
7,100.0	7,018.9	7,124.1	7,077.1	15.7	15.8	-102.36		52.1	228.0	450.0	419.6	30.34	14.832	
7,150.0	7,052.7	7,181.1	7,121.5	15.7	15.9	-103.30		16.4	228.0	451.7	421.2	30.45	14.831	
7,200.0	7,084.1	7,238.8	7,163.6	15.8	15.9	-104.18		-23.0	228.0	453.3	422.7	30.62	14.805	
7,250.0	7,112.8	7,297.2	7,203.1	15.9	16.0	-105.00		-66.0	228.0	455.0	424.2	30.85	14.749	
7,300.0	7,138.7	7,356.3	7,239.6	16.1	16.1	-105.74		-112.4	228.0	456.6	425.4	31.16	14.651	
7,350.0	7,161.9	7,415.9	7,272.7	16.4	16.3	-106.40		-162.0	228.0	458.1	426.5	31.57	14.510	
7,400.0	7,182.1	7,476.1	7,302.1	16.7	16.6	-106.98		-214.5	228.0	459.5	427.4	32.08	14.323	
7,450.0	7,199.2	7,536.8	7,327.4	17.1	17.0	-107.48		-269.6	228.0	460.7	428.0	32.69	14.091	
7,500.0	7,213.2	7,597.9	7,348.5	17.5	17.5	-107.89		-327.0	228.0	461.7	428.2	33.42	13.815	
7,550.0	7,224.1	7,659.4	7,364.9	18.0	18.0	-108.21		-386.2	228.0	462.5	428.2	34.26	13.497	
7,600.0	7,231.8	7,721.1	7,376.6	18.4	18.5	-108.43		-446.8	228.0	463.0	427.8	35.22	13.146	
7,650.0	7,236.2	7,777.8	7,383.3	19.0	19.1	-108.59		-503.0	228.0	463.5	427.3	36.23	12.795	
7,700.7	7,237.3	7,828.3	7,388.6	19.5	19.7	-108.98		-553.3	228.0	464.9	427.6	37.21	12.493	
7,800.0	7,236.2	7,942.7	7,395.0	20.7	21.0	-109.86		-667.5	228.0	467.1	427.6	39.46	11.838	
7,900.0	7,235.2	8,044.4	7,394.6	22.0	22.3	-109.95		-769.2	228.0	467.3	425.4	41.91	11.149	
8,000.0	7,234.1	8,144.4	7,394.1	23.4	23.7	-110.02		-869.2	228.0	467.5	423.0	44.51	10.505	
8,100.0	7,233.0	8,244.4	7,393.7	24.9	25.1	-110.09		-969.2	228.0	467.7	420.5	47.24	9.902	
8,200.0	7,231.9	8,344.4	7,393.3	26.4	26.6	-110.17		-1,069.2	228.0	468.0	417.9	50.08	9.345	
8,300.0	7,230.8	8,444.4	7,392.8	27.9	28.2	-110.24		-1,169.2	228.0	468.2	415.2	53.01	8.831	

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





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Anderson 34E-223
<b>Project:</b>	SEC.34-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Reference Site:</b>	Anderson 34E-HZ Pad Sec.34-T7N-R66W	<b>MD Reference:</b>	WELL @ 4945.0ft (RKB -15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Anderson 34E-223	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (4-25-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Anderson 34E-HZ Pad Sec.34-T7N-R66W - Anderson 34J-443 - Wellbore #1 - Plan #1 (4-25-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,400.0	7,229.8	8,544.4	7,392.4	29.5	29.8	-110.32	-1,269.2	228.0	468.4	412.4	56.03	8.360		
8,500.0	7,228.7	8,644.4	7,392.0	31.2	31.4	-110.39	-1,369.1	228.0	468.6	409.5	59.11	7.928		
8,600.0	7,227.6	8,744.4	7,391.5	32.9	33.0	-110.47	-1,469.1	228.0	468.9	406.6	62.25	7.532		
8,700.0	7,226.5	8,844.4	7,391.1	34.6	34.7	-110.54	-1,569.1	228.0	469.1	403.7	65.43	7.169		
8,800.0	7,225.4	8,944.4	7,390.7	36.3	36.4	-110.61	-1,669.1	228.0	469.3	400.7	68.66	6.836		
8,900.0	7,224.3	9,044.4	7,390.2	38.0	38.2	-110.69	-1,769.1	228.0	469.5	397.6	71.92	6.529		
9,000.0	7,223.3	9,144.4	7,389.8	39.8	39.9	-110.76	-1,869.1	228.0	469.8	394.6	75.20	6.247		
9,100.0	7,222.2	9,244.4	7,389.3	41.5	41.7	-110.83	-1,969.1	228.0	470.0	391.5	78.52	5.986		
9,200.0	7,221.1	9,344.4	7,388.9	43.3	43.5	-110.91	-2,069.1	228.0	470.2	388.4	81.85	5.745		
9,300.0	7,220.0	9,444.4	7,388.5	45.1	45.3	-110.98	-2,169.1	228.0	470.5	385.2	85.21	5.521		
9,400.0	7,218.9	9,544.4	7,388.0	46.9	47.1	-111.06	-2,269.1	228.0	470.7	382.1	88.58	5.314		
9,500.0	7,217.8	9,644.4	7,387.6	48.7	48.9	-111.13	-2,369.1	228.0	470.9	379.0	91.96	5.121		
9,600.0	7,216.8	9,744.4	7,387.2	50.6	50.7	-111.20	-2,469.1	228.0	471.1	375.8	95.36	4.941		
9,700.0	7,215.7	9,844.3	7,386.7	52.4	52.5	-111.27	-2,569.1	228.0	471.4	372.6	98.77	4.773		
9,800.0	7,214.6	9,944.3	7,386.3	54.2	54.4	-111.35	-2,669.1	228.0	471.6	369.4	102.18	4.615		
9,900.0	7,213.5	10,044.3	7,385.9	56.1	56.2	-111.42	-2,769.1	228.0	471.9	366.2	105.61	4.468		
10,000.0	7,212.4	10,144.3	7,385.4	57.9	58.0	-111.49	-2,869.1	228.0	472.1	363.0	109.04	4.329		
10,100.0	7,211.4	10,244.3	7,385.0	59.8	59.9	-111.57	-2,969.1	228.0	472.3	359.8	112.48	4.199		
10,200.0	7,210.3	10,344.3	7,384.5	61.6	61.7	-111.64	-3,069.1	228.0	472.6	356.6	115.92	4.077		
10,300.0	7,209.2	10,444.3	7,384.1	63.5	63.6	-111.71	-3,169.1	228.0	472.8	353.4	119.37	3.961		
10,400.0	7,208.1	10,544.3	7,383.7	65.4	65.5	-111.79	-3,269.1	228.0	473.0	350.2	122.82	3.851		
10,500.0	7,207.0	10,644.3	7,383.2	67.2	67.3	-111.86	-3,369.1	228.0	473.3	347.0	126.28	3.748		
10,600.0	7,205.9	10,744.3	7,382.8	69.1	69.2	-111.93	-3,469.1	228.0	473.5	343.8	129.73	3.650		
10,700.0	7,204.9	10,844.3	7,382.4	71.0	71.1	-112.00	-3,569.1	228.0	473.8	340.6	133.19	3.557		
10,800.0	7,203.8	10,944.3	7,381.9	72.8	72.9	-112.08	-3,669.1	228.0	474.0	337.3	136.65	3.469		
10,900.0	7,202.7	11,044.3	7,381.5	74.7	74.8	-112.15	-3,769.1	228.0	474.2	334.1	140.12	3.385		
11,000.0	7,201.6	11,144.3	7,381.1	76.6	76.7	-112.22	-3,869.1	228.0	474.5	330.9	143.58	3.305		
11,100.0	7,200.5	11,244.3	7,380.6	78.5	78.6	-112.29	-3,969.1	228.0	474.7	327.7	147.04	3.228		
11,200.0	7,199.5	11,344.3	7,380.2	80.4	80.5	-112.36	-4,069.1	228.0	475.0	324.5	150.51	3.156		
11,300.0	7,198.4	11,444.3	7,379.7	82.3	82.3	-112.44	-4,169.1	228.0	475.2	321.2	153.97	3.086		
11,400.0	7,197.3	11,544.3	7,379.3	84.1	84.2	-112.51	-4,269.1	228.0	475.5	318.0	157.44	3.020		
11,500.0	7,196.2	11,644.3	7,378.9	86.0	86.1	-112.58	-4,369.1	228.0	475.7	314.8	160.90	2.956		
11,600.0	7,195.1	11,744.3	7,378.4	87.9	88.0	-112.65	-4,469.1	228.0	476.0	311.6	164.37	2.896		
11,704.0	7,194.0	11,843.8	7,378.0	89.5	89.9	-112.72	-4,568.6	228.0	476.2	308.7	167.53	2.843 SF		

Reference Depths are relative to WELL @ 4945.0ft (RKB -15')	Coordinates are relative to: Anderson 34E-223
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.47°



Coordinates are relative to: Anderson 34E-223  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.47°

- 1-34 (Exist), Wellbore #1, Wellbore #1 VD  Anderson 34E-403, Wellbore #1, Plan #1 (4-25-13) VD  Anderson 14-34 (Exist), Wellbore #1 VD  
 13-34 (Exist), Wellbore #1, Wellbore #1 VD  Anderson 34J-203, Wellbore #1, Plan #1 (4-25-13) VD  
 12-34 (Exist), Wellbore #1, Wellbore #1 VD  Anderson 34J-443, Wellbore #1, Plan #1 (4-25-13) VD