



# **ANADARKO PETROLEUM CORP.**

**ANADARKO COLORADO NORTHERN ZONE NAD 83**

**WELD\_Johnstown Farms**

**Johnstown Farms 25-9**

**Johnstown Farms 25-9**

**Plan: Johnstown Farms 25-9 (wp01)**

## **Standard Planning Report**

**27 September, 2010**



Johnstown Farms 25-9  
ANADARKO COLORADO NORTHERN ZONE NAD 83  
40° 19' 27.872 N  
104° 54' 3.323 W



Johnstown Farms 25-9 (wp01) (Johnstown Farms 25-9/Johnstown Farms 25-9)

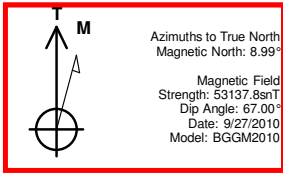
Created By: Jason Daguitera

REFERENCE INFORMATION	
Co-ordinate (N/E) Reference:	Well Johnstown Farms 25-9, True North
Vertical (TVD) Reference:	WELL @ 4780.00ft (Original Well Elev)
Section (VS) Reference:	Slot - (0.00N, 0.00E)
Measured Depth Reference:	WELL @ 4780.00ft (Original Well Elev)
Calculation Method:	Minimum Curvature

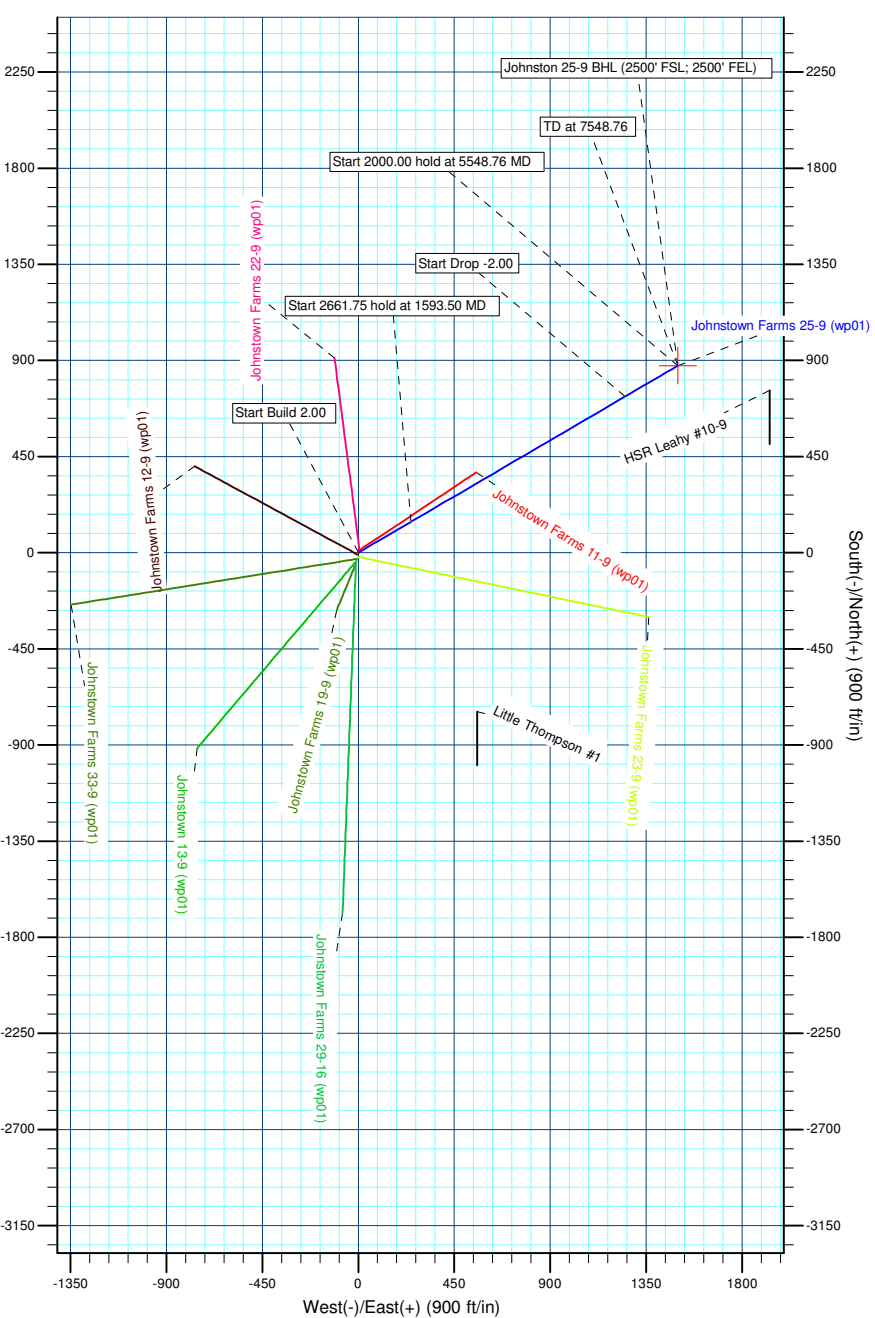
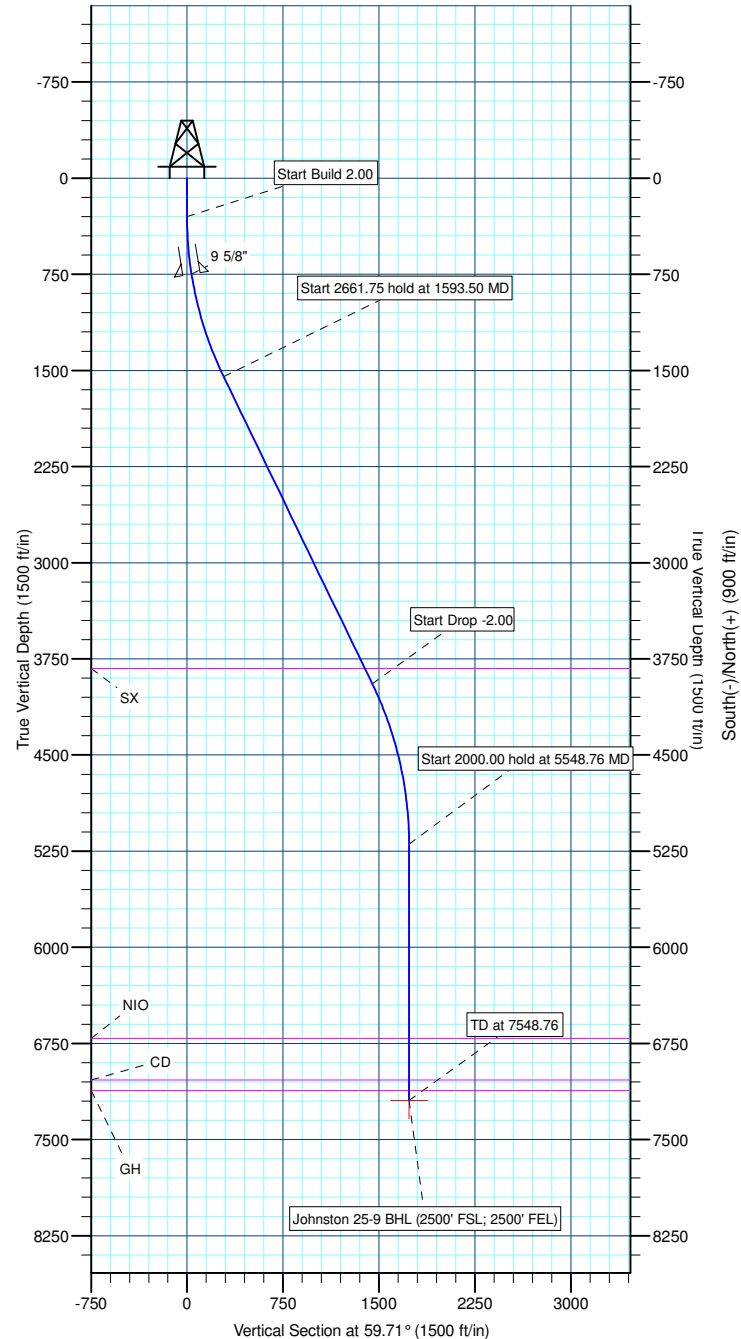
WELL DETAILS: Johnstown Farms 25-9						
+N/-S	+E/-W	Northing	Ground Level: Easting	4780.00 Latitude	Longitude	Slot
0.00	0.00	1361587.25	3167033.92	40° 19' 27.872 N	104° 54' 3.323 W	

CASING DETAILS			
TVD	MD	Name	Size
750.00	751.87	9 5/8"	9.625

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1593.50	25.87	59.71	1550.00	144.81	247.89	2.00	59.71	287.09	
4	4255.25	25.87	59.71	3945.00	730.65	1250.72	0.00	0.00	1448.50	
5	5548.76	0.00	0.00	5195.00	875.46	1498.61	2.00	180.00	1735.59	
6	7548.76	0.00	0.00	7195.00	875.46	1498.61	0.00	0.00	1735.59	Johnston 25-9 BHL (2500' FSL; 2500' FEL)



WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
Johnston 25-9 BHL (2500' FSL; 2500' FEL)	7195.00	875.46	1498.61	40° 19' 36.523 N	104° 53' 43.973 W	



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site:</b>	WELD_Johnstown Farms	<b>North Reference:</b>	True
<b>Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Johnstown Farms 25-9		
<b>Design:</b>	Johnstown Farms 25-9 (wp01)		

<b>Project</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83, ROCKIES, ROCKIES		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_Johnstown Farms			
Site Position:		Northing:	1,361,567.94 ft	Latitude:	40° 19' 27.682 N
From:	Lat/Long	Easting:	3,167,029.59 ft	Longitude:	104° 54' 3.380 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.39 °

Well	Johnstown Farms 25-9					
Well Position	+N/-S	19.28 ft	Northing:	1,361,587.25 ft	Latitude:	40° 19' 27.872 N
	+E/-W	4.46 ft	Easting:	3,167,033.92 ft	Longitude:	104° 54' 3.323 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,780.00 ft

<b>Wellbore</b>	Johnstown Farms 25-9				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2010	9/27/2010	8.99	67.00	53,138

<b>Design</b>	Johnstown Farms 25-9 (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	59.71

<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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,593.50	25.87	59.71	1,550.00	144.81	247.89	2.00	2.00	0.00	59.71	
4,255.25	25.87	59.71	3,945.00	730.65	1,250.72	0.00	0.00	0.00	0.00	
5,548.76	0.00	0.00	5,195.00	875.46	1,498.61	2.00	-2.00	0.00	180.00	
7,548.76	0.00	0.00	7,195.00	875.46	1,498.61	0.00	0.00	0.00	0.00	Johnston 25-9 BHL

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site:</b>	WELD_Johnstown Farms	<b>North Reference:</b>	True
<b>Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Johnstown Farms 25-9		
<b>Design:</b>	Johnstown Farms 25-9 (wp01)		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	59.71	399.98	0.88	1.51	1.75	2.00	2.00	0.00
500.00	4.00	59.71	499.84	3.52	6.03	6.98	2.00	2.00	0.00
600.00	6.00	59.71	599.45	7.92	13.55	15.69	2.00	2.00	0.00
700.00	8.00	59.71	698.70	14.06	24.07	27.88	2.00	2.00	0.00
<b>9 5/8"</b>									
751.87	9.04	59.71	750.00	17.94	30.71	35.56	2.00	2.00	0.00
800.00	10.00	59.71	797.47	21.95	37.58	43.52	2.00	2.00	0.00
900.00	12.00	59.71	895.62	31.58	54.05	62.60	2.00	2.00	0.00
1,000.00	14.00	59.71	993.06	42.92	73.48	85.10	2.00	2.00	0.00
1,100.00	16.00	59.71	1,089.64	55.98	95.82	110.98	2.00	2.00	0.00
1,200.00	18.00	59.71	1,185.27	70.73	121.07	140.21	2.00	2.00	0.00
1,300.00	20.00	59.71	1,279.82	87.15	149.18	172.77	2.00	2.00	0.00
1,400.00	22.00	59.71	1,373.17	105.22	180.12	208.60	2.00	2.00	0.00
1,500.00	24.00	59.71	1,465.21	124.93	213.86	247.67	2.00	2.00	0.00
<b>Start 2661.75 hold at 1593.50 MD</b>									
1,593.50	25.87	59.71	1,550.00	144.81	247.89	287.09	2.00	2.00	0.00
1,600.00	25.87	59.71	1,555.84	146.24	250.34	289.93	0.00	0.00	0.00
1,700.00	25.87	59.71	1,645.82	168.25	288.02	333.56	0.00	0.00	0.00
1,800.00	25.87	59.71	1,735.80	190.26	325.69	377.19	0.00	0.00	0.00
1,900.00	25.87	59.71	1,825.78	212.27	363.37	420.83	0.00	0.00	0.00
2,000.00	25.87	59.71	1,915.76	234.28	401.04	464.46	0.00	0.00	0.00
2,100.00	25.87	59.71	2,005.74	256.29	438.72	508.09	0.00	0.00	0.00
2,200.00	25.87	59.71	2,095.72	278.30	476.39	551.73	0.00	0.00	0.00
2,300.00	25.87	59.71	2,185.69	300.31	514.07	595.36	0.00	0.00	0.00
2,400.00	25.87	59.71	2,275.67	322.32	551.74	638.99	0.00	0.00	0.00
2,500.00	25.87	59.71	2,365.65	344.33	589.42	682.63	0.00	0.00	0.00
2,600.00	25.87	59.71	2,455.63	366.34	627.10	726.26	0.00	0.00	0.00
2,700.00	25.87	59.71	2,545.61	388.35	664.77	769.89	0.00	0.00	0.00
2,800.00	25.87	59.71	2,635.59	410.36	702.45	813.53	0.00	0.00	0.00
2,900.00	25.87	59.71	2,725.57	432.37	740.12	857.16	0.00	0.00	0.00
3,000.00	25.87	59.71	2,815.54	454.38	777.80	900.79	0.00	0.00	0.00
3,100.00	25.87	59.71	2,905.52	476.39	815.47	944.43	0.00	0.00	0.00
3,200.00	25.87	59.71	2,995.50	498.39	853.15	988.06	0.00	0.00	0.00
3,300.00	25.87	59.71	3,085.48	520.40	890.82	1,031.69	0.00	0.00	0.00
3,400.00	25.87	59.71	3,175.46	542.41	928.50	1,075.32	0.00	0.00	0.00
3,500.00	25.87	59.71	3,265.44	564.42	966.17	1,118.96	0.00	0.00	0.00
3,600.00	25.87	59.71	3,355.42	586.43	1,003.85	1,162.59	0.00	0.00	0.00
3,700.00	25.87	59.71	3,445.39	608.44	1,041.53	1,206.22	0.00	0.00	0.00
3,800.00	25.87	59.71	3,535.37	630.45	1,079.20	1,249.86	0.00	0.00	0.00
3,900.00	25.87	59.71	3,625.35	652.46	1,116.88	1,293.49	0.00	0.00	0.00
4,000.00	25.87	59.71	3,715.33	674.47	1,154.55	1,337.12	0.00	0.00	0.00
4,100.00	25.87	59.71	3,805.31	696.48	1,192.23	1,380.76	0.00	0.00	0.00
<b>SX</b>									
4,123.00	25.87	59.71	3,826.00	701.54	1,200.89	1,390.79	0.00	0.00	0.00
4,200.00	25.87	59.71	3,895.29	718.49	1,229.90	1,424.39	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
4,255.25	25.87	59.71	3,945.00	730.65	1,250.72	1,448.50	0.00	0.00	0.00
4,300.00	24.98	59.71	3,985.42	740.34	1,267.31	1,467.71	2.00	-2.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site:</b>	WELD_Johnstown Farms	<b>North Reference:</b>	True
<b>Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Johnstown Farms 25-9		
<b>Design:</b>	Johnstown Farms 25-9 (wp01)		

#### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,400.00	22.98	59.71	4,076.78	760.83	1,302.39	1,508.34	2.00	-2.00	0.00
4,500.00	20.98	59.71	4,169.51	779.71	1,334.70	1,545.76	2.00	-2.00	0.00
4,600.00	18.98	59.71	4,263.49	796.94	1,364.20	1,579.92	2.00	-2.00	0.00
4,700.00	16.98	59.71	4,358.61	812.51	1,390.84	1,610.78	2.00	-2.00	0.00
4,800.00	14.98	59.71	4,454.74	826.39	1,414.60	1,638.30	2.00	-2.00	0.00
4,900.00	12.98	59.71	4,551.78	838.57	1,435.45	1,662.45	2.00	-2.00	0.00
5,000.00	10.98	59.71	4,649.59	849.03	1,453.37	1,683.19	2.00	-2.00	0.00
5,100.00	8.98	59.71	4,748.08	857.77	1,468.33	1,700.52	2.00	-2.00	0.00
5,200.00	6.98	59.71	4,847.11	864.77	1,480.30	1,714.39	2.00	-2.00	0.00
5,300.00	4.98	59.71	4,946.56	870.02	1,489.29	1,724.80	2.00	-2.00	0.00
5,400.00	2.98	59.71	5,046.31	873.52	1,495.28	1,731.73	2.00	-2.00	0.00
5,500.00	0.98	59.71	5,146.25	875.25	1,498.25	1,735.18	2.00	-2.00	0.00
<b>Start 2000.00 hold at 5548.76 MD</b>									
5,548.76	0.00	0.00	5,195.00	875.46	1,498.61	1,735.59	2.00	-2.00	0.00
5,600.00	0.00	0.00	5,246.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
5,700.00	0.00	0.00	5,346.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
5,800.00	0.00	0.00	5,446.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
5,900.00	0.00	0.00	5,546.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,000.00	0.00	0.00	5,646.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,100.00	0.00	0.00	5,746.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,200.00	0.00	0.00	5,846.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,300.00	0.00	0.00	5,946.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,400.00	0.00	0.00	6,046.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,500.00	0.00	0.00	6,146.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,600.00	0.00	0.00	6,246.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,700.00	0.00	0.00	6,346.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,800.00	0.00	0.00	6,446.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
6,900.00	0.00	0.00	6,546.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,000.00	0.00	0.00	6,646.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
<b>NIO</b>									
7,064.76	0.00	0.00	6,711.00	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,100.00	0.00	0.00	6,746.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,200.00	0.00	0.00	6,846.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,300.00	0.00	0.00	6,946.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
<b>CD</b>									
7,388.76	0.00	0.00	7,035.00	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,400.00	0.00	0.00	7,046.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
<b>GH</b>									
7,471.76	0.00	0.00	7,118.00	875.46	1,498.61	1,735.59	0.00	0.00	0.00
7,500.00	0.00	0.00	7,146.24	875.46	1,498.61	1,735.59	0.00	0.00	0.00
<b>TD at 7548.76</b>									
7,548.76	0.00	0.00	7,195.00	875.46	1,498.61	1,735.59	0.00	0.00	0.00

#### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Johnston 25-9 BHL (2	0.00	0.00	7,195.00	875.46	1,498.61	1,362,472.82	3,168,526.58	40° 19' 36.523 N	104° 53' 43.973 W
- plan hits target center									
- Point									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site:</b>	WELD_Johnstown Farms	<b>North Reference:</b>	True
<b>Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Johnstown Farms 25-9		
<b>Design:</b>	Johnstown Farms 25-9 (wp01)		

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
751.87	750.00	9 5/8"	9.625	12.250

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,388.76	7,035.00	CD		0.00	
7,064.76	6,711.00	NIO		0.00	
7,471.76	7,118.00	GH		0.00	
4,123.00	3,826.00	SX		0.00	

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,593.50	1,550.00	144.81	247.89	Start 2661.75 hold at 1593.50 MD
4,255.25	3,945.00	730.65	1,250.72	Start Drop -2.00
5,548.76	5,195.00	875.46	1,498.61	Start 2000.00 hold at 5548.76 MD
7,548.76	7,195.00	875.46	1,498.61	TD at 7548.76

# **ANADARKO PETROLEUM CORP.**

**ANADARKO COLORADO NOTHERN ZONE NAD 83  
WELD\_Johnstown Farms  
Johnstown Farms 25-9**

**Johnstown Farms 25-9  
Johnstown Farms 25-9 (wp01)**

## **Anticollision Summary Report**

**27 September, 2010**

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_Johnstown Farms	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Johnstown Farms 25-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	Johnstown Farms 25-9 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Johnstown Farms 25-9 (wp01)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.00ft	<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 1,300.79ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 9/27/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	7,548.75	Johnstown Farms 25-9 (wp01) (Johnstowr	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
WELD_Johnstown Farms						
Johnston Farms 22-9 - Johnstown Farms 22-9 - Johnsto	300.00	300.00	20.25	19.13	18.019 CC, ES	
Johnstown 13-9 - Johnstown 13-9 - Johnstown 13-9 (wpC	300.00	300.00	40.03	38.91	35.623 CC, ES	
Johnstown Farms 11-9 - Johnstown Farms 11-9 - Johnst	300.00	300.00	10.17	9.04	9.047 CC	
Johnstown Farms 12-9 - Johnstown Farms 12-9 - Johnst	300.00	300.00	9.71	8.59	8.644 CC, ES	
Johnstown Farms 19-9 - Johnstown Farms 19-9 - Johnst	300.00	300.00	59.91	58.79	53.313 CC, ES	
Johnstown Farms 23-9 - Johnstown Farms 23-9 - Johnst	300.00	300.00	19.80	18.68	17.618 CC, ES	
Johnstown Farms 29-16 - Johnstown Farms 29-16 - Johi	300.00	300.00	49.77	48.65	44.285 CC, ES	
Johnstown Farms 33-9 - Johnstown Farms 33-9 - Johnst	300.00	300.00	29.95	28.83	26.649 CC, ES	
Johnstown Farms 12-9 - Johnstown Farms 12-9 - Johnst	400.00	400.00	10.87	9.30	6.939 SF	
Johnston Farms 22-9 - Johnstown Farms 22-9 - Johnsto	500.00	498.40	23.14	21.12	11.456 SF	
Johnstown 13-9 - Johnstown 13-9 - Johnstown 13-9 (wpC	500.00	496.63	51.60	49.61	25.946 SF	
Johnstown Farms 23-9 - Johnstown Farms 23-9 - Johnst	500.00	499.91	24.49	22.49	12.262 SF	
Johnstown Farms 29-16 - Johnstown Farms 29-16 - Johi	500.00	495.93	61.40	59.42	31.037 SF	
Johnstown Farms 33-9 - Johnstown Farms 33-9 - Johnst	500.00	498.27	39.13	37.13	19.501 SF	
Johnstown Farms 19-9 - Johnstown Farms 19-9 - Johnst	600.00	591.14	86.90	84.46	35.595 SF	
Johnstown Farms 11-9 - Johnstown Farms 11-9 - Johnst	700.00	698.95	11.30	8.29	3.760 ES	
Little Thompson #1 - Little Thompson #1 - Little Thompsc	1,123.24	1,148.14	1,116.47	1,110.73	194.543 CC	
Little Thompson #1 - Little Thompson #1 - Little Thompsc	1,200.00	1,221.81	1,116.79	1,110.47	176.575 ES	
Johnstown Farms 11-9 - Johnstown Farms 11-9 - Johnst	1,400.00	1,397.38	19.12	9.28	1.943 SF	
Little Thompson #1 - Little Thompson #1 - Little Thompsc	2,600.00	2,501.72	1,281.16	1,261.84	66.303 SF	
HSR-Leahy #10-9 - HSR Leahy #10-9 - HSR Leahy #10-	7,548.76	7,203.48	446.31	400.19	9.677 CC, ES, SF	



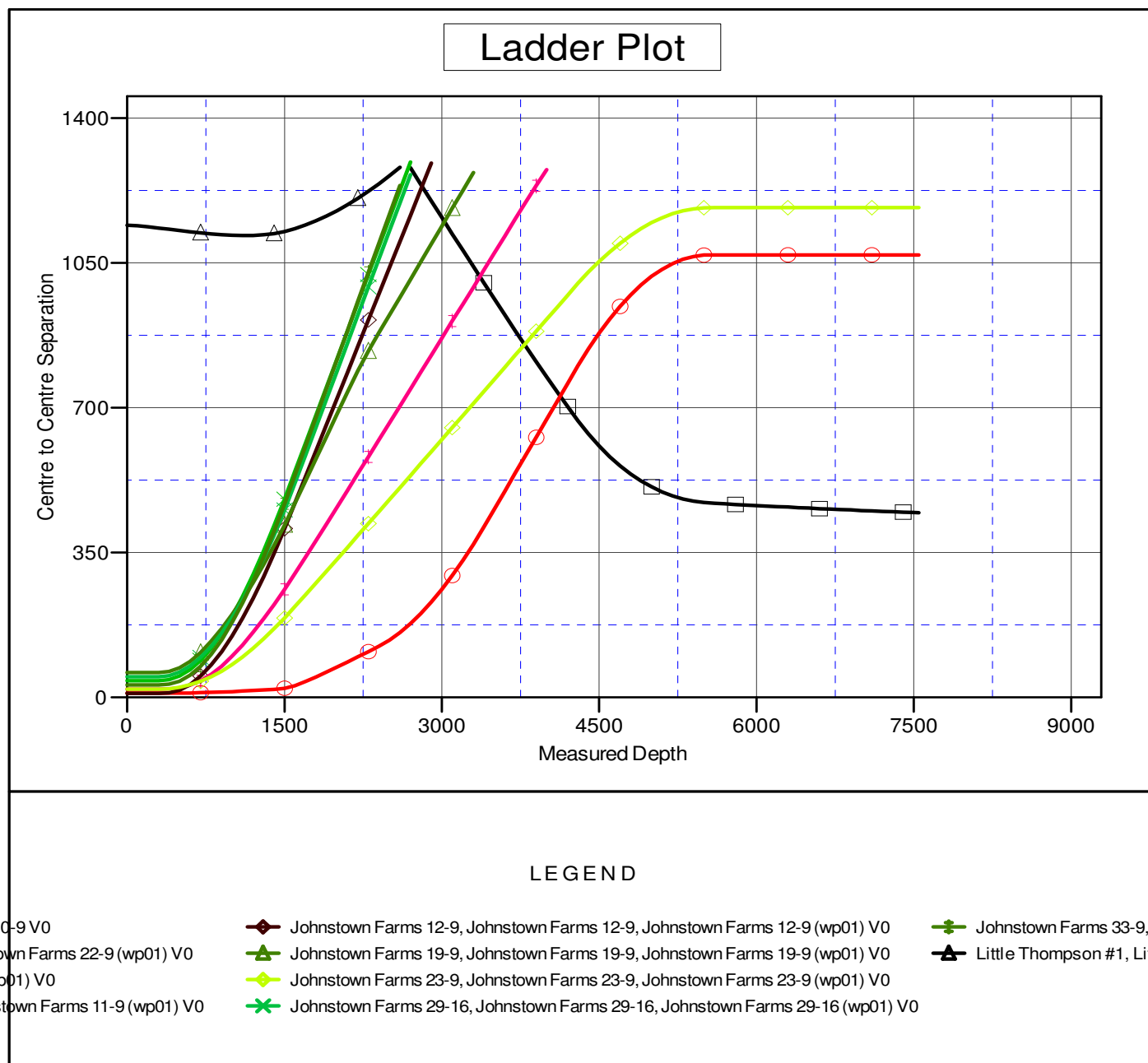
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_Johnstown Farms	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Johnstown Farms 25-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	Johnstown Farms 25-9 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4780.00ft (Original Well Elev) Coordinates are relative to: Johnstown Farms 25-9

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

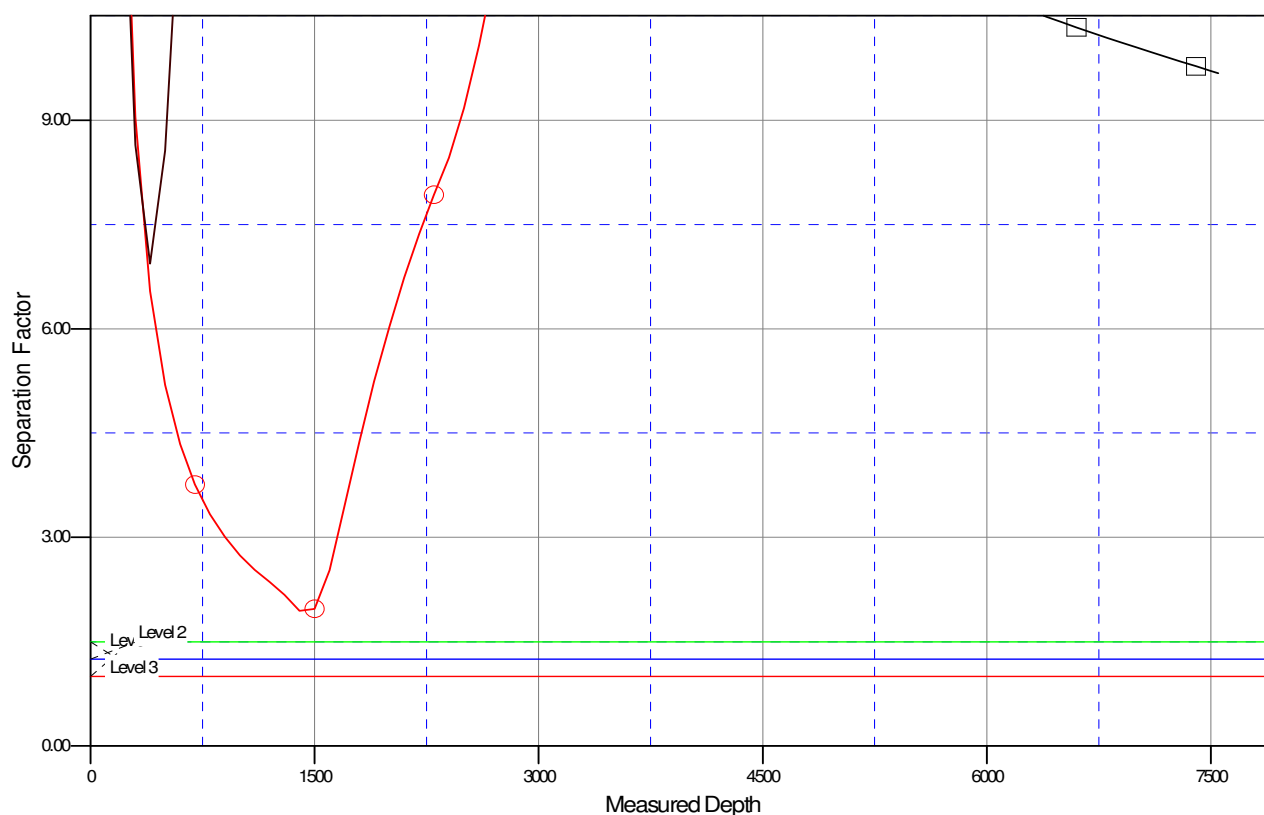
Grid Convergence at Surface is: 0.39°



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well Johnstown Farms 25-9
<b>Project:</b>	ANADARKO COLORADO NOTHERN ZONE NAD 83	<b>TVD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_Johnstown Farms	<b>MD Reference:</b>	WELL @ 4780.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Johnstown Farms 25-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Johnstown Farms 25-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	Johnstown Farms 25-9 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4780.00ft (Original Well Ele Coordinates are relative to: Johnstown Farms 25-9  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.39°

## Separation Factor Plot



## LEGEND

10-9 V0	Johnstown Farms 12-9, Johnstown Farms 12-9, Johnstown Farms 12-9 (wp01) V0	Johnstown Farms 33-9, Johnstown Farms 33-9, Johnstown Farms 33-9 (wp01) V0
Johnstown Farms 22-9 (wp01) V0	Johnstown Farms 19-9, Johnstown Farms 19-9, Johnstown Farms 19-9 (wp01) V0	Little Thompson #1, Little Thompson #1, Little Thompson #1 (wp01) V0
Johnstown Farms 11-9 (wp01) V0	Johnstown Farms 23-9, Johnstown Farms 23-9, Johnstown Farms 23-9 (wp01) V0	
	Johnstown Farms 29-16, Johnstown Farms 29-16, Johnstown Farms 29-16 (wp01) V0	