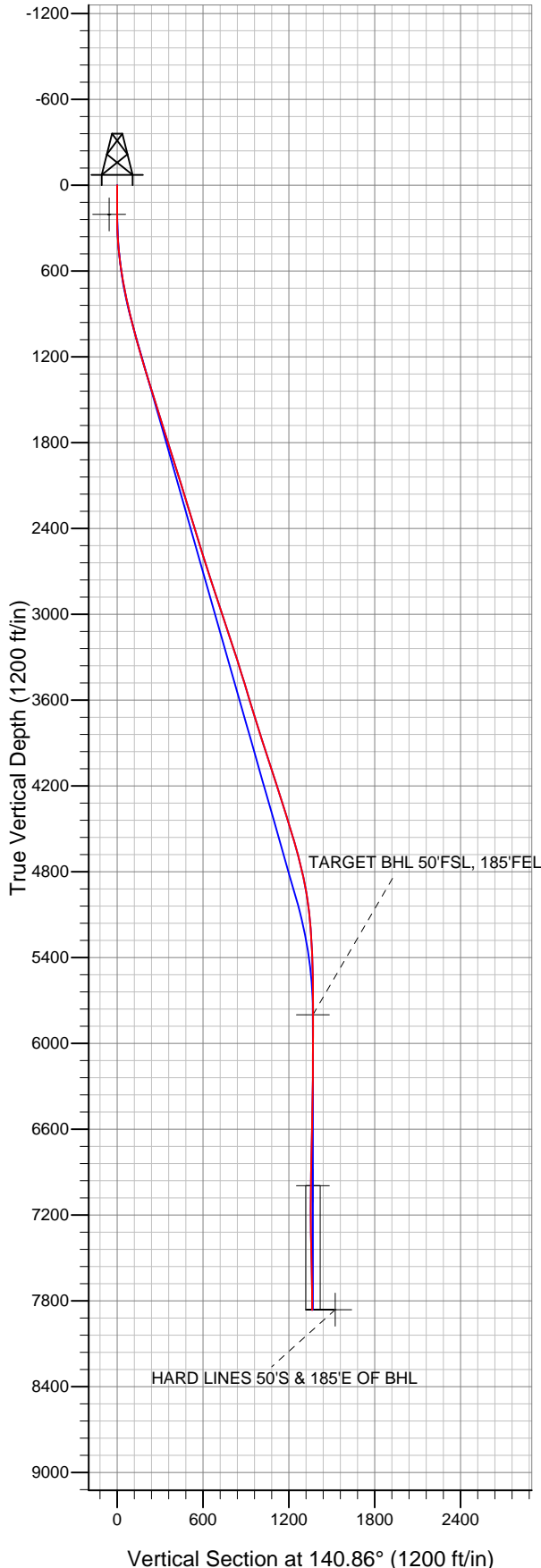


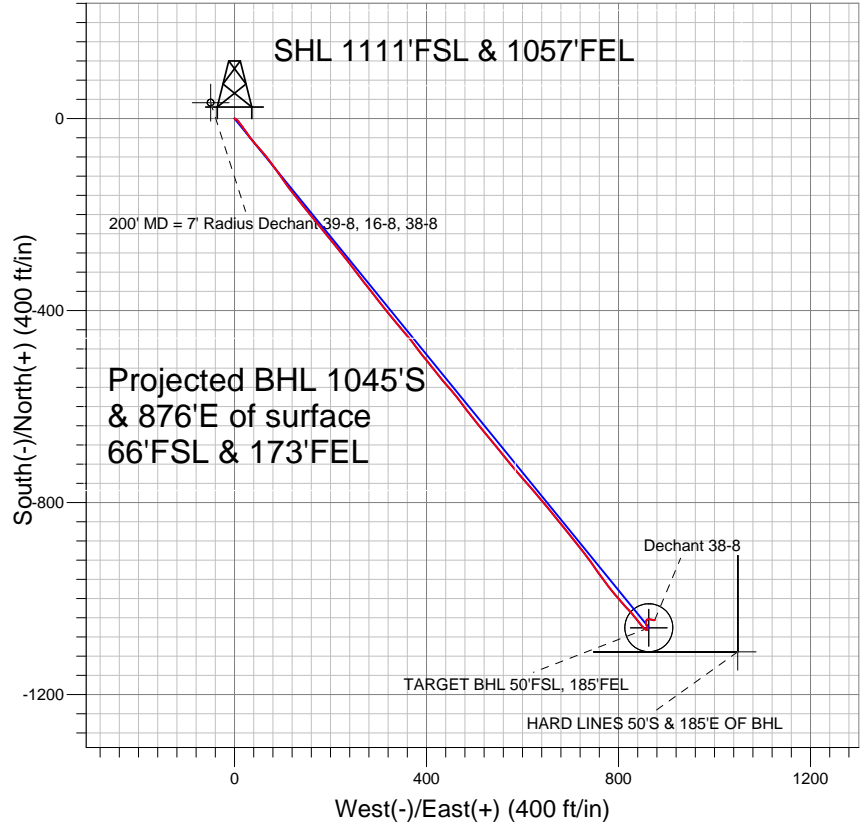
Well Name: **Dechant 38-8**

Surface Location: Dechant 20-8 Pad Sec.8-T2N-R65W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4911.0								Slot
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.0	0.0	1298181.67	3228621.98	40.149009	-104.682142			
Original Well Elev		WELL @ 4925.0ft (Original Well Elev)						



### Anadarko, Weld County CO



#### LEGEND

- Dechant 38-8, Wellbore #1, Plan #1 (6-15-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 8060'MD & 7864'TVD @ 1363'VS  
 1.2 deg Inc 91.3 deg AZ

Project: SEC.8-T2N-R65W  
 Site: Dechant 20-8 Pad Sec.8-T2N-R65W  
 Well: Dechant 38-8  
 Plan: Wellbore #1



## Directional

### **Anadarko, Weld County CO**

**SEC.8-T2N-R65W**

**Dechant 20-8 Pad Sec.8-T2N-R65W**

**Dechant 38-8**

**Wellbore #1**

**Survey: Survey #1**

### **Standard Survey Report**

**25 July, 2011**



<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dechant 38-8
<b>Project:</b>	SEC.8-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4925.0ft (Original Well Elev)
<b>Site:</b>	Dechant 20-8 Pad Sec.8-T2N-R65W	<b>MD Reference:</b>	WELL @ 4925.0ft (Original Well Elev)
<b>Well:</b>	Dechant 38-8	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.8-T2N-R65W, 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

<b>Site</b>	Dechant 20-8 Pad Sec.8-T2N-R65W				
<b>Site Position:</b>		<b>Northing:</b>	1,298,181.68ft	<b>Latitude:</b>	40.149009
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,228,621.98ft	<b>Longitude:</b>	-104.682142
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.53 °

<b>Well</b>	Dechant 38-8					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,298,181.67 ft	<b>Latitude:</b>	40.149009
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,228,621.98 ft	<b>Longitude:</b>	-104.682142
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,911.0 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	6/17/2011	8.80	66.86	53,007

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	140.86	

<b>Survey Program</b>	<b>Date</b>	7/25/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
120.0	8,060.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
120.0	0.20	53.30	120.0	0.1	0.2	0.0	0.17	0.17	0.00	0.00
204.0	0.10	12.20	204.0	0.3	0.3	0.0	0.17	-0.11	-48.93	
<b>200' MD = 7' Radius Dechant 39-8, 16-8, 38-8</b>										
212.0	0.10	5.00	212.0	0.3	0.3	0.0	0.17	-0.05	-89.92	
305.0	2.00	123.90	305.0	-0.5	1.7	1.5	2.20	2.04	127.85	
414.0	4.20	131.80	413.8	-4.2	6.2	7.2	2.05	2.02	7.25	
503.0	6.40	145.40	502.4	-10.5	11.5	15.4	2.83	2.47	15.28	
592.0	8.70	142.80	590.7	-19.9	18.3	27.1	2.61	2.58	-2.92	
680.0	10.10	145.90	677.5	-31.6	26.7	41.4	1.69	1.59	3.52	
769.0	11.90	140.70	764.8	-45.2	36.9	58.3	2.31	2.02	-5.84	
870.0	12.90	137.30	863.5	-61.5	51.1	80.0	1.23	0.99	-3.37	
958.0	13.70	141.80	949.1	-77.0	64.2	100.2	1.49	0.91	5.11	

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dechant 38-8
<b>Project:</b>	SEC.8-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4925.0ft (Original Well Elev)
<b>Site:</b>	Dechant 20-8 Pad Sec.8-T2N-R65W	<b>MD Reference:</b>	WELL @ 4925.0ft (Original Well Elev)
<b>Well:</b>	Dechant 38-8	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)	
1,047.0	14.80	143.40	1,035.4	-94.4	77.5	122.1	1.31	1.24	1.80	
1,136.0	16.00	144.40	1,121.2	-113.5	91.4	145.7	1.38	1.35	1.12	
1,224.0	16.30	145.60	1,205.7	-133.5	105.5	170.1	0.51	0.34	1.36	
1,313.0	17.20	141.70	1,290.9	-154.1	120.7	195.7	1.62	1.01	-4.38	
1,401.0	17.40	141.90	1,375.0	-174.7	136.9	221.9	0.24	0.23	0.23	
1,490.0	16.90	139.50	1,460.0	-195.0	153.5	248.1	0.97	-0.56	-2.70	
1,579.0	17.40	140.50	1,545.0	-215.1	170.4	274.4	0.65	0.56	1.12	
1,667.0	17.50	142.30	1,629.0	-235.8	186.8	300.8	0.62	0.11	2.05	
1,756.0	18.00	141.60	1,713.8	-257.1	203.5	327.9	0.61	0.56	-0.79	
1,845.0	17.50	140.40	1,798.5	-278.2	220.6	355.0	0.70	-0.56	-1.35	
1,933.0	17.00	142.00	1,882.6	-298.5	237.0	381.1	0.78	-0.57	1.82	
2,022.0	17.50	142.70	1,967.6	-319.4	253.1	407.5	0.61	0.56	0.79	
2,111.0	17.30	142.00	2,052.5	-340.5	269.3	434.1	0.33	-0.22	-0.79	
2,199.0	16.50	141.20	2,136.7	-360.6	285.2	459.7	0.95	-0.91	-0.91	
2,288.0	17.30	142.30	2,221.8	-380.9	301.2	485.6	0.97	0.90	1.24	
2,377.0	17.10	142.00	2,306.9	-401.7	317.4	511.9	0.25	-0.22	-0.34	
2,465.0	17.80	140.50	2,390.8	-422.2	333.9	538.3	0.95	0.80	-1.70	
2,554.0	17.00	138.80	2,475.7	-442.5	351.1	564.9	1.06	-0.90	-1.91	
2,642.0	17.40	141.40	2,559.8	-462.5	367.8	590.9	0.98	0.45	2.95	
2,731.0	17.30	143.70	2,644.8	-483.5	384.0	617.4	0.78	-0.11	2.58	
2,820.0	17.70	139.30	2,729.6	-504.5	400.6	644.1	1.55	0.45	-4.94	
2,908.0	18.00	142.70	2,813.4	-525.4	417.6	671.1	1.23	0.34	3.86	
2,997.0	18.30	139.80	2,898.0	-547.0	434.9	698.8	1.07	0.34	-3.26	
3,086.0	19.10	139.10	2,982.3	-568.7	453.5	727.3	0.93	0.90	-0.79	
3,174.0	18.60	142.60	3,065.6	-590.8	471.4	755.8	1.40	-0.57	3.98	
3,263.0	18.60	143.00	3,149.9	-613.4	488.6	784.1	0.14	0.00	0.45	
3,352.0	17.10	141.30	3,234.6	-634.9	505.3	811.4	1.78	-1.69	-1.91	
3,440.0	18.20	139.60	3,318.5	-655.5	522.3	838.1	1.38	1.25	-1.93	
3,529.0	17.40	141.00	3,403.2	-676.4	539.7	865.3	1.02	-0.90	1.57	
3,617.0	16.80	141.40	3,487.3	-696.6	555.9	891.2	0.69	-0.68	0.45	
3,706.0	16.70	141.00	3,572.6	-716.6	572.0	916.8	0.17	-0.11	-0.45	
3,795.0	17.40	138.90	3,657.6	-736.5	588.8	942.9	1.05	0.79	-2.36	
3,883.0	17.50	139.00	3,741.6	-756.4	606.1	969.3	0.12	0.11	0.11	
3,972.0	17.10	138.40	3,826.6	-776.3	623.6	995.7	0.49	-0.45	-0.67	
4,061.0	17.50	141.30	3,911.5	-796.5	640.6	1,022.2	1.07	0.45	3.26	
4,149.0	17.90	139.20	3,995.4	-817.1	657.7	1,048.9	0.86	0.45	-2.39	
4,238.0	18.50	142.50	4,079.9	-838.7	675.3	1,076.7	1.34	0.67	3.71	
4,327.0	18.50	141.00	4,164.3	-860.8	692.8	1,104.9	0.53	0.00	-1.69	
4,415.0	17.80	140.00	4,248.0	-882.0	710.2	1,132.4	0.87	-0.80	-1.14	
4,504.0	17.00	143.00	4,332.9	-902.8	726.8	1,159.0	1.35	-0.90	3.37	
4,592.0	16.80	144.30	4,417.1	-923.4	741.9	1,184.5	0.49	-0.23	1.48	
4,681.0	17.60	144.40	4,502.1	-944.8	757.3	1,210.8	0.90	0.90	0.11	
4,770.0	16.00	144.10	4,587.3	-965.7	772.3	1,236.5	1.80	-1.80	-0.34	
4,858.0	15.40	140.70	4,672.0	-984.5	786.8	1,260.3	1.25	-0.68	-3.86	
4,947.0	13.90	139.40	4,758.1	-1,001.8	801.2	1,282.8	1.73	-1.69	-1.46	
5,036.0	11.70	138.20	4,844.9	-1,016.6	814.2	1,302.5	2.49	-2.47	-1.35	
5,124.0	9.80	136.00	4,931.4	-1,028.7	825.4	1,318.8	2.21	-2.16	-2.50	
5,213.0	8.00	142.30	5,019.3	-1,039.0	834.4	1,332.6	2.30	-2.02	7.08	
5,302.0	5.80	143.00	5,107.6	-1,047.5	840.9	1,343.3	2.47	-2.47	0.79	
5,390.0	4.70	140.00	5,195.3	-1,053.8	845.9	1,351.3	1.29	-1.25	-3.41	
5,479.0	3.50	135.40	5,284.0	-1,058.6	850.2	1,357.7	1.40	-1.35	-5.17	
5,568.0	2.60	140.00	5,372.9	-1,062.0	853.4	1,362.4	1.05	-1.01	5.17	
5,656.0	2.00	120.20	5,460.8	-1,064.3	856.0	1,365.8	1.12	-0.68	-22.50	
5,745.0	0.20	129.80	5,549.8	-1,065.2	857.4	1,367.4	2.03	-2.02	10.79	

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Dechant 38-8
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<b>Well:</b>	Dechant 38-8	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)	
5,878.0	0.40	134.20	5,682.8	-1,065.7	858.0	1,368.1	0.15	0.15	3.31	
5,995.2	0.55	69.74	5,800.0	-1,065.8	858.8	1,368.7	0.44	0.13	-54.99	
<b>TARGET BHL 50'FSL, 185'FEL</b>										
6,011.0	0.60	65.10	5,815.8	-1,065.7	858.9	1,368.7	0.44	0.33	-29.43	
6,144.0	0.50	27.60	5,948.8	-1,064.9	859.8	1,368.7	0.28	-0.08	-28.20	
6,277.0	0.80	359.10	6,081.8	-1,063.5	860.1	1,367.7	0.33	0.23	-21.43	
6,410.0	0.50	353.40	6,214.8	-1,062.0	860.0	1,366.5	0.23	-0.23	-4.29	
6,543.0	0.50	7.70	6,347.8	-1,060.8	860.0	1,365.6	0.09	0.00	10.75	
6,676.0	0.90	346.90	6,480.8	-1,059.2	859.8	1,364.3	0.35	0.30	-15.64	
6,808.0	1.60	339.10	6,612.7	-1,056.5	858.9	1,361.6	0.54	0.53	-5.91	
6,941.0	1.90	341.60	6,745.7	-1,052.7	857.6	1,357.8	0.23	0.23	1.88	
7,074.0	1.20	9.30	6,878.6	-1,049.2	857.1	1,354.8	0.76	-0.53	20.83	
7,190.1	1.55	21.93	6,994.7	-1,046.6	857.9	1,353.2	0.39	0.30	10.88	
<b>TARGET CIRCLE 50'FSL &amp; 185'FEL</b>										
7,207.0	1.60	23.30	7,011.6	-1,046.1	858.1	1,353.0	0.39	0.32	8.10	
7,340.0	1.40	72.00	7,144.6	-1,043.9	860.4	1,352.7	0.94	-0.15	36.62	
7,473.0	1.30	75.60	7,277.5	-1,043.0	863.4	1,354.0	0.10	-0.08	2.71	
7,606.0	1.40	113.10	7,410.5	-1,043.3	866.3	1,356.0	0.66	0.08	28.20	
7,739.0	1.30	102.50	7,543.4	-1,044.3	869.3	1,358.6	0.20	-0.08	-7.97	
7,918.0	1.00	98.00	7,722.4	-1,044.9	872.8	1,361.4	0.17	-0.17	-2.51	
8,005.0	1.20	91.30	7,809.4	-1,045.0	874.5	1,362.5	0.27	0.23	-7.70	
8,060.0	1.20	91.30	7,864.4	-1,045.1	875.6	1,363.3	0.00	0.00	0.00	
<b>HARD LINES 50'S &amp; 185'E OF BHL</b>										

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_