



# **Anadarko Petroleum Corporation**

**Dacono**

**Dacono 11 Pad**

**Dacono 30-2 (111428)**

**Dacono 30-2**

**Survey: 30-2**

## **Survey Report - Geographic**

**30 April, 2012**

# Survey Report - Geographic

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Dacono 30-2 (111428)
<b>Project:</b>	Dacono	<b>TVD Reference:</b>	KB @ 5031.00ft (Original Well Elev)
<b>Site:</b>	Dacono 11 Pad	<b>MD Reference:</b>	KB @ 5031.00ft (Original Well Elev)
<b>Well:</b>	Dacono 30-2 (111428)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Dacono 30-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Dacono 30-2	<b>Database:</b>	EDM5000-New

<b>Project</b>	Dacono		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD83 Colorado - HARN		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	Dacono 11 Pad		
<b>Site Position:</b>		<b>Northing:</b>	14,556,637.29 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,647,890.09 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	40.082118°N
		<b>Longitude:</b>	104.973282°W
		<b>Grid Convergence:</b>	0.02 °

<b>Well</b>	Dacono 30-2 (111428)		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.081981°N
		<b>Longitude:</b>	104.973283°W
		<b>Ground Level:</b>	5,016.00 ft

<b>Wellbore</b>	Dacono 30-2		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	IGRF2010	4/11/2012	8.84
			<b>Dip Angle</b>
			(°)
			66.73
			<b>Field Strength</b>
			(nT)
			52,853

<b>Design</b>	Dacono 30-2		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			<b>Direction</b>
			(°)
			318.38

<b>Survey Program</b>	<b>Date</b>	3/1/2012		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
(ft)	(ft)			
172.00	8,969.00	30-2 (Dacono 30-2)	MWD	MWD - Standard

<b>Survey</b>									
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Map</b>	<b>Map</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Depth</b>	(°)	(°)	<b>Depth</b>	(ft)	(ft)	<b>Northing</b>	<b>Easting</b>		
(ft)			(ft)			(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	14,556,587.40	1,647,889.83	40.081981°N	104.973283°W
172.00	0.22	23.03	172.00	0.30	0.13	14,556,587.70	1,647,889.96	40.081982°N	104.973283°W
358.00	3.12	42.85	357.90	4.34	3.71	14,556,591.74	1,647,893.54	40.081993°N	104.973270°W
446.00	4.92	41.76	445.68	8.92	7.85	14,556,596.32	1,647,897.68	40.082006°N	104.973255°W
531.00	6.11	39.43	530.29	15.13	13.16	14,556,602.53	1,647,902.98	40.082023°N	104.973236°W
617.00	7.38	39.65	615.69	22.92	19.59	14,556,610.32	1,647,909.41	40.082044°N	104.973213°W
702.00	8.09	48.13	699.92	31.11	27.52	14,556,618.52	1,647,917.34	40.082067°N	104.973185°W
788.00	8.31	46.24	785.04	39.45	36.52	14,556,626.86	1,647,926.34	40.082089°N	104.973153°W
898.00	8.79	49.22	893.82	50.44	48.62	14,556,637.85	1,647,938.44	40.082120°N	104.973109°W
972.00	9.01	49.75	966.93	57.87	57.33	14,556,645.29	1,647,947.14	40.082140°N	104.973078°W
1,057.00	10.02	42.94	1,050.76	67.59	67.45	14,556,655.01	1,647,957.26	40.082167°N	104.973042°W
1,143.00	10.68	31.12	1,135.37	79.89	76.66	14,556,667.31	1,647,966.47	40.082200°N	104.973009°W

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<b>Site:</b>	Dacono 11 Pad	<b>MD Reference:</b>	KB @ 5031.00ft (Original Well Elev)
<b>Well:</b>	Dacono 30-2 (111428)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Dacono 30-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Dacono 30-2	<b>Database:</b>	EDM5000-New

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,228.00	10.90	18.95	1,218.88	94.23	83.34	14,556,681.66	1,647,973.15	40.082240°N	104.972985°W
1,314.00	11.29	6.64	1,303.28	110.29	86.96	14,556,697.71	1,647,976.75	40.082284°N	104.972972°W
1,399.00	11.21	355.83	1,386.66	126.80	87.32	14,556,714.22	1,647,977.11	40.082329°N	104.972971°W
1,485.00	10.90	354.65	1,471.06	143.23	85.95	14,556,730.65	1,647,975.74	40.082374°N	104.972976°W
1,570.00	11.69	346.43	1,554.42	159.60	83.18	14,556,747.03	1,647,972.97	40.082419°N	104.972986°W
1,656.00	12.92	341.15	1,638.44	177.17	78.03	14,556,764.59	1,647,967.81	40.082468°N	104.973004°W
1,740.00	13.58	333.58	1,720.21	194.89	70.61	14,556,782.31	1,647,960.38	40.082516°N	104.973031°W
1,825.00	14.50	332.94	1,802.67	213.31	61.33	14,556,800.72	1,647,951.09	40.082567°N	104.973064°W
1,911.00	16.70	333.33	1,885.50	233.94	50.88	14,556,821.35	1,647,940.64	40.082624°N	104.973101°W
1,996.00	18.90	326.43	1,966.44	256.33	37.79	14,556,843.74	1,647,927.54	40.082685°N	104.973148°W
2,082.00	20.79	320.72	2,047.33	279.75	20.42	14,556,867.16	1,647,910.16	40.082749°N	104.973210°W
2,167.00	22.10	317.42	2,126.45	303.20	0.05	14,556,890.60	1,647,889.79	40.082814°N	104.973283°W
2,253.00	22.81	315.36	2,205.93	326.98	-22.61	14,556,914.37	1,647,867.12	40.082879°N	104.973364°W
2,338.00	24.92	316.85	2,283.66	351.77	-46.44	14,556,939.15	1,647,843.28	40.082947°N	104.973449°W
2,424.00	26.28	316.46	2,361.21	378.79	-71.95	14,556,966.17	1,647,817.77	40.083021°N	104.973540°W
2,509.00	27.60	312.85	2,436.99	405.82	-99.35	14,556,993.19	1,647,790.36	40.083096°N	104.973638°W
2,595.00	28.92	314.44	2,512.74	433.93	-128.80	14,557,021.29	1,647,760.90	40.083173°N	104.973744°W
2,680.00	30.01	315.45	2,586.75	463.47	-158.39	14,557,050.82	1,647,731.30	40.083254°N	104.973850°W
2,766.00	31.20	316.06	2,660.77	494.84	-188.93	14,557,082.18	1,647,700.75	40.083340°N	104.973959°W
2,851.00	33.00	316.15	2,732.77	527.39	-220.25	14,557,114.72	1,647,669.42	40.083429°N	104.974071°W
2,937.00	33.88	316.63	2,804.53	561.70	-252.94	14,557,149.03	1,647,636.73	40.083524°N	104.974188°W
3,023.00	35.11	316.15	2,875.41	596.97	-286.53	14,557,184.28	1,647,603.12	40.083620°N	104.974308°W
3,104.00	32.92	315.93	2,942.55	629.58	-317.98	14,557,216.88	1,647,571.66	40.083710°N	104.974420°W
3,193.00	33.18	312.72	3,017.15	663.48	-352.70	14,557,250.77	1,647,536.93	40.083803°N	104.974544°W
3,278.00	32.78	313.95	3,088.46	695.23	-386.35	14,557,282.51	1,647,503.27	40.083890°N	104.974665°W
3,364.00	31.60	312.94	3,161.24	726.74	-419.61	14,557,314.01	1,647,470.00	40.083977°N	104.974783°W
3,449.00	33.00	316.06	3,233.09	758.58	-451.98	14,557,345.84	1,647,437.63	40.084064°N	104.974899°W
3,534.00	33.18	316.46	3,304.30	792.11	-484.06	14,557,379.36	1,647,405.53	40.084156°N	104.975014°W
3,705.00	32.39	313.95	3,448.07	857.82	-549.27	14,557,445.05	1,647,340.30	40.084337°N	104.975247°W
3,790.00	33.49	314.13	3,519.40	889.95	-582.50	14,557,477.17	1,647,307.07	40.084425°N	104.975366°W
3,876.00	33.09	315.75	3,591.29	923.29	-615.91	14,557,510.50	1,647,273.65	40.084517°N	104.975485°W
3,962.00	33.18	313.03	3,663.31	956.16	-649.49	14,557,543.37	1,647,240.05	40.084607°N	104.975605°W
4,047.00	32.39	311.23	3,734.77	987.04	-683.62	14,557,574.23	1,647,205.92	40.084692°N	104.975727°W
4,133.00	32.30	314.74	3,807.43	1,018.40	-717.27	14,557,605.58	1,647,172.26	40.084778°N	104.975848°W
4,218.00	28.70	315.14	3,880.66	1,048.86	-747.80	14,557,636.03	1,647,141.71	40.084861°N	104.975957°W
4,304.00	27.91	312.24	3,956.38	1,077.03	-777.27	14,557,664.19	1,647,112.23	40.084939°N	104.976062°W
4,390.00	29.31	309.43	4,031.88	1,103.93	-808.44	14,557,691.09	1,647,081.06	40.085013°N	104.976174°W
4,475.00	30.81	311.54	4,105.45	1,131.59	-840.80	14,557,718.73	1,647,048.69	40.085089°N	104.976289°W
4,560.00	31.90	312.85	4,178.04	1,161.30	-873.56	14,557,748.43	1,647,015.92	40.085170°N	104.976406°W
4,646.00	29.62	313.16	4,251.93	1,191.29	-905.73	14,557,778.42	1,646,983.75	40.085253°N	104.976521°W
4,731.00	29.31	316.15	4,325.94	1,220.66	-935.47	14,557,807.78	1,646,954.00	40.085333°N	104.976628°W
4,817.00	29.09	315.53	4,401.01	1,250.76	-964.69	14,557,837.87	1,646,924.76	40.085416°N	104.976732°W
4,902.00	28.21	316.94	4,475.61	1,280.19	-992.89	14,557,867.29	1,646,896.56	40.085497°N	104.976833°W
4,987.00	29.31	315.93	4,550.12	1,309.82	-1,021.07	14,557,896.91	1,646,868.36	40.085578°N	104.976934°W
5,073.00	30.10	316.72	4,624.82	1,340.64	-1,050.50	14,557,927.72	1,646,838.93	40.085663°N	104.977039°W
5,158.00	30.72	316.24	4,698.12	1,371.84	-1,080.13	14,557,958.91	1,646,809.29	40.085748°N	104.977145°W
5,243.00	29.49	318.83	4,771.66	1,403.27	-1,108.92	14,557,990.33	1,646,780.49	40.085835°N	104.977248°W
5,329.00	27.82	314.66	4,847.13	1,433.32	-1,137.13	14,558,020.37	1,646,752.27	40.085917°N	104.977349°W
5,414.00	28.92	312.85	4,921.92	1,461.24	-1,166.31	14,558,048.28	1,646,723.08	40.085994°N	104.977453°W
5,500.00	30.19	314.66	4,996.73	1,490.58	-1,196.94	14,558,077.62	1,646,692.45	40.086074°N	104.977563°W
5,585.00	32.08	313.82	5,069.49	1,521.23	-1,228.43	14,558,108.26	1,646,660.95	40.086159°N	104.977675°W
5,671.00	33.71	315.05	5,141.70	1,553.94	-1,261.77	14,558,140.95	1,646,627.60	40.086248°N	104.977794°W
5,756.00	33.88	316.15	5,212.33	1,587.72	-1,294.85	14,558,174.72	1,646,594.51	40.086341°N	104.977913°W
5,842.00	31.90	317.25	5,284.55	1,621.69	-1,326.88	14,558,208.69	1,646,562.46	40.086434°N	104.978027°W
5,927.00	31.82	316.15	5,356.74	1,654.34	-1,357.65	14,558,241.33	1,646,531.69	40.086524°N	104.978137°W

# Survey Report - Geographic

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<b>Site:</b>	Dacono 11 Pad	<b>MD Reference:</b>	KB @ 5031.00ft (Original Well Elev)
<b>Well:</b>	Dacono 30-2 (111428)	<b>North Reference:</b>	True
<b>Wellbore:</b>	Dacono 30-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Dacono 30-2	<b>Database:</b>	EDM5000-New

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,013.00	32.30	314.35	5,429.63	1,686.76	-1,389.79	14,558,273.74	1,646,499.54	40.086613°N	104.978252°W	
6,098.00	31.90	311.05	5,501.64	1,717.38	-1,422.97	14,558,304.35	1,646,466.35	40.086697°N	104.978371°W	
6,184.00	30.28	310.52	5,575.28	1,746.40	-1,456.59	14,558,333.35	1,646,432.72	40.086777°N	104.978491°W	
6,269.00	27.99	310.44	5,649.52	1,773.26	-1,488.06	14,558,360.21	1,646,401.24	40.086851°N	104.978604°W	
6,355.00	24.70	309.03	5,726.58	1,797.67	-1,517.39	14,558,384.61	1,646,371.90	40.086918°N	104.978708°W	
6,440.00	23.11	311.62	5,804.29	1,819.94	-1,543.66	14,558,406.87	1,646,345.63	40.086979°N	104.978802°W	
6,526.00	21.01	311.62	5,883.99	1,841.39	-1,567.80	14,558,428.31	1,646,321.48	40.087038°N	104.978889°W	
6,612.00	19.29	308.24	5,964.73	1,860.42	-1,590.49	14,558,447.34	1,646,298.79	40.087090°N	104.978970°W	
6,697.00	16.79	307.36	6,045.54	1,876.57	-1,611.27	14,558,463.48	1,646,277.99	40.087134°N	104.979044°W	
6,783.00	14.99	305.12	6,128.25	1,890.50	-1,630.25	14,558,477.41	1,646,259.02	40.087173°N	104.979112°W	
6,868.00	13.01	305.65	6,210.72	1,902.40	-1,647.01	14,558,489.30	1,646,242.25	40.087205°N	104.979172°W	
6,953.00	11.60	304.94	6,293.77	1,912.88	-1,661.79	14,558,499.77	1,646,227.46	40.087234°N	104.979225°W	
7,039.00	10.28	307.62	6,378.20	1,922.51	-1,674.96	14,558,509.40	1,646,214.29	40.087260°N	104.979272°W	
7,124.00	9.49	308.33	6,461.94	1,931.49	-1,686.47	14,558,518.38	1,646,202.79	40.087285°N	104.979313°W	
7,210.00	8.22	307.84	6,546.91	1,939.66	-1,696.88	14,558,526.54	1,646,192.37	40.087308°N	104.979350°W	
7,295.00	6.90	306.44	6,631.17	1,946.42	-1,705.79	14,558,533.30	1,646,183.46	40.087326°N	104.979382°W	
7,381.00	6.11	308.15	6,716.62	1,952.31	-1,713.54	14,558,539.19	1,646,175.70	40.087342°N	104.979410°W	
7,466.00	5.32	305.25	6,801.20	1,957.38	-1,720.32	14,558,544.26	1,646,168.92	40.087356°N	104.979434°W	
7,559.00	4.39	307.05	6,893.86	1,962.01	-1,726.68	14,558,548.89	1,646,162.56	40.087369°N	104.979457°W	
7,644.00	3.60	306.35	6,978.65	1,965.56	-1,731.43	14,558,552.43	1,646,157.81	40.087379°N	104.979474°W	
7,730.00	2.99	305.43	7,064.51	1,968.46	-1,735.43	14,558,555.33	1,646,153.81	40.087387°N	104.979488°W	
7,815.00	2.29	296.95	7,149.42	1,970.51	-1,738.75	14,558,557.38	1,646,150.49	40.087392°N	104.979500°W	
7,901.00	1.71	309.43	7,235.37	1,972.11	-1,741.27	14,558,558.98	1,646,147.97	40.087397°N	104.979509°W	
8,072.00	1.58	292.64	7,406.30	1,974.63	-1,745.42	14,558,561.50	1,646,143.82	40.087404°N	104.979524°W	
8,157.00	1.49	309.56	7,491.27	1,975.79	-1,747.35	14,558,562.66	1,646,141.89	40.087407°N	104.979531°W	
8,243.00	0.79	336.14	7,577.25	1,977.04	-1,748.45	14,558,563.91	1,646,140.78	40.087410°N	104.979535°W	
8,328.00	0.48	318.92	7,662.25	1,977.85	-1,748.93	14,558,564.72	1,646,140.31	40.087412°N	104.979536°W	
8,413.00	0.88	358.25	7,747.24	1,978.77	-1,749.18	14,558,565.64	1,646,140.06	40.087415°N	104.979537°W	
8,499.00	0.40	12.22	7,833.24	1,979.72	-1,749.14	14,558,566.59	1,646,140.10	40.087418°N	104.979537°W	
8,627.00	0.70	18.42	7,961.23	1,980.90	-1,748.79	14,558,567.77	1,646,140.44	40.087421°N	104.979536°W	
8,755.00	0.62	16.53	8,089.22	1,982.31	-1,748.35	14,558,569.18	1,646,140.89	40.087425°N	104.979534°W	
8,918.00	0.70	17.32	8,252.21	1,984.10	-1,747.80	14,558,570.97	1,646,141.43	40.087430°N	104.979532°W	
8,969.00	0.70	17.32	8,303.21	1,984.70	-1,747.62	14,558,571.57	1,646,141.62	40.087431°N	104.979532°W	
Proj to TD at 8969 MD/8303 TVD										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
8,969.00	8,303.21	1,984.70	-1,747.62	Proj to TD at 8969 MD/8303 TVD	

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