

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 3-T2N-R65W

Cannon 14N-E3HZ

Plan A Rev 0

Design: Actual Field Surveys

Survey Report - Geographic

19 October, 2012

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Project	Weld County, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Sec. 3-T2N-R65W				
Site Position:		Northing:	1,307,311.71 ft	Latitude:	40.173779
From:	Lat/Long	Easting:	3,239,877.08 ft	Longitude:	-104.641565
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.55 °

Well	Cannon 14N-E3HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,379.45 ft	Latitude:	40.174017
	+E/-W	0.00 ft	Easting:	3,237,910.76 ft	Longitude:	-104.648599
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,839.00 ft

Wellbore	Plan A Rev 0				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2012-09-16	8.66	66.82	52,814

Design	Actual Field Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	196.10	

Survey Program	Date	2012-10-19			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
16.00	761.00	Surface Gyros (Plan A Rev 0)	NS-GYRO-MS	North sensing gyrocompassing m/s	
855.00	7,352.00	Sperry MWD Survey - Vert/Build (Plan A R	MWD+SC	Fixed:v2:standard dec & axial correction	
7,432.00	11,483.00	Sperry MWD Surveys - Lateral (Plan A Re	MWD+SC	Fixed:v2:standard dec & axial correction	

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
16.00	0.00	0.00	16.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
Xtreme 22 - RKB = 16ft									
116.00	0.75	319.04	116.00	0.49	-0.43	1,307,379.94	3,237,910.32	40.174018	-104.648601
First Gyro Survey @ 116.00ft									
216.00	0.72	326.19	215.99	1.51	-1.21	1,307,380.95	3,237,909.53	40.174021	-104.648603
316.00	0.38	322.56	315.98	2.30	-1.76	1,307,381.73	3,237,908.98	40.174023	-104.648605
416.00	0.33	24.26	415.98	2.82	-1.84	1,307,382.25	3,237,908.89	40.174025	-104.648606
516.00	0.28	35.41	515.98	3.28	-1.58	1,307,382.71	3,237,909.14	40.174026	-104.648605
616.00	0.28	351.77	615.98	3.72	-1.48	1,307,383.16	3,237,909.24	40.174027	-104.648604
716.00	0.11	285.15	715.98	3.99	-1.60	1,307,383.42	3,237,909.11	40.174028	-104.648605
761.00	0.34	241.89	760.98	3.94	-1.76	1,307,383.37	3,237,908.96	40.174028	-104.648605
Final Gyro Survey @ 761.00ft - Tie-On to Gyro Surveys @ 761.00ft									
838.00	0.16	263.92	837.98	3.82	-2.07	1,307,383.25	3,237,908.65	40.174027	-104.648606
First Sperry MWD Survey @ 838.00ft									
928.00	0.15	0.40	927.98	3.92	-2.20	1,307,383.35	3,237,908.52	40.174028	-104.648607
1,019.00	1.86	282.55	1,018.96	4.36	-3.64	1,307,383.78	3,237,907.08	40.174029	-104.648612
1,109.00	4.10	281.95	1,108.83	5.35	-8.21	1,307,384.72	3,237,902.49	40.174032	-104.648628
1,200.00	5.78	280.66	1,199.49	6.87	-15.90	1,307,386.16	3,237,894.79	40.174036	-104.648656
1,288.00	7.80	273.06	1,286.87	8.01	-26.22	1,307,387.20	3,237,884.46	40.174039	-104.648693
1,380.00	10.36	270.13	1,377.71	8.36	-40.73	1,307,387.42	3,237,869.95	40.174040	-104.648745
1,472.00	12.31	271.85	1,467.91	8.70	-58.80	1,307,387.58	3,237,851.87	40.174041	-104.648809
1,562.00	12.21	270.27	1,555.86	9.05	-77.91	1,307,387.75	3,237,832.77	40.174042	-104.648878
1,651.00	11.82	268.80	1,642.91	8.90	-96.43	1,307,387.42	3,237,814.24	40.174041	-104.648944
1,742.00	12.40	273.34	1,731.89	9.28	-115.51	1,307,387.62	3,237,795.17	40.174042	-104.649012
1,833.00	11.72	280.29	1,820.89	11.50	-134.36	1,307,389.65	3,237,776.30	40.174049	-104.649080
1,923.00	12.96	276.87	1,908.81	14.34	-153.37	1,307,392.31	3,237,757.26	40.174056	-104.649148
2,014.00	11.80	284.03	1,997.69	17.82	-172.53	1,307,395.60	3,237,738.07	40.174066	-104.649216
2,104.00	13.47	281.28	2,085.51	22.10	-191.74	1,307,399.70	3,237,718.82	40.174078	-104.649285
2,194.00	12.32	280.39	2,173.24	25.88	-211.46	1,307,403.29	3,237,699.06	40.174088	-104.649356
2,280.00	12.45	280.14	2,257.24	29.17	-229.61	1,307,406.41	3,237,680.88	40.174097	-104.649421
2,365.00	11.32	286.49	2,340.42	33.15	-246.63	1,307,410.22	3,237,663.83	40.174108	-104.649482
2,451.00	10.95	272.91	2,424.81	35.96	-262.89	1,307,412.88	3,237,647.55	40.174116	-104.649540
2,537.00	11.31	278.37	2,509.20	37.60	-279.39	1,307,414.36	3,237,631.03	40.174120	-104.649599
2,623.00	11.01	273.92	2,593.57	39.39	-295.92	1,307,415.99	3,237,614.48	40.174125	-104.649658
2,708.00	10.42	277.41	2,677.09	40.94	-311.65	1,307,417.39	3,237,598.75	40.174129	-104.649714
2,794.00	11.09	277.22	2,761.58	42.98	-327.56	1,307,419.28	3,237,582.81	40.174135	-104.649771
2,880.00	12.94	273.42	2,845.70	44.59	-345.38	1,307,420.72	3,237,564.98	40.174139	-104.649835
2,965.00	11.42	273.18	2,928.78	45.63	-363.29	1,307,421.58	3,237,547.06	40.174142	-104.649899
3,051.00	11.77	277.36	3,013.03	47.22	-380.49	1,307,423.01	3,237,529.85	40.174147	-104.649961
3,137.00	12.78	277.01	3,097.06	49.51	-398.63	1,307,425.12	3,237,511.69	40.174153	-104.650025
3,223.00	10.84	274.09	3,181.24	51.25	-416.13	1,307,426.69	3,237,494.17	40.174158	-104.650088
3,308.00	10.78	280.50	3,264.73	53.26	-431.92	1,307,428.56	3,237,478.36	40.174163	-104.650145
3,394.00	10.75	277.69	3,349.22	55.80	-447.78	1,307,430.95	3,237,462.48	40.174170	-104.650201
3,480.00	12.27	274.32	3,433.49	57.56	-464.84	1,307,432.54	3,237,445.40	40.174175	-104.650262
3,566.00	12.06	272.06	3,517.56	58.58	-482.93	1,307,433.38	3,237,427.30	40.174178	-104.650327
3,652.00	12.53	275.32	3,601.58	59.76	-501.20	1,307,434.39	3,237,409.03	40.174181	-104.650393
3,737.00	13.40	280.04	3,684.42	62.34	-520.08	1,307,436.78	3,237,390.12	40.174188	-104.650460
3,823.00	12.20	282.20	3,768.28	65.99	-538.78	1,307,440.26	3,237,371.39	40.174198	-104.650527
3,909.00	13.56	278.36	3,852.12	69.38	-557.63	1,307,443.47	3,237,352.51	40.174207	-104.650594
4,008.00	12.09	272.04	3,948.65	71.44	-579.48	1,307,445.31	3,237,330.64	40.174213	-104.650673
4,107.00	14.17	272.40	4,045.05	72.31	-601.95	1,307,445.97	3,237,308.16	40.174215	-104.650753
4,152.00	13.62	270.39	4,088.74	72.58	-612.75	1,307,446.14	3,237,297.36	40.174216	-104.650792
4,237.00	11.59	270.59	4,171.68	72.74	-631.30	1,307,446.12	3,237,278.81	40.174217	-104.650858
4,323.00	12.22	280.42	4,255.84	74.47	-648.89	1,307,447.68	3,237,261.21	40.174221	-104.650921

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,409.00	11.80	281.75	4,339.96	77.91	-666.45	1,307,450.95	3,237,243.61	40.174231	-104.650984
4,495.00	11.24	283.38	4,424.23	81.64	-683.22	1,307,454.52	3,237,226.82	40.174241	-104.651044
4,580.00	13.27	283.14	4,507.29	85.77	-700.78	1,307,458.48	3,237,209.22	40.174252	-104.651107
4,666.00	13.94	284.84	4,590.87	90.67	-720.40	1,307,463.19	3,237,189.55	40.174266	-104.651177
4,752.00	13.60	281.79	4,674.40	95.39	-740.31	1,307,467.72	3,237,169.59	40.174279	-104.651248
4,838.00	11.37	279.90	4,758.36	98.91	-758.56	1,307,471.07	3,237,151.31	40.174288	-104.651313
4,923.00	9.43	279.38	4,841.96	101.49	-773.69	1,307,473.50	3,237,136.16	40.174296	-104.651368
5,008.00	10.22	278.75	4,925.72	103.77	-788.01	1,307,475.64	3,237,121.82	40.174302	-104.651419
5,099.00	11.77	271.49	5,015.05	105.24	-805.27	1,307,476.95	3,237,104.54	40.174306	-104.651481
5,140.00	12.96	274.05	5,055.10	105.67	-814.04	1,307,477.30	3,237,095.77	40.174307	-104.651512
5,226.00	12.82	272.70	5,138.93	106.81	-833.19	1,307,478.24	3,237,076.61	40.174310	-104.651581
5,311.00	10.29	268.94	5,222.20	107.11	-850.20	1,307,478.38	3,237,059.60	40.174311	-104.651641
5,397.00	13.44	273.67	5,306.36	107.61	-867.86	1,307,478.71	3,237,041.94	40.174312	-104.651705
5,483.00	12.04	276.39	5,390.24	109.24	-886.75	1,307,480.17	3,237,023.04	40.174317	-104.651772
5,569.00	11.83	275.49	5,474.38	111.09	-904.44	1,307,481.84	3,237,005.33	40.174322	-104.651836
5,654.00	12.17	273.10	5,557.52	112.40	-922.06	1,307,482.99	3,236,987.70	40.174325	-104.651899
5,740.00	11.40	275.78	5,641.71	113.75	-939.57	1,307,484.17	3,236,970.18	40.174329	-104.651961
5,826.00	11.12	279.19	5,726.05	115.93	-956.21	1,307,486.19	3,236,953.52	40.174335	-104.652021
5,912.00	11.25	273.40	5,810.42	117.75	-972.77	1,307,487.85	3,236,936.94	40.174340	-104.652080
5,998.00	12.44	276.55	5,894.59	119.31	-990.35	1,307,489.24	3,236,919.35	40.174344	-104.652143
6,083.00	12.89	275.48	5,977.52	121.26	-1,008.88	1,307,491.01	3,236,900.80	40.174350	-104.652209
6,169.00	12.38	274.07	6,061.44	122.83	-1,027.63	1,307,492.40	3,236,882.04	40.174354	-104.652276
6,255.00	12.70	268.64	6,145.39	123.26	-1,046.27	1,307,492.65	3,236,863.39	40.174355	-104.652343
6,340.00	12.47	276.42	6,228.35	124.06	-1,064.74	1,307,493.28	3,236,844.92	40.174357	-104.652409
6,426.00	10.84	273.49	6,312.58	125.59	-1,082.03	1,307,494.64	3,236,827.61	40.174362	-104.652471
6,512.00	11.35	252.68	6,397.01	123.56	-1,098.19	1,307,492.46	3,236,811.47	40.174356	-104.652529
6,555.00	12.42	245.77	6,439.09	120.41	-1,106.45	1,307,489.22	3,236,803.25	40.174347	-104.652558
6,598.00	13.48	243.41	6,480.99	116.27	-1,115.15	1,307,485.00	3,236,794.59	40.174336	-104.652590
6,642.00	15.56	242.56	6,523.58	111.25	-1,124.97	1,307,479.89	3,236,784.82	40.174322	-104.652625
6,684.00	17.84	234.67	6,563.82	104.93	-1,135.22	1,307,473.47	3,236,774.63	40.174305	-104.652661
6,733.00	21.18	230.59	6,610.00	94.97	-1,148.19	1,307,463.38	3,236,761.76	40.174278	-104.652708
6,769.00	22.44	232.44	6,643.42	86.65	-1,158.66	1,307,454.97	3,236,751.36	40.174255	-104.652745
6,811.00	24.36	228.73	6,681.97	76.05	-1,171.53	1,307,444.24	3,236,738.60	40.174226	-104.652791
6,855.00	26.79	224.97	6,721.65	63.05	-1,185.36	1,307,431.11	3,236,724.90	40.174190	-104.652841
6,898.00	29.54	223.28	6,759.56	48.47	-1,199.48	1,307,416.40	3,236,710.92	40.174150	-104.652891
6,941.00	30.92	214.71	6,796.73	31.66	-1,213.04	1,307,399.46	3,236,697.52	40.174104	-104.652940
6,979.00	33.61	212.68	6,828.86	14.78	-1,224.28	1,307,382.47	3,236,686.44	40.174057	-104.652980
7,023.00	38.90	207.91	6,864.34	-7.70	-1,237.34	1,307,359.87	3,236,673.60	40.173996	-104.653027
7,064.00	44.39	205.57	6,894.96	-32.03	-1,249.56	1,307,335.42	3,236,661.61	40.173929	-104.653070
7,110.00	50.72	202.00	6,926.00	-63.09	-1,263.19	1,307,304.24	3,236,648.28	40.173844	-104.653119
7,150.00	55.96	197.68	6,949.88	-93.26	-1,274.04	1,307,273.96	3,236,637.73	40.173761	-104.653158
7,197.00	61.99	195.77	6,974.09	-131.82	-1,285.60	1,307,235.30	3,236,626.53	40.173655	-104.653199
7,236.00	67.49	192.28	6,990.73	-166.02	-1,294.12	1,307,201.01	3,236,618.34	40.173561	-104.653230
7,275.00	73.17	191.20	7,003.86	-201.97	-1,301.58	1,307,165.00	3,236,611.23	40.173462	-104.653257
7,321.00	77.46	188.13	7,015.52	-245.82	-1,309.04	1,307,121.08	3,236,604.19	40.173342	-104.653283
7,352.00	81.30	185.79	7,021.23	-276.05	-1,312.73	1,307,090.81	3,236,600.80	40.173259	-104.653296
7,402.91	85.44	183.44	7,027.11	-326.45	-1,316.79	1,307,040.39	3,236,597.22	40.173121	-104.653311
7" Intermediate Casing @ 7402.91ft MD									
7,432.00	87.81	182.11	7,028.82	-355.45	-1,318.19	1,307,011.37	3,236,596.09	40.173041	-104.653316
7,474.00	87.69	181.96	7,030.47	-397.39	-1,319.68	1,306,969.42	3,236,595.00	40.172926	-104.653321
7,560.00	89.85	180.67	7,032.32	-483.34	-1,321.66	1,306,883.46	3,236,593.86	40.172690	-104.653328
7,646.00	91.02	179.81	7,031.66	-569.34	-1,322.02	1,306,797.47	3,236,594.32	40.172454	-104.653330
7,732.00	91.57	180.50	7,029.72	-655.31	-1,322.25	1,306,711.50	3,236,594.91	40.172218	-104.653330
7,817.00	91.98	181.26	7,027.09	-740.26	-1,323.56	1,306,626.54	3,236,594.43	40.171985	-104.653335
7,903.00	90.31	181.53	7,025.37	-826.21	-1,325.65	1,306,540.58	3,236,593.16	40.171749	-104.653343

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
7,989.00	90.22	182.03	7,024.97	-912.17	-1,328.32	1,306,454.60	3,236,591.31	40.171513	-104.653352
8,075.00	90.65	181.20	7,024.32	-998.13	-1,330.74	1,306,368.62	3,236,589.71	40.171277	-104.653361
8,160.00	91.36	180.28	7,022.83	-1,083.11	-1,331.84	1,306,283.64	3,236,589.43	40.171044	-104.653365
8,246.00	90.22	178.25	7,021.64	-1,169.09	-1,330.74	1,306,197.68	3,236,591.36	40.170808	-104.653361
8,332.00	91.39	177.35	7,020.43	-1,255.02	-1,327.44	1,306,111.80	3,236,595.49	40.170572	-104.653349
8,418.00	91.23	177.30	7,018.47	-1,340.90	-1,323.42	1,306,025.96	3,236,600.32	40.170336	-104.653335
8,504.00	91.48	177.26	7,016.43	-1,426.78	-1,319.34	1,305,940.13	3,236,605.23	40.170100	-104.653320
8,589.00	91.32	177.31	7,014.36	-1,511.66	-1,315.32	1,305,855.29	3,236,610.07	40.169867	-104.653306
8,675.00	91.11	177.75	7,012.53	-1,597.56	-1,311.61	1,305,769.44	3,236,614.60	40.169632	-104.653292
8,761.00	91.33	177.69	7,010.70	-1,683.47	-1,308.19	1,305,683.56	3,236,618.84	40.169396	-104.653280
8,847.00	91.54	177.86	7,008.55	-1,769.38	-1,304.86	1,305,597.69	3,236,623.00	40.169160	-104.653268
8,932.00	90.96	176.79	7,006.69	-1,854.27	-1,300.89	1,305,512.85	3,236,627.78	40.168927	-104.653254
9,018.00	89.54	177.14	7,006.32	-1,940.14	-1,296.34	1,305,427.03	3,236,633.16	40.168691	-104.653238
9,104.00	89.26	176.32	7,007.22	-2,026.00	-1,291.43	1,305,341.23	3,236,638.89	40.168455	-104.653220
9,189.00	89.45	176.75	7,008.18	-2,110.84	-1,286.29	1,305,256.45	3,236,644.84	40.168223	-104.653202
9,275.00	90.37	176.77	7,008.31	-2,196.70	-1,281.43	1,305,170.64	3,236,650.53	40.167987	-104.653184
9,361.00	90.52	178.78	7,007.64	-2,282.63	-1,278.09	1,305,084.75	3,236,654.69	40.167751	-104.653172
9,446.00	90.09	178.68	7,007.19	-2,367.60	-1,276.21	1,304,999.80	3,236,657.39	40.167518	-104.653165
9,532.00	88.58	177.98	7,008.19	-2,453.56	-1,273.70	1,304,913.88	3,236,660.72	40.167282	-104.653156
9,618.00	89.60	179.08	7,009.55	-2,539.52	-1,271.50	1,304,827.95	3,236,663.75	40.167046	-104.653149
9,703.00	88.98	178.66	7,010.61	-2,624.49	-1,269.82	1,304,742.99	3,236,666.24	40.166813	-104.653143
9,789.00	90.40	179.10	7,011.07	-2,710.47	-1,268.14	1,304,657.04	3,236,668.75	40.166577	-104.653136
9,875.00	91.82	179.49	7,009.41	-2,796.45	-1,267.08	1,304,571.08	3,236,670.63	40.166341	-104.653133
9,960.00	91.45	179.39	7,006.98	-2,881.41	-1,266.25	1,304,486.14	3,236,672.28	40.166107	-104.653130
10,046.00	92.22	179.75	7,004.23	-2,967.36	-1,265.61	1,304,400.20	3,236,673.75	40.165871	-104.653127
10,132.00	91.79	179.64	7,001.22	-3,053.31	-1,265.15	1,304,314.26	3,236,675.03	40.165636	-104.653126
10,217.00	91.61	179.88	6,998.70	-3,138.27	-1,264.80	1,304,229.31	3,236,676.20	40.165402	-104.653124
10,303.00	90.46	178.96	6,997.14	-3,224.25	-1,263.92	1,304,143.35	3,236,677.90	40.165166	-104.653121
10,389.00	90.15	178.50	6,996.69	-3,310.23	-1,262.02	1,304,057.40	3,236,680.63	40.164930	-104.653114
10,475.00	90.03	178.42	6,996.55	-3,396.19	-1,259.71	1,303,971.46	3,236,683.77	40.164694	-104.653106
10,560.00	89.75	177.55	6,996.71	-3,481.14	-1,256.72	1,303,886.55	3,236,687.57	40.164461	-104.653095
10,646.00	90.43	178.80	6,996.58	-3,567.09	-1,253.98	1,303,800.63	3,236,691.13	40.164225	-104.653086
10,732.00	92.38	179.62	6,994.47	-3,653.06	-1,252.79	1,303,714.69	3,236,693.14	40.163989	-104.653081
10,817.00	92.80	179.79	6,990.63	-3,737.97	-1,252.36	1,303,629.79	3,236,694.40	40.163756	-104.653080
10,903.00	91.85	181.02	6,987.14	-3,823.89	-1,252.96	1,303,543.86	3,236,694.61	40.163520	-104.653082
10,989.00	91.73	181.38	6,984.45	-3,909.83	-1,254.77	1,303,457.91	3,236,693.64	40.163284	-104.653088
11,074.00	90.71	181.56	6,982.64	-3,994.78	-1,256.95	1,303,372.95	3,236,692.28	40.163051	-104.653096
11,160.00	91.42	181.33	6,981.05	-4,080.74	-1,259.11	1,303,286.98	3,236,690.93	40.162815	-104.653104
11,246.00	91.48	183.05	6,978.87	-4,166.65	-1,262.40	1,303,201.05	3,236,688.47	40.162579	-104.653116
11,332.00	90.09	183.02	6,977.69	-4,252.52	-1,266.95	1,303,115.14	3,236,684.74	40.162344	-104.653132
11,416.00	90.18	182.76	6,977.49	-4,336.41	-1,271.19	1,303,031.22	3,236,681.32	40.162113	-104.653147
11,483.00	89.97	182.61	6,977.41	-4,403.33	-1,274.33	1,302,964.27	3,236,678.82	40.161930	-104.653158
Final Sperry MWD Survey @ 11483.00ft									
11,530.00	89.97	182.61	6,977.43	-4,450.29	-1,276.47	1,302,917.30	3,236,677.13	40.161801	-104.653166
Straight Line Projection to TD @ 11530ft									

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Cannon 14N-E3HZ_V	0.00	0.00	7,003.53	-3,300.00	-1,250.00	1,304,067.74	3,236,692.55	40.164958	-104.653071
- actual wellpath misses target center by 14.04ft at 10379.01ft MD (6996.72 TVD, -3300.24 N, -1262.28 E)									
- Point									
Cannon 14N-E3HZ_B	0.00	0.00	7,007.00	-4,467.33	-1,289.34	1,302,900.13	3,236,664.42	40.161754	-104.653212
- actual wellpath misses target center by 36.48ft at 11530.00ft MD (6977.43 TVD, -4450.29 N, -1276.47 E)									
- Point									
Cannon 14N-E3HZ_S	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- actual wellpath hits target center									
- Point									
Cannon 14N-E3HZ_L	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- actual wellpath hits target center									
- Polygon									
Point 1			0.00	-240.70	-1,172.88	1,307,127.51	3,236,740.29		
Point 2			0.00	-231.92	-2,087.87	1,307,127.50	3,235,825.30		
Point 3			0.00	-4,471.79	-2,129.40	1,302,887.61	3,235,824.48		
Point 4			0.00	-4,480.58	-1,214.40	1,302,887.60	3,236,739.48		
Cannon 14N-E3HZ_S	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- actual wellpath hits target center									
- Polygon									
Point 1			0.00	-255.91	1,879.70	1,307,141.61	3,239,792.75		
Point 2			0.00	-241.89	-302.35	1,307,134.68	3,237,610.76		
Point 3			0.00	-228.06	-2,490.94	1,307,127.49	3,235,422.23		
Point 4			0.00	-2,273.34	-2,510.90	1,305,082.20	3,235,421.90		
Point 5			0.00	-4,467.93	-2,532.32	1,302,887.60	3,235,421.56		
Point 6			0.00	-4,465.35	1,822.83	1,302,931.99	3,239,776.30		
Point 7			0.00	-2,277.74	1,845.02	1,305,119.62	3,239,777.48		
Cannon 14N-E3HZ_S	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- actual wellpath hits target center									
- Polygon									
Point 1			0.00	201.11	2,347.64	1,307,603.08	3,240,256.26		
Point 2			0.00	218.12	-299.44	1,307,594.67	3,237,609.25		
Point 3			0.00	234.85	-2,946.47	1,307,585.99	3,234,962.29		
Point 4			0.00	-2,272.87	-2,970.94	1,305,078.25	3,234,961.90		
Point 5			0.00	-4,928.22	-2,996.86	1,302,422.89	3,234,961.48		
Point 6			0.00	-4,925.09	2,278.21	1,302,476.66	3,240,236.05		
Point 7			0.00	-2,278.20	2,305.06	1,305,123.58	3,240,237.49		
Cannon 14N-E3HZ_V	0.00	0.00	7,001.45	-2,600.00	-1,275.00	1,304,767.44	3,236,660.83	40.166880	-104.653161
- actual wellpath misses target center by 9.91ft at 9678.30ft MD (7010.21 TVD, -2599.80 N, -1270.37 E)									
- Point									

Casing Points

Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(")	(")
7,402.91	7,027.11	7" Intermediate Casing @ 7402.91ft MD	7	8-3/4

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Targets

Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Cannon 14N-E3HZ_V	- actual wellpath misses target center by 14.04ft at 10379.01ft MD (6996.72 TVD, -3300.24 N, -1262.28 E)	0.00	0.00	7,003.53	-3,300.00	-1,250.00	1,304,067.74	3,236,692.55	40.164958	-104.653071
- Point										
Cannon 14N-E3HZ_B	- actual wellpath misses target center by 36.48ft at 11530.00ft MD (6977.43 TVD, -4450.29 N, -1276.47 E)	0.00	0.00	7,007.00	-4,467.33	-1,289.34	1,302,900.13	3,236,664.42	40.161754	-104.653212
- Point										
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Point										
Cannon 14N-E3HZ_L	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	-240.70	-1,172.88	1,307,127.51	3,236,740.29		
Point 2				0.00	-231.92	-2,087.87	1,307,127.50	3,235,825.30		
Point 3				0.00	-4,471.79	-2,129.40	1,302,887.61	3,235,824.48		
Point 4				0.00	-4,480.58	-1,214.40	1,302,887.60	3,236,739.48		
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	-255.91	1,879.70	1,307,141.61	3,239,792.75		
Point 2				0.00	-241.89	-302.35	1,307,134.68	3,237,610.76		
Point 3				0.00	-228.06	-2,490.94	1,307,127.49	3,235,422.23		
Point 4				0.00	-2,273.34	-2,510.90	1,305,082.20	3,235,421.90		
Point 5				0.00	-4,467.93	-2,532.32	1,302,887.60	3,235,421.56		
Point 6				0.00	-4,465.35	1,822.83	1,302,931.99	3,239,776.30		
Point 7				0.00	-2,277.74	1,845.02	1,305,119.62	3,239,777.48		
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	201.11	2,347.64	1,307,603.08	3,240,256.26		
Point 2				0.00	218.12	-299.44	1,307,594.67	3,237,609.25		
Point 3				0.00	234.85	-2,946.47	1,307,585.99	3,234,962.29		
Point 4				0.00	-2,272.87	-2,970.94	1,305,078.25	3,234,961.90		
Point 5				0.00	-4,928.22	-2,996.86	1,302,422.89	3,234,961.48		
Point 6				0.00	-4,925.09	2,278.21	1,302,476.66	3,240,236.05		
Point 7				0.00	-2,278.20	2,305.06	1,305,123.58	3,240,237.49		
Cannon 14N-E3HZ_V	- actual wellpath misses target center by 9.91ft at 9678.30ft MD (7010.21 TVD, -2599.80 N, -1270.37 E)	0.00	0.00	7,001.45	-2,600.00	-1,275.00	1,304,767.44	3,236,660.83	40.166880	-104.653161
- Point										

Casing Points

Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(")	(")
7,402.91	7,027.11	7" Intermediate Casing @ 7402.91ft MD	7	8-3/4

Design Annotations

Measured Depth	Vertical Depth	Local Coordinates	Comment
(ft)	(ft)	+N/-S (ft) +E/-W (ft)	
16.00	16.00	0.00 0.00	Xtreme 22 - RKB = 16ft
116.00	116.00	0.49 -0.43	First Gyro Survey @ 116.00ft

Halliburton Company

Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Targets

Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Cannon 14N-E3HZ_V	- actual wellpath misses target center by 14.04ft at 10379.01ft MD (6996.72 TVD, -3300.24 N, -1262.28 E)	0.00	0.00	7,003.53	-3,300.00	-1,250.00	1,304,067.74	3,236,692.55	40.164958	-104.653071
- Point										
Cannon 14N-E3HZ_B	- actual wellpath misses target center by 36.48ft at 11530.00ft MD (6977.43 TVD, -4450.29 N, -1276.47 E)	0.00	0.00	7,007.00	-4,467.33	-1,289.34	1,302,900.13	3,236,664.42	40.161754	-104.653212
- Point										
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Point										
Cannon 14N-E3HZ_L	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	-240.70	-1,172.88	1,307,127.51	3,236,740.29		
Point 2				0.00	-231.92	-2,087.87	1,307,127.50	3,235,825.30		
Point 3				0.00	-4,471.79	-2,129.40	1,302,887.61	3,235,824.48		
Point 4				0.00	-4,480.58	-1,214.40	1,302,887.60	3,236,739.48		
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	-255.91	1,879.70	1,307,141.61	3,239,792.75		
Point 2				0.00	-241.89	-302.35	1,307,134.68	3,237,610.76		
Point 3				0.00	-228.06	-2,490.94	1,307,127.49	3,235,422.23		
Point 4				0.00	-2,273.34	-2,510.90	1,305,082.20	3,235,421.90		
Point 5				0.00	-4,467.93	-2,532.32	1,302,887.60	3,235,421.56		
Point 6				0.00	-4,465.35	1,822.83	1,302,931.99	3,239,776.30		
Point 7				0.00	-2,277.74	1,845.02	1,305,119.62	3,239,777.48		
Cannon 14N-E3HZ_S	- actual wellpath hits target center	0.00	0.00	0.00	0.00	0.00	1,307,379.45	3,237,910.76	40.174017	-104.648599
- Polygon										
Point 1				0.00	201.11	2,347.64	1,307,603.08	3,240,256.26		
Point 2				0.00	218.12	-299.44	1,307,594.67	3,237,609.25		
Point 3				0.00	234.85	-2,946.47	1,307,585.99	3,234,962.29		
Point 4				0.00	-2,272.87	-2,970.94	1,305,078.25	3,234,961.90		
Point 5				0.00	-4,928.22	-2,996.86	1,302,422.89	3,234,961.48		
Point 6				0.00	-4,925.09	2,278.21	1,302,476.66	3,240,236.05		
Point 7				0.00	-2,278.20	2,305.06	1,305,123.58	3,240,237.49		
Cannon 14N-E3HZ_V	- actual wellpath misses target center by 9.91ft at 9678.30ft MD (7010.21 TVD, -2599.80 N, -1270.37 E)	0.00	0.00	7,001.45	-2,600.00	-1,275.00	1,304,767.44	3,236,660.83	40.166880	-104.653161
- Point										

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,402.91	7,027.11	7" Intermediate Casing @ 7402.91ft MD	7	8-3/4
761.00	760.98	3.94 -1.76 Final Gyro Survey @ 761.00ft		
761.00	760.98	3.94 -1.76 Tie-On to Gyro Surveys @ 761.00ft		
838.00	837.98	3.82 -2.07 First Sperry MWD Survey @ 838.00ft		
11,483.00	6,977.41	-4,403.33 -1,274.33 Final Sperry MWD Survey @ 11483.00ft		
11,530.00	6,977.43	-4,450.29 -1,276.47 Straight Line Projection to TD @ 11530ft		

Halliburton Company
Survey Report - Geographic

Company:	Anadarko Petroleum Corp.	Local Co-ordinate Reference:	Well Cannon 14N-E3HZ
Project:	Weld County, CO (NAD 83)	TVD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Site:	Sec. 3-T2N-R65W	MD Reference:	RKB=16ft @ 4855.00ft (Xtreme 22)
Well:	Cannon 14N-E3HZ	North Reference:	True
Wellbore:	Plan A Rev 0	Survey Calculation Method:	Minimum Curvature
Design:	Actual Field Surveys	Database:	EDM 2003.16 Single User Db

Checked By: _____ Approved By: _____ Date: _____