



Weatherford®



END OF WELL REPORT

FINAL SURVEYS

SECTION 1

DAILY ACTIVITIES

SECTION 2

BHA REPORTS

SECTION 3

MOTOR REPORTS

SECTION 4

SLIDE SHEET REPORTS

SECTION 5



FINAL SURVEYS



Weatherford®

Weatherford
2000 Oil Drive
Casper, WY 82604

Survey Certification

Operating Company:	Anadarko Petroleum Corp.
Well Name:	HOWARD 24C-22HZ
State:	CO
County:	WELD
API Number:	512338232
Datum:	NAD 83
Survey Calculation Method:	Minimum Curvature
North Reference:	True North

I, Matt Maydew, hereby certify the attached
directional survey run from the measure depth of 1,271.00 feet
to the measured depth of 14,923.00 feet as accurate and true
to the best of my knowledge.

Signature

17-Dec-13

Date

Matt Maydew
Directional Planning
Weatherford - Rockies District



Plan Data for HOWARD 24C-22HZ

Field: WATTENBERG ANADARKO_NAD 83
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / Colorado North (ftUS)

Site: HOWARD 15-27HZ PAD
Unit: USFet TVD Reference:
Company Name: Anadarko Petroleum
Position: Northing: 1249373.86USft Latitude: 40.016224°
Easting: 3175072.22USft Longitude: -104.874931°
North Reference: True Grid Convergence: 0.40°
Elevation Above VRD: 5033.00USft

Slot: HOWARD 24C-22HZ
Position:
Offset is from Site centre
+N/-S: 60.10USft Northing: 1249433.96USft Latitude: 40.016389°
+E/-W: -0.28USft Easting: 3175071.52USft Longitude: -104.874932°
Elevation Above VRD: 5033.00USft

Well: HOWARD 24C-22HZ
Type: Main-Well
File Number:
Vertical Section: Position offset of origin from Slot centre:
+N/-S: -0.00USft Azimuth: 2.93°
+E/-W: -0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
BGGM 52626(nT) 8.61° 66.63° 2013-11-16

Survey Point Information:

DogLeg Severity Unit: °/100.00ft Position offsets from Slot centre

MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface	Build	Turn	Annotations
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)	(DLSU)	(DLSU)	
1131.00	0.24	0.21	1130.99	-0.99	-0.58	-1.02	0.40	321.2	0.33	-60.40	TIE ON
1271.00	0.47	289.44	1270.99	-0.50	-1.12	-0.56	0.32	259.1	0.16	-50.55	FIRST WFT MWD+IFR SVY
14923.00	90.31	3.68	7704.25	6792.99	779.00	6823.93	1.13	199.4	-1.06	-0.37	LAST WFT MWD+IFR SVY
14975.00	90.31	3.68	7703.97	6844.88	782.33	6875.92	0.00	0.0	0.00	0.00	PROJECTION TO TD

Target Set Information:

Name: 7

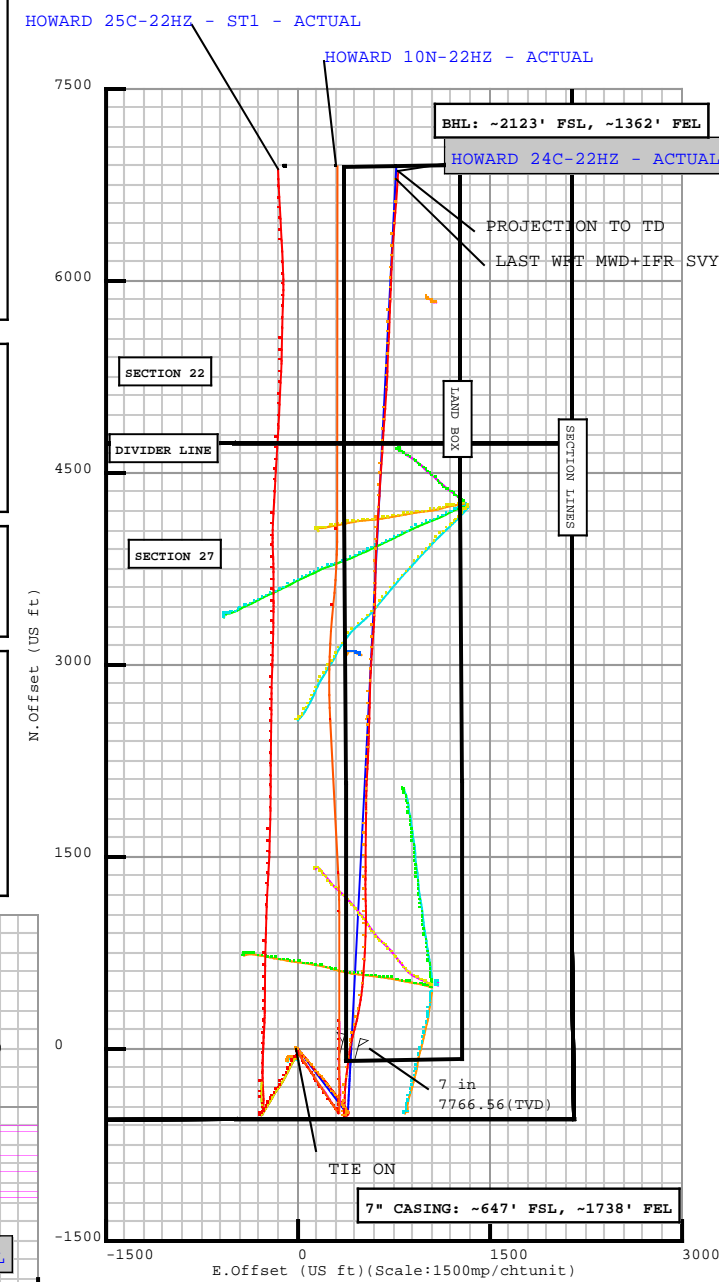
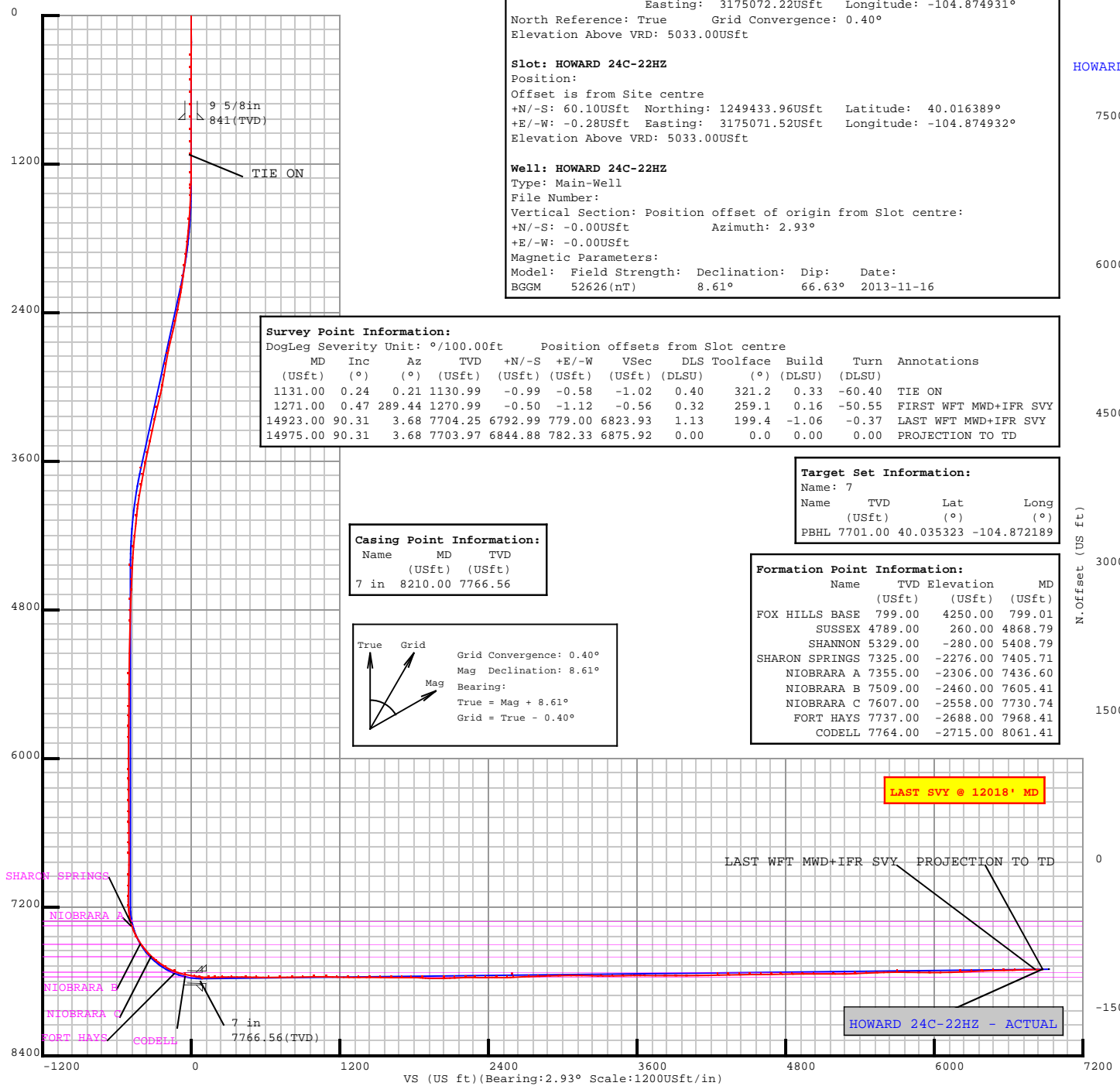
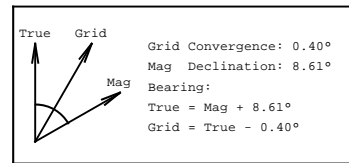
Name	TVD	Lat	Long
(USft)	(°)	(°)	(°)
PBHL 7701.00	40.035323	-104.872189	

Formation Point Information:

Name	TVD	Elevation	MD
(USft)	(USft)	(USft)	(USft)
FOX HILLS BASE	799.00	4250.00	799.01
SUSSEX	4789.00	260.00	4868.79
SHANNON	5329.00	-280.00	5408.79
SHARON SPRINGS	7325.00	-2276.00	7405.71
NIOBRARA A	7355.00	-2306.00	7436.60
NIOBRARA B	7509.00	-2460.00	7605.41
NIOBRARA C	7607.00	-2558.00	7730.74
FORT HAYS	7737.00	-2688.00	7968.41
CODELL	7764.00	-2715.00	8061.41

Casing Point Information:

Name	MD	TVD
(USft)	(USft)	(USft)
7 in	8210.00	7766.56



**5D Survey Report****Anadarko Petroleum**

Field Name: *WATTENBERG_ANADARKO_NAD 83*
Site Name: *HOWARD 15-27HZ PAD*
Well Name: *HOWARD 24C-22HZ*
Survey: *Definitive Survey*



DEFINITIVE SURVEYS FOR THE HOWARD 24C-22HZ

Site Name HOWARD 15-27HZ PAD	Units : US ft	North Reference : True	Convergence Angle : 0.40
	Position	Northing : 1249373.86 US ft	Latitude : 40.016224
		Easting : 3175072.22 US ft	Longitude : -104.874931
	Elevation above: 5033.00 US ft Comment :		
Slot Name HOWARD 24C-22HZ	Position (Offsets relative to Site Centre)		
	+N / -S : 60.10 US ft	Northing : 1249433.96 US ft	Latitude : 40.016389
	+E / -W : -0.28 US ft	Easting : 3175071.52 US ft	Longitude : -104.874932
	Slot TVD Reference : Ground Elevation Elevation above : 5033.00 US ft Comment :		
Well Name HOWARD 24C-22HZ	Type : Main well		UWI :
	Rig Height Drill Floor : 16.00 US ft		Comment :
	Relative to : 5049.00 US ft		
	Closure Distance : 6889.45 US ft		Closure Azimuth : 6.52031°
	Vertical Section (Position of Origin Relative to Slot)		
	+N / -S : -0.00 US ft	+E / -W : -0.00 US ft	Az :2.93°

Target Set

Name : 7

Number of Targets : 1

Comment :

TargetName: PBHL Shape: Cuboid	Position (Relative to centre)		
	+N / -S : 6897.19US ft	Northing : 1256336.40 US ft	Latitude : 40°2'7.162800"
	+E / -W : 768.06 US ft	Easting : 3175790.94US ft	Longitude : -104°52'19.880400"
	TVD (Drill Floor) : 7701.00 US ft		
Orientation		Azimuth : 0.00°	Inclination : 0.00°
Dimensions		Length : 1.00 US ft	Breadth : 1.00 US ft
			Height : 1.00 US ft

5D Survey Report

Survey Name :Definitive Survey															
Date : 19/Jun/2013				Survey Tool :				Comment :				Company :			
Magnetic Model															
Model Name: BGGM				Date: 22/May/2013				Field Strength: 52684.0 nT				Declination: 8.67°		Dip: 66.64°	
Survey Tool Ranges															
Name			Start MD (us ft)				End MD (us ft)				Source Survey				
NSG Static GMS			0.00				1131.00				SURFACE SURVEYS				
MWD			1131.00				14975.00				WFT MWD SURVEYS				
Casing Points (Relative to centre, TVD relative to Drill Floor)															
Name		MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)						
7 in		8210.00	88.61	14.75	7766.56	97.66	426.28	40.016657	-104.873410						
Well path created using minimum curvature															
Survey Points (Relative to centre, TVD relative to Drill Floor)															
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment	
0.00	0.00	0.00	0.00	0.00	0.00	40.016389	-104.874932	0.00	0.00	0.00	0.00	0.00	0.00	2	
16.00	0.00	0.00	16.00	0.00	0.00	40.016389	-104.874932	0.00	0.00	16.00	0.00	0.00	0.00		
116.00	0.28	337.47	116.00	0.23	-0.09	40.016390	-104.874932	0.28	337.47	100.00	0.22	-0.00	0.00		
216.00	0.29	242.29	216.00	0.33	-0.41	40.016390	-104.874933	0.42	223.33	100.00	0.32	-0.00	0.00		
316.00	0.28	167.54	316.00	-0.02	-0.58	40.016389	-104.874934	0.35	231.31	100.00	-0.05	-0.00	0.00		
416.00	0.24	144.74	416.00	-0.43	-0.41	40.016388	-104.874933	0.11	237.72	100.00	-0.45	-0.00	0.00		
516.00	0.28	119.57	516.00	-0.72	-0.08	40.016387	-104.874932	0.12	276.43	100.00	-0.72	-0.00	0.00		
616.00	0.19	79.58	616.00	-0.81	0.30	40.016387	-104.874931	0.18	222.25	100.00	-0.80	-0.00	0.00		
716.00	0.41	267.09	715.99	-0.80	0.11	40.016387	-104.874932	0.60	185.13	100.00	-0.79	-0.00	0.00		
816.00	0.33	254.87	815.99	-0.90	-0.53	40.016387	-104.874934	0.11	218.61	100.00	-0.92	-0.00	0.00		
916.00	0.14	166.32	915.99	-1.09	-0.78	40.016386	-104.874935	0.36	203.21	100.00	-1.13	-0.00	0.00		
1016.00	0.08	90.02	1015.99	-1.21	-0.68	40.016386	-104.874934	0.14	212.70	100.00	-1.24	-0.00	0.00		
1116.00	0.19	9.27	1115.99	-1.04	-0.58	40.016386	-104.874934	0.19	255.23	100.00	-1.07	-0.00	0.00		
1131.00	0.24	0.21	1130.99	-0.99	-0.58	40.016386	-104.874934	0.40	321.20	15.00	-1.01	-0.00	0.00	TIE ON	
1271.00	0.47	289.44	1270.99	-0.50	-1.12	40.016388	-104.874936	0.32	259.13	140.00	-0.56	-0.53	0.13		
1365.00	2.13	144.79	1364.97	-1.80	-0.48	40.016384	-104.874934	2.69	209.18	94.00	-1.82	-1.18	-0.71		
1459.00	3.57	137.44	1458.85	-5.39	2.51	40.016374	-104.874923	1.58	342.07	94.00	-5.25	-5.14	-1.03		
1553.00	4.30	140.48	1552.63	-10.26	6.73	40.016361	-104.874908	0.81	17.47	94.00	-9.90	-8.16	-0.46		
1647.00	5.66	143.39	1646.27	-16.70	11.74	40.016343	-104.874890	1.47	11.97	94.00	-16.08	-9.77	0.04		
1741.00	6.43	140.58	1739.75	-24.49	17.85	40.016322	-104.874868	0.88	337.58	94.00	-23.54	-10.01	-0.31		
1835.00	8.54	141.33	1832.94	-34.00	25.55	40.016296	-104.874841	2.25	3.02	94.00	-32.65	-9.54	0.19		
1929.00	9.32	131.86	1925.81	-44.53	35.58	40.016267	-104.874805	1.77	293.22	94.00	-42.65	-8.41	0.45		
2024.00	9.79	138.91	2019.49	-55.75	46.62	40.016236	-104.874766	1.33	71.62	95.00	-53.30	-4.96	3.65		
2115.00	10.65	140.05	2109.05	-68.03	57.10	40.016202	-104.874728	0.97	13.80	91.00	-65.02	0.17	4.86		

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)														
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
2206.00	12.05	141.38	2198.27	-81.90	68.43	40.016164	-104.874688	1.57	11.24	91.00	-78.29	6.42	5.58	
2298.00	14.46	141.08	2287.81	-98.34	81.64	40.016119	-104.874640	2.62	358.22	92.00	-94.04	10.80	6.26	
2389.00	15.09	140.11	2375.80	-116.27	96.38	40.016070	-104.874588	0.74	338.09	91.00	-111.19	12.62	7.36	
2481.00	15.39	142.79	2464.57	-135.18	111.44	40.016018	-104.874534	0.83	68.23	92.00	-129.31	14.18	7.28	
2574.00	16.87	144.18	2553.90	-155.95	126.80	40.015961	-104.874479	1.64	15.29	93.00	-149.27	14.12	6.57	
2665.00	18.44	140.45	2640.62	-177.76	143.70	40.015901	-104.874419	2.13	322.44	91.00	-170.18	11.06	7.54	
2756.00	14.42	137.63	2727.88	-197.24	160.50	40.015848	-104.874359	4.50	189.87	91.00	-188.77	9.93	9.55	
2850.00	14.56	134.40	2818.90	-214.15	176.83	40.015801	-104.874301	0.87	278.26	94.00	-204.83	11.63	13.12	
2942.00	13.91	135.34	2908.07	-230.11	192.87	40.015757	-104.874243	0.75	160.88	92.00	-219.95	14.46	16.36	
3034.00	14.40	140.29	2997.28	-246.78	207.95	40.015712	-104.874190	1.42	70.37	92.00	-235.82	18.77	17.11	
3127.00	17.70	141.93	3086.64	-266.81	224.06	40.015657	-104.874132	3.58	8.61	93.00	-255.00	19.16	17.24	
3218.00	16.92	143.77	3173.52	-288.38	240.42	40.015597	-104.874074	1.05	145.81	91.00	-275.71	17.60	16.60	
3311.00	16.16	139.98	3262.68	-309.21	256.74	40.015540	-104.874015	1.42	233.03	93.00	-295.68	15.64	17.98	
3404.00	15.59	143.41	3352.13	-329.15	272.51	40.015485	-104.873959	1.18	122.92	93.00	-314.79	16.88	17.49	
3497.00	15.60	142.89	3441.71	-349.16	287.51	40.015430	-104.873906	0.15	273.84	93.00	-334.00	17.38	17.42	
3589.00	16.37	144.67	3530.15	-369.60	302.47	40.015374	-104.873852	0.99	33.34	92.00	-353.66	17.91	16.39	
3682.00	14.21	139.45	3619.86	-388.97	317.47	40.015321	-104.873799	2.75	210.01	93.00	-372.23	17.56	18.13	
3774.00	14.45	141.31	3708.99	-406.51	331.99	40.015273	-104.873747	0.56	63.37	92.00	-389.01	20.37	18.53	
3859.00	12.90	144.02	3791.58	-422.47	344.19	40.015229	-104.873703	1.97	158.85	85.00	-404.32	21.90	17.58	
3945.00	12.59	142.18	3875.46	-437.64	355.58	40.015188	-104.873662	0.59	231.74	86.00	-418.89	20.85	18.11	
4029.00	10.07	142.64	3957.82	-450.71	365.65	40.015152	-104.873627	3.00	178.17	84.00	-431.43	20.08	18.02	
4115.00	6.52	141.41	4042.91	-460.51	373.26	40.015125	-104.873599	4.13	182.25	86.00	-440.82	20.74	18.57	
4200.00	7.54	149.39	4127.27	-469.08	379.11	40.015101	-104.873578	1.66	47.76	85.00	-449.08	23.43	14.94	
4285.00	7.56	145.07	4211.53	-478.46	385.15	40.015076	-104.873557	0.67	269.88	85.00	-458.15	19.29	15.89	
4370.00	5.51	146.77	4295.98	-486.46	390.59	40.015054	-104.873537	2.42	175.45	85.00	-465.86	15.77	15.06	
4456.00	3.69	153.66	4381.70	-492.40	394.08	40.015037	-104.873525	2.21	166.53	86.00	-471.61	13.74	12.95	
4541.00	2.83	167.71	4466.56	-496.90	395.74	40.015025	-104.873519	1.37	143.98	85.00	-476.02	12.35	9.59	
4626.00	2.74	184.29	4551.46	-500.97	396.04	40.015014	-104.873518	0.95	104.61	85.00	-480.07	10.54	6.26	
4714.00	2.68	202.04	4639.36	-504.98	395.11	40.015003	-104.873521	0.95	102.92	88.00	-484.12	7.88	3.38	
4799.00	2.15	193.87	4724.29	-508.37	393.98	40.014993	-104.873525	0.74	208.97	85.00	-487.56	3.77	4.19	
4884.00	1.78	209.12	4809.24	-511.07	392.95	40.014986	-104.873529	0.75	132.74	85.00	-490.31	1.88	3.47	
4969.00	2.38	231.20	4894.18	-513.33	390.94	40.014980	-104.873536	1.17	64.55	85.00	-492.67	0.06	3.00	
5226.00	1.68	230.34	5151.02	-519.08	383.88	40.014964	-104.873561	0.27	182.06	257.00	-498.77	-9.09	2.92	
5396.00	1.15	246.15	5320.97	-521.36	380.40	40.014958	-104.873574	0.38	151.35	170.00	-501.23	-12.05	5.97	
5482.00	2.02	272.46	5406.94	-521.64	378.09	40.014957	-104.873582	1.29	53.56	86.00	-501.63	-10.44	11.08	
5652.00	0.77	233.18	5576.89	-522.20	374.19	40.014955	-104.873596	0.89	198.90	170.00	-502.38	-18.56	0.06	
5737.00	0.98	171.13	5661.88	-523.26	373.84	40.014953	-104.873597	1.08	250.26	85.00	-503.46	-9.75	-16.87	
5822.00	0.69	162.22	5746.87	-524.46	374.11	40.014949	-104.873596	0.37	199.71	85.00	-504.65	-8.25	-18.29	
5908.00	0.25	148.68	5832.86	-525.12	374.37	40.014947	-104.873595	0.52	187.46	86.00	-505.29	-4.43	-19.84	
6079.00	0.30	311.77	6003.86	-525.14	374.23	40.014947	-104.873596	0.32	170.77	171.00	-505.32	-1.62	20.37	
6164.00	0.25	332.62	6088.86	-524.82	373.97	40.014948	-104.873597	0.13	126.72	85.00	-505.02	5.34	19.70	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)														
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
6249.00	0.20	333.71	6173.86	-524.53	373.82	40.014949	-104.873597	0.06	175.65	85.00	-504.73	5.38	19.60	
6334.00	0.22	4.49	6258.86	-524.23	373.77	40.014950	-104.873598	0.13	95.57	85.00	-504.44	14.36	14.16	
6420.00	0.31	8.56	6344.86	-523.84	373.82	40.014951	-104.873597	0.11	13.85	86.00	-504.04	14.93	13.11	
6505.00	0.14	356.13	6429.86	-523.51	373.84	40.014952	-104.873597	0.21	189.87	85.00	-503.71	11.43	15.97	
6591.00	0.14	7.75	6515.86	-523.30	373.85	40.014952	-104.873597	0.03	95.81	86.00	-503.50	14.20	13.36	
6676.00	0.42	27.27	6600.86	-522.92	374.01	40.014953	-104.873597	0.34	28.74	85.00	-503.11	17.44	7.88	
6761.00	0.45	354.06	6685.86	-522.31	374.12	40.014955	-104.873596	0.29	259.99	85.00	-502.50	9.68	15.98	
6847.00	1.19	282.13	6771.85	-521.78	373.21	40.014957	-104.873600	1.32	265.91	86.00	-502.02	-13.18	13.84	
7017.00	2.83	248.43	6941.74	-522.96	367.58	40.014953	-104.873620	1.15	306.57	170.00	-503.48	-24.29	3.22	
7103.00	2.77	243.88	7027.64	-524.65	363.74	40.014949	-104.873633	0.27	252.63	86.00	-505.37	-28.65	1.11	
7188.00	2.16	242.75	7112.56	-526.29	360.47	40.014944	-104.873645	0.72	183.99	85.00	-507.17	-32.34	0.50	
7274.00	2.91	344.40	7198.51	-524.93	358.44	40.014948	-104.873652	4.60	133.92	86.00	-505.92	5.17	33.18	
7359.00	9.69	359.55	7282.95	-515.69	357.81	40.014973	-104.873655	8.14	21.41	85.00	-496.72	9.77	31.55	
7444.00	20.52	4.90	7364.90	-493.62	359.03	40.015034	-104.873650	12.83	9.95	85.00	-474.62	7.87	30.59	
7529.00	28.63	4.77	7442.13	-458.43	362.00	40.015131	-104.873640	9.54	359.56	85.00	-439.32	1.42	29.63	
7615.00	36.40	2.19	7514.60	-412.32	364.69	40.015257	-104.873630	9.18	348.78	86.00	-393.14	-5.23	29.28	
7700.00	43.82	0.92	7579.56	-357.62	366.13	40.015407	-104.873625	8.78	353.22	85.00	-338.44	-9.66	30.44	
7785.00	52.20	4.48	7636.39	-294.60	369.23	40.015580	-104.873614	10.34	18.74	85.00	-275.33	-11.25	31.01	
7870.00	59.62	7.22	7684.00	-224.64	376.47	40.015772	-104.873588	9.13	17.79	85.00	-205.10	-12.43	27.60	
7956.00	68.96	7.24	7721.27	-147.85	386.21	40.015983	-104.873553	10.86	0.12	86.00	-127.91	-14.02	21.71	
8041.00	79.51	7.33	7744.33	-66.82	396.57	40.016206	-104.873516	12.41	0.48	85.00	-46.46	-17.29	15.42	
8126.00	80.23	9.00	7759.28	16.00	408.46	40.016433	-104.873474	2.11	66.50	85.00	36.86	-15.68	7.61	
8159.00	84.74	12.11	7763.60	48.15	414.45	40.016521	-104.873452	16.55	34.58	33.00	69.27	-13.20	3.18	
8210.00	88.61	14.75	7766.56	97.66	426.28	40.016657	-104.873410	9.18	34.37	51.00	119.32	-10.13	-6.00	7 in
8234.00	90.43	15.99	7766.76	120.80	432.64	40.016721	-104.873387	9.18	34.22	24.00	142.76	-9.62	-11.01	
8287.00	91.42	14.70	7765.90	171.90	446.66	40.016861	-104.873337	3.07	307.52	53.00	194.51	-9.80	-22.22	
8353.00	90.86	12.11	7764.59	236.08	461.96	40.017037	-104.873283	4.01	257.83	66.00	259.39	-10.42	-34.24	
8424.00	90.19	10.52	7763.94	305.70	475.89	40.017228	-104.873233	2.43	247.16	71.00	329.62	-10.35	-44.64	
8538.00	89.07	7.91	7764.68	418.21	494.14	40.017537	-104.873168	2.49	246.77	114.00	442.93	-8.45	-57.29	
8631.00	88.71	5.14	7766.48	510.58	504.71	40.017791	-104.873130	3.00	262.57	93.00	535.72	-5.58	-63.28	
8724.00	90.49	4.06	7767.13	603.27	512.16	40.018045	-104.873103	2.24	328.75	93.00	628.67	-3.83	-66.02	
8815.00	90.37	4.02	7766.44	694.05	518.57	40.018294	-104.873080	0.14	198.43	91.00	719.65	-3.50	-67.79	
8908.00	90.93	2.48	7765.39	786.89	523.85	40.018549	-104.873062	1.76	289.99	93.00	812.64	-3.54	-68.32	
9001.00	90.99	2.06	7763.83	879.80	527.53	40.018804	-104.873048	0.46	278.13	93.00	905.62	-4.06	-67.24	
9094.00	90.99	1.36	7762.22	972.75	530.30	40.019059	-104.873039	0.75	270.01	93.00	998.58	-4.65	-65.24	
9186.00	88.95	359.47	7762.27	1064.73	530.97	40.019312	-104.873036	3.02	222.82	92.00	1090.49	-3.47	-61.12	
9279.00	87.96	357.99	7764.78	1157.67	528.91	40.019567	-104.873044	1.91	236.19	93.00	1183.20	0.17	-54.22	
9371.00	89.38	359.26	7766.91	1249.62	526.70	40.019819	-104.873051	2.07	41.82	92.00	1274.91	3.19	-47.42	
9456.00	90.56	1.30	7766.96	1334.61	527.12	40.020053	-104.873050	2.77	59.96	85.00	1359.81	4.14	-43.57	
9541.00	89.88	359.97	7766.63	1419.60	528.06	40.020286	-104.873047	1.76	242.92	85.00	1444.74	4.78	-40.14	
9627.00	89.20	0.32	7767.32	1505.60	528.28	40.020522	-104.873046	0.89	152.77	86.00	1530.64	6.45	-35.97	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)														
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
9712.00	89.51	0.66	7768.28	1590.59	529.01	40.020755	-104.873043	0.54	47.64	85.00	1615.55	8.34	-32.37	
9797.00	90.31	0.31	7768.41	1675.59	529.73	40.020989	-104.873041	1.03	336.37	85.00	1700.48	9.41	-28.74	
9883.00	89.81	0.93	7768.32	1761.58	530.66	40.021225	-104.873037	0.93	128.88	86.00	1786.41	10.29	-25.29	
9968.00	85.68	0.59	7771.67	1846.49	531.78	40.021458	-104.873033	4.88	184.70	85.00	1871.26	14.59	-22.07	
10054.00	89.69	0.58	7775.14	1932.40	532.66	40.021694	-104.873030	4.66	359.86	86.00	1957.10	19.01	-18.56	
10139.00	91.30	1.48	7774.41	2017.38	534.19	40.021927	-104.873025	2.17	29.20	85.00	2042.05	19.21	-15.75	
10225.00	92.47	2.84	7771.58	2103.26	537.43	40.022163	-104.873013	2.09	49.26	86.00	2127.99	17.34	-14.59	
10310.00	92.65	3.39	7767.78	2188.05	542.04	40.022396	-104.872997	0.68	71.85	85.00	2212.90	14.50	-14.87	
10396.00	87.22	2.00	7767.88	2273.92	546.08	40.022631	-104.872982	6.52	194.36	86.00	2298.87	15.55	-14.52	
10481.00	92.22	2.59	7768.29	2358.83	549.49	40.022864	-104.872970	5.92	6.73	85.00	2383.83	16.92	-13.57	
10566.00	88.58	1.67	7767.70	2443.75	552.64	40.023098	-104.872959	4.42	194.19	85.00	2468.81	17.28	-12.39	
10651.00	90.99	1.68	7768.02	2528.71	555.13	40.023331	-104.872950	2.84	0.24	85.00	2553.78	18.55	-10.53	
10708.00	93.33	2.03	7765.87	2585.63	556.97	40.023487	-104.872943	4.15	8.49	57.00	2610.73	17.01	-9.46	
10824.00	92.10	1.36	7760.38	2701.45	560.40	40.023805	-104.872931	1.21	208.57	116.00	2726.57	12.83	-6.96	
10909.00	91.73	1.41	7757.54	2786.38	562.45	40.024038	-104.872924	0.44	172.31	85.00	2811.49	10.94	-4.67	
10995.00	91.36	1.97	7755.22	2872.31	564.99	40.024274	-104.872915	0.78	123.46	86.00	2897.44	9.59	-2.81	
11080.00	91.48	3.22	7753.11	2957.19	568.84	40.024507	-104.872901	1.48	84.50	85.00	2982.41	8.43	-2.31	
11165.00	90.56	3.10	7751.60	3042.05	573.52	40.024740	-104.872884	1.09	187.43	85.00	3067.39	7.87	-2.65	
11251.00	89.08	4.43	7751.87	3127.86	579.17	40.024976	-104.872864	2.31	138.06	86.00	3153.38	9.09	-3.90	
11336.00	88.21	4.37	7753.88	3212.59	585.69	40.025208	-104.872841	1.03	183.94	85.00	3238.33	12.04	-6.08	
11421.00	89.94	3.74	7755.25	3297.36	591.70	40.025441	-104.872819	2.17	339.99	85.00	3323.30	14.37	-7.75	
11506.00	90.56	2.28	7754.88	3382.24	596.16	40.025674	-104.872803	1.87	293.01	85.00	3408.29	14.95	-7.88	
11592.00	91.60	2.49	7753.26	3468.15	599.74	40.025910	-104.872790	1.23	11.41	86.00	3494.27	14.28	-7.06	
11677.00	90.44	1.55	7751.74	3553.08	602.73	40.026143	-104.872780	1.76	219.02	85.00	3579.24	13.72	-5.71	
11762.00	89.12	0.31	7752.07	3638.06	604.11	40.026376	-104.872775	2.13	223.21	85.00	3664.19	14.99	-2.75	
11848.00	89.94	0.77	7752.78	3724.05	604.92	40.026612	-104.872772	1.09	29.29	86.00	3750.11	16.66	0.84	
11933.00	90.43	1.87	7752.50	3809.03	606.88	40.026845	-104.872765	1.42	65.99	85.00	3835.07	17.33	3.23	
12018.00	89.69	2.74	7752.41	3893.96	610.30	40.027079	-104.872753	1.34	130.38	85.00	3920.07	18.19	4.16	
12103.00	90.49	3.55	7752.28	3978.83	614.96	40.027312	-104.872736	1.34	45.36	85.00	4005.07	19.00	3.84	
12189.00	90.43	3.00	7751.59	4064.69	619.87	40.027547	-104.872718	0.64	263.78	86.00	4091.06	19.27	3.32	
12274.00	91.11	3.35	7750.45	4149.55	624.58	40.027780	-104.872702	0.90	27.23	85.00	4176.05	19.07	2.96	
12359.00	91.36	3.75	7748.62	4234.36	629.84	40.028013	-104.872683	0.55	57.98	85.00	4261.03	18.19	2.04	
12445.00	90.56	3.66	7747.17	4320.17	635.40	40.028249	-104.872663	0.94	186.42	86.00	4347.01	17.71	0.87	
12530.00	91.48	3.34	7745.66	4405.00	640.59	40.028481	-104.872644	1.15	340.83	85.00	4431.99	17.14	0.03	
12615.00	90.93	4.08	7743.87	4489.80	646.09	40.028714	-104.872625	1.08	126.62	85.00	4516.96	16.30	-1.13	
12701.00	89.88	4.45	7743.27	4575.56	652.48	40.028950	-104.872602	1.29	160.59	86.00	4602.93	16.64	-3.13	
12786.00	91.11	3.45	7742.53	4660.35	658.34	40.029182	-104.872581	1.86	320.89	85.00	4687.91	16.86	-4.65	
12872.00	90.99	3.24	7740.96	4746.19	663.36	40.029418	-104.872563	0.28	240.25	86.00	4773.90	16.24	-5.28	
12957.00	91.05	4.11	7739.44	4831.00	668.80	40.029651	-104.872544	1.03	86.05	85.00	4858.88	15.67	-6.38	
13042.00	90.18	4.02	7738.53	4915.78	674.83	40.029884	-104.872522	1.03	185.91	85.00	4943.85	15.70	-8.06	
13127.00	89.88	4.48	7738.49	5000.55	681.13	40.030116	-104.872500	0.65	123.11	85.00	5028.83	16.60	-10.02	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)														
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
13298.00	89.94	3.34	7738.75	5171.15	692.79	40.030585	-104.872458	0.67	273.01	171.00	5199.80	18.77	-12.95	
13384.00	90.49	2.13	7738.43	5257.05	696.89	40.030821	-104.872443	1.55	294.45	86.00	5285.80	19.40	-12.67	
13469.00	92.84	2.35	7735.96	5341.94	700.21	40.031054	-104.872431	2.78	5.34	85.00	5370.75	17.86	-11.64	
13554.00	92.22	2.37	7732.21	5426.78	703.71	40.031286	-104.872419	0.73	178.15	85.00	5455.66	15.06	-10.80	
13639.00	92.53	3.07	7728.69	5511.62	707.74	40.031519	-104.872405	0.90	66.08	85.00	5540.59	12.49	-10.49	
13725.00	91.17	2.14	7725.91	5597.48	711.64	40.031755	-104.872391	1.92	214.37	86.00	5626.54	10.67	-10.00	
13810.00	90.06	2.13	7725.00	5682.41	714.81	40.031988	-104.872379	1.31	180.52	85.00	5711.53	10.70	-8.83	
13895.00	88.89	1.92	7725.78	5767.36	717.81	40.032221	-104.872369	1.40	190.17	85.00	5796.51	12.42	-7.49	
13981.00	89.32	3.02	7727.12	5853.26	721.52	40.032457	-104.872355	1.37	68.66	86.00	5882.50	14.72	-6.80	
14066.00	89.88	2.08	7727.71	5938.18	725.30	40.032690	-104.872342	1.29	300.78	85.00	5967.49	16.26	-6.24	
14151.00	90.80	1.59	7727.21	6023.13	728.02	40.032924	-104.872332	1.23	331.96	85.00	6052.47	16.70	-4.61	
14237.00	91.48	2.67	7725.50	6109.05	731.22	40.033159	-104.872321	1.48	57.79	86.00	6138.44	15.94	-3.41	
14322.00	92.34	3.17	7722.67	6193.89	735.55	40.033392	-104.872305	1.17	30.15	85.00	6223.40	14.05	-3.40	
14407.00	92.84	4.23	7718.82	6278.63	741.03	40.033625	-104.872286	1.38	64.70	85.00	6308.30	11.15	-4.54	
14493.00	92.22	4.35	7715.03	6364.30	747.45	40.033860	-104.872263	0.73	169.05	86.00	6394.19	8.31	-6.58	
14578.00	91.61	4.27	7712.19	6449.01	753.84	40.034093	-104.872240	0.72	187.47	85.00	6479.12	6.42	-8.63	
14663.00	90.92	4.43	7710.31	6533.75	760.28	40.034325	-104.872217	0.83	166.95	85.00	6564.07	5.48	-10.73	
14749.00	92.16	4.33	7708.00	6619.46	766.85	40.034561	-104.872193	1.45	355.39	86.00	6650.01	4.13	-12.91	
14923.00	90.31	3.68	7704.25	6792.99	779.00	40.035037	-104.872150	1.13	199.36	174.00	6823.93	2.30	-16.18	LAST WFT MWD+IFR SVY
14975.00	90.31	3.68	7703.97	6844.88	782.33	40.035179	-104.872138	0.00	0.00	52.00	6875.93	2.59	-16.87	PROJECTION TO TD

Formation Points (Relative to centre, TVD relative to Drill Floor)		
Name	MD (US ft)	TVD (US ft)
FOX HILLS BASE	799.01	799.00
SUSSEX	4863.75	4789.00
SHANNON	5404.03	5329.00
SHARON SPRINGS	7402.07	7325.00
NIOBRARA A	7433.48	7355.00
NIOBRARA B	7608.07	7509.00
NIOBRARA C	7739.32	7607.00
FORT HAYS	8007.33	7737.00
CODELL	8163.52	7764.00



DAILY ACTIVITIES

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 1 - 2013/11/22**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Brian Trani**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 1232.0 ft**END DEPTH:** 1232.0 ft**PROGRESS:** 0.0 ft**AVG. ROP.:** 0.0 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Standby

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Standby - Reamer Run	24.00	1232	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00
MOTOR REAM:	0.00			TRIP:	0.00
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	0 lbs
WOB SLIDING (HI):	0 lbf	WOB ROTATE (HI):	0 lbf
WOB SLIDING (LO):	0 lbf	WOB ROTATE (LO):	0 lbf
RPM (ROTARY):		DRAG UP:	0 lbf
RPM (MOTOR):		DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Dedicated reamer run Howard 10N. On standby for Howard 24C-22HZ.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981

Day 2 - 2013/11/23

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 1232.0 ft

END DEPTH: 1232.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Standby

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Run Liner - Standby	24.00	1232	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00
MOTOR REAM:	0.00			TRIP:	0.00
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	0 lbs
WOB SLIDING (HI):	0 lbf	WOB ROTATE (HI):	0 lbf
WOB SLIDING (LO):	0 lbf	WOB ROTATE (LO):	0 lbf
RPM (ROTARY):		DRAG UP:	0 lbf
RPM (MOTOR):		DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Run liner previous well. On standby for Howard 24C-22HZ.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981

Day 3 - 2013/11/24

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 1232.0 ft

END DEPTH: 1232.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Standby

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-07:15	Run Liner - Set Packers	7.25	1232	n/a	20:00-20:30	Safety Meeting - Pre Spud-Rig Accept.	0.50	1232	n/a
07:15-14:00	Other - See Comments - Prep to NDBOP	6.75	1232	n/a	20:30-22:00	Safety Meeting - JSA/Nipple Up BOP	1.50	1232	n/a
14:00-18:00	Other - See Comments - ND BOP's	4.00	1232	n/a	22:00-23:15	Safety Meeting - JSA/Rig Up Swaco	1.25	1232	n/a
18:00-19:00	Move Rig - Skid Rig	1.00	1232	n/a	23:15-24:00	Pressure Test - Test BOP's	0.75	1232	n/a
19:00-20:00	Rig Up	1.00	1232	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 24.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT	0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf	
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf	
RPM (ROTARY): 70 rpm	DRAG UP: 0 lbf	
RPM (MOTOR): 138 rpm	DRAG DN: 0 lbf	

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 600.24 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 86.00	LINER: 5.50 in STROKE VOL.: 3.5977 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 86.00	LINER: 5.50 in STROKE VOL.: 3.5977 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

NDBOP. Inspect tools. Skid Rig. NUBOP. Standby.

Pressure Test BOP's

CUSTOMER SIGNATURE: _____



Weatherford®

Daily Activity Report

Drilling Services
v4.2.3981

Day 4 - 2013/11/25

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 1232.0 ft

END DEPTH: 3194.0 ft

PROGRESS: 1962.0 ft

AVG. ROP.: 266.9 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:30	Pressure Test	6.50	1232	n/a	18:17-18:30	Orienting With Motor	0.22	2202	1
06:30-07:30	PU Directional Tools	1.00	1232	1	18:30-18:40	Rotating With Motor	0.17	2273	1
07:30-08:15	Rig Service	0.75	1232	1	18:40-18:45	Circ & Accumulate Surveys	0.08	2273	1
08:15-09:49	RIH	1.57	1232	1	18:45-18:50	Orienting With Motor	0.08	2296	1
09:49-10:24	Drill Out Flt, Shoe & Cmnt	0.58	1232	1	18:50-19:00	Rotating With Motor	0.17	2365	1
10:24-10:36	Rotating With Motor	0.20	1244	1	19:00-19:07	Circ & Accumulate Surveys	0.12	2365	1
10:36-10:53	Circ & Accumulate Surveys	0.28	1244	1	19:07-19:15	Orienting With Motor	0.13	2380	1
10:53-11:02	Rotating With Motor	0.15	1338	1	19:15-19:30	Rotating With Motor	0.25	2456	1
11:02-11:26	Circ & Accumulate Surveys - Reset MWD	0.40	1338	1	19:30-19:35	Circ & Accumulate Surveys	0.08	2456	1
11:26-11:41	Orienting With Motor	0.25	1348	1	19:35-19:41	Orienting With Motor	0.10	2476	1
11:41-11:55	Rotating With Motor	0.23	1432	1	19:41-19:50	Rotating With Motor	0.15	2548	1
11:55-12:06	Circ & Accumulate Surveys - PackOffFlowLine	0.18	1432	1	19:50-19:56	Circ & Accumulate Surveys	0.10	2548	1
12:06-12:54	Rig Repair - Pump Repair	0.80	1432	1	19:56-20:10	Orienting With Motor	0.23	2572	1
12:54-12:58	Orienting With Motor	0.07	1442	1	20:10-20:27	Rotating With Motor	0.28	2641	1
12:58-13:07	Rotating With Motor	0.15	1442	1	20:27-20:30	Circ & Accumulate Surveys	0.05	2641	1
13:07-13:18	Circ & Accumulate Surveys	0.18	1442	1	20:30-20:36	Orienting With Motor	0.10	2661	1
13:18-13:43	Orienting With Motor	0.42	1534	1	20:36-20:51	Rotating With Motor	0.25	2732	1
13:43-13:55	Rotating With Motor	0.20	1620	1	20:51-20:55	Circ & Accumulate Surveys	0.07	2732	1
13:55-14:04	Circ & Accumulate Surveys	0.15	1620	1	20:55-21:04	Rotating With Motor	0.15	2823	1
14:04-14:10	Orienting With Motor	0.10	1630	1	21:04-21:11	Circ & Accumulate Surveys	0.12	2823	1
14:10-14:19	Rotating With Motor	0.15	1713	1	21:11-21:21	Orienting With Motor	0.17	2847	1
14:19-14:40	Circ & Accumulate Surveys	0.35	1713	1	21:21-21:30	Rotating With Motor	0.15	2917	1
14:40-14:47	Orienting With Motor	0.12	1723	1	21:30-21:39	Circ & Accumulate Surveys	0.15	2917	1
14:47-15:06	Rotating With Motor	0.32	1808	1	21:39-21:44	Orienting With Motor	0.08	2942	1
15:06-15:14	Circ & Accumulate Surveys	0.13	1808	1	21:44-22:20	Rig Repair - Mudline Gasket	0.60	2942	1
15:14-15:21	Orienting With Motor	0.12	1823	1	22:20-22:35	Rotating With Motor	0.25	3009	1
15:21-15:29	Rotating With Motor	0.13	1902	1	22:35-22:41	Circ & Accumulate Surveys	0.10	3009	1
15:29-15:39	Circ & Accumulate Surveys	0.17	1902	1	22:41-22:50	Orienting With Motor	0.15	3034	1
15:39-15:45	Orienting With Motor	0.10	1914	1	22:50-23:00	Rotating With Motor	0.17	3070	1
15:45-15:55	Rotating With Motor	0.17	1996	1	23:00-23:06	Orienting With Motor	0.10	3085	1
15:55-16:53	Circulating - Plugged Pipe	0.97	1996	1	23:06-23:11	Rotating With Motor	0.08	3101	1
16:53-16:58	Circ & Accumulate Surveys	0.08	1996	1	23:11-23:18	Circ & Accumulate Surveys	0.12	3101	1
16:58-17:04	Orienting With Motor	0.10	1996	1	23:18-23:23	Orienting With Motor	0.08	3116	1
17:04-17:13	Rotating With Motor	0.15	2091	1	23:23-23:30	Rotating With Motor	0.12	3164	1
17:13-17:44	Other - See Comments - Rotating Head	0.52	2091	1	23:30-23:39	Orienting With Motor	0.15	3179	1
17:44-17:52	Circ & Accumulate Surveys	0.13	2091	1	23:39-23:47	Rotating With Motor	0.13	3194	1
17:52-17:59	Orienting With Motor	0.12	2106	1	23:47-23:52	Circ & Accumulate Surveys	0.08	3194	1
17:59-18:11	Rotating With Motor	0.20	2182	1	23:52-24:00	Rig Service	0.13	3194	1
18:11-18:17	Circ & Accumulate Surveys	0.10	2182	1			0.00		

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 4 - 2013/11/25

TIME SUMMARY (hrs):				DRILLING PARAMETERS:					
MOTOR DRILL:	7.35	ORIENTING HRS:	2.98	ROTARY DRILL:	0.00	ROTARY TORQUE:	10000 ft-lb	STRING WEIGHT	100000 lbs
TIME DRILL:	0.00	ROTATING HRS:	4.37	MOTOR HRS:	12.13	WOB SLIDING (HI):	15000 lbf	WOB ROTATE (HI):	40000 lbf
MOTOR REAM:	0.00			TRIP:	1.57	WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	6000 lbf
CIRC:	4.78	ROTARY DRILL:	0.00	OTHER:	10.30	RPM (ROTARY):	70 rpm	DRAG UP:	115 lbf
MOTOR HRS:	12.13	DRILL HRS:	7.35	TOTAL HRS:	24.00	RPM (MOTOR):	138 rpm	DRAG DN:	85 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 **HOLE SIZE:** 8.75 in **SECTION TYPE:** Intermediate **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: WFT **STABILIZER:** No **SERIAL#:** 675-50179 **MODEL:** 7/8, 5.7 **LOBE CFG.:** 7/8
SETTING: 2° **KICKPAD:** No **SIZE:** 6 3/4" (171mm) **MTR HRS THIS DAY:** 12.133333333333333 **MTR HRS TO DATE:** 12.133333333333333
MANFCT: Security **BIT TYPE:** Security 6x18's **TYPE:** MMD64 **NOZZLES:** 1.491 in² TFA
IADC BIT GRADE: 1 / 1 / ? / ? / ? / X / 1 / ? / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 2700 **PRESSURE OFF BTM:** 1700 **TOTAL FLOW RATE:** 600.24 gal/min
PUMP 1: TYPE: 1600 **EFF.:** 97.0% **SPM:** 86.00 **LINER:** 5.50 in **STROKE VOL.:** 3.5977 gal/stk
PUMP 2: TYPE: 1600 **EFF.:** 97.0% **SPM:** 86.00 **LINER:** 5.50 in **STROKE VOL.:** 3.5977 gal/stk
PUMP 3: TYPE: **EFF.:** 100.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND **VISC:** 28 sec/qt **WTR LOSS:** 20 cc/30min **PV:** 1 cP **YP:** 2 lb/100 ft² **pH:** 8
DENSITY: 8.5 lb/gal **GEL 0/10:** 1.00 lb/100 ft² **SAND:** 0 **SOLIDS:** 0.7 **OIL:** 0 **TEMP:** 89 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

Pressure Test BOP's

Drill float shoe and cement.

1185MD Float
 1226MD Shoe
 1232MD New Hole

Drill Ahead F/ 1232' - 3194'

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Day 5 - 2013/11/26**Drilling Services**

v4.2.3981

FILE #: 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Brian Trani**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 3194.0 ft**END DEPTH:** 7292.0 ft**PROGRESS:** 4098.0 ft**AVG. ROP.:** 230.9 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rig Service	0.25	3194	1	05:46-05:59	Rotating With Motor	0.22	4352	1
00:15-00:25	Rotating With Motor	0.17	3285	1	05:59-09:42	Rotating With Motor	3.72	5378	1
00:25-00:34	Circ & Accumulate Surveys	0.15	3285	1	09:42-09:57	Rotating With Motor	0.25	5463	1
00:34-00:40	Orienting With Motor	0.10	3305	1	09:57-10:01	Circ & Accumulate Surveys	0.07	5463	1
00:40-00:52	Rotating With Motor	0.20	3378	1	10:01-10:15	Rotating With Motor	0.23	5463	1
00:52-00:58	Circ & Accumulate Surveys	0.10	3378	1	10:15-10:19	Circ & Accumulate Surveys	0.07	5463	1
00:58-01:07	Orienting With Motor	0.15	3403	1	10:19-10:33	Rotating With Motor	0.23	5634	1
01:07-01:15	Rotating With Motor	0.13	3471	1	10:33-10:37	Circ & Accumulate Surveys	0.07	5634	1
01:15-01:22	Circ & Accumulate Surveys	0.12	3471	1	10:37-10:51	Rotating With Motor	0.23	5719	1
01:22-01:32	Orienting With Motor	0.17	3501	1	10:51-10:56	Circ & Accumulate Surveys	0.08	5719	1
01:32-01:46	Rotating With Motor	0.23	3564	1	10:56-11:09	Orienting With Motor	0.22	5731	1
01:46-01:52	Circ & Accumulate Surveys	0.10	3564	1	11:09-11:23	Rotating With Motor	0.23	5804	1
01:52-02:00	Orienting With Motor	0.13	3587	1	11:23-12:00	Rig Service	0.62	5804	1
02:00-02:11	Rotating With Motor	0.18	3656	1	12:00-12:06	Circ & Accumulate Surveys	0.10	5804	1
02:11-02:26	Circ & Accumulate Surveys	0.25	3656	1	12:06-13:35	Rotating With Motor	1.48	6231	1
02:26-02:26	Orienting With Motor	0.00	3671	1	13:35-13:41	Circ & Accumulate Surveys	0.10	6231	1
02:26-02:37	Rotating With Motor	0.18	3749	1	13:41-13:56	Rotating With Motor	0.25	6316	1
02:37-02:43	Circ & Accumulate Surveys	0.10	3749	1	13:56-14:06	Circ & Accumulate Surveys	0.17	6316	1
02:43-02:57	Orienting With Motor	0.23	3779	1	14:06-14:52	Rotating With Motor	0.77	6572	1
02:57-03:16	Rotating With Motor	0.32	3841	1	14:52-15:00	Circ & Accumulate Surveys	0.13	6572	1
03:16-03:16	Circ & Accumulate Surveys	0.00	3841	1	15:00-15:32	Rotating With Motor	0.53	6743	1
03:16-03:27	Circ & Accumulate Surveys	0.18	3841	1	15:32-15:35	Circ & Accumulate Surveys	0.05	6743	1
03:27-03:35	Rotating With Motor	0.13	3856	1	15:35-15:51	Rotating With Motor	0.27	6828	1
03:35-03:49	Rotating With Motor	0.23	3926	1	15:51-15:55	Circ & Accumulate Surveys	0.07	6828	1
03:49-03:58	Circ & Accumulate Surveys	0.15	3926	1	15:55-16:46	Rotating With Motor	0.85	6999	1
03:58-04:06	Orienting With Motor	0.13	3941	1	16:46-16:50	Circ & Accumulate Surveys	0.07	6999	1
04:06-04:20	Rotating With Motor	0.23	4012	1	16:50-17:16	Rotating With Motor	0.43	7104	1
04:20-04:26	Circ & Accumulate Surveys	0.10	4012	1	17:16-17:30	Orienting With Motor	0.23	7114	1
04:26-04:37	Rotating With Motor	0.18	4096	1	17:30-17:56	Rotating With Motor	0.43	7204	1
04:37-04:43	Circ & Accumulate Surveys	0.10	4096	1	17:56-18:30	Circulating - Circ sweep	0.57	7204	1
04:43-04:58	Rotating With Motor	0.25	4182	1	18:30-20:06	Orienting With Motor	1.60	7255	1
04:58-05:08	Circ & Accumulate Surveys	0.17	4182	1	20:06-20:15	Circ & Accumulate Surveys	0.15	7255	1
05:08-05:19	Orienting With Motor	0.18	4207	1	20:15-21:56	Orienting With Motor	1.68	7292	1
05:19-05:29	Rotating With Motor	0.17	4267	1	21:56-23:15	Circ & Condition Hole	1.32	7292	1
05:29-05:36	Circ & Accumulate Surveys	0.12	4267	1	23:15-24:00	POOH To Change BHA	0.75	7292	1
05:36-05:46	Orienting With Motor	0.17	4272	1			0.00		

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 5 - 2013/11/26

TIME SUMMARY (hrs):				DRILLING PARAMETERS:					
MOTOR DRILL:	17.75	ORIENTING HRS:	5.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	14000 ft-lb	STRING WEIGHT	0 lbs
TIME DRILL:	0.00	ROTATING HRS:	12.75	MOTOR HRS:	22.38	WOB SLIDING (HI):	15000 lbf	WOB ROTATE (HI):	45000 lbf
MOTOR REAM:	0.00			TRIP:	0.75	WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	40000 lbf
CIRC:	4.63	ROTARY DRILL:	0.00	OTHER:	0.87	RPM (ROTARY):	60 rpm	DRAG UP:	0 lbf
MOTOR HRS:	22.38	DRILL HRS:	17.75	TOTAL HRS:	24.00	RPM (MOTOR):	138 rpm	DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 **HOLE SIZE:** 8.75 in **SECTION TYPE:** Intermediate **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: WFT **STABILIZER:** No **SERIAL#:** 675-50179 **MODEL:** 7/8, 5.7 **LOBE CFG.:** 7/8
SETTING: 2 ° **KICKPAD:** No **SIZE:** 6 3/4" (171mm) **MTR HRS THIS DAY:** 22.38333333 **MTR HRS TO DATE:** 34.516666666666
MANFCT: Security **BIT TYPE:** Security 6x18's **TYPE:** MMD64 **NOZZLES:** 1.491 in² TFA
IADC BIT GRADE: 1 / 1 / ? / ? / X / 1 / ? / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 2950 **PRESSURE OFF BTM:** 2750 **TOTAL FLOW RATE:** 593.26 gal/min
PUMP 1: TYPE: 1600 **EFF.:** 97.0% **SPM:** 85.00 **LINER:** 5.50 in **STROKE VOL.:** 3.5977 gal/stk
PUMP 2: TYPE: 1600 **EFF.:** 97.0% **SPM:** 85.00 **LINER:** 5.50 in **STROKE VOL.:** 3.5977 gal/stk
PUMP 3: TYPE: **EFF.:** 100.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND **VISC:** 1 sec/qt **WTR LOSS:** 20 cc/30min **PV:** 34 cP **YP:** 1 lb/100 ft² **pH:** 8
DENSITY: 9.9 lb/gal **GEL 0/10:** 1.00 lb/100 ft² **SAND:** 0 **SOLIDS:** 0.7 **OIL:** 0 **TEMP:** 154 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

Drill Ahead F/ 3285' - 7292'

Vertical Section Completed in 17.6 Bit Hours and 25.4 Circ Hours.

Once we attempted to kick off the curve The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this for 2 hours and the decision was made to POOH and check the BHA. Motor acted like it was very loose.

Pason Bit Hours = 20
 Pason Circ Hours = 29.6
 First Bit Hours = 25.10
 First Circ. Hours = 34.52

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981

Day 6 - 2013/11/27

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 7292.0 ft

END DEPTH: 7341.0 ft

PROGRESS: 49.0 ft

AVG. ROP.: 8.9 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:30	POOH - See Comments - Check Bit & Motor	2.50	7292	1	12:57-13:12	Circ & Accumulate Surveys	0.25	7341	2
02:30-02:45	Safety Meeting - JSA on Directional	0.25	7292	1	13:12-15:00	Orienting With Motor	1.80	7341	2
02:45-03:30	Change Motor	0.75	7292	2	15:00-16:45	Circ & Condition Hole	1.75	7341	2
03:30-05:08	RIH	1.63	7292	2	16:45-20:00	POOH To Change BHA	3.25	7341	2
05:08-05:22	Shallow Test Tools	0.23	7292	2	20:00-21:25	Change Bit And Motor - Dial up motor - 2.6°	1.42	7341	3
05:22-09:00	RIH	3.63	7292	2	21:25-22:00	Trip In	0.58	7341	3
09:00-09:10	Circulating	0.17	7292	2	22:00-22:30	Rig Service	0.50	7341	3
09:10-09:15	Circ & Accumulate Surveys	0.08	7292	2	22:30-24:00	Trip In	1.50	7341	3
09:15-12:57	Orienting With Motor	3.70	7341	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	5.50	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	7.75
MOTOR REAM:	0.00	TRIP:	13.10	OTHER:	3.15
CIRC:	2.25	ROTARY DRILL:	0.00		
MOTOR HRS:	7.75	DRILL HRS:	5.50	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	145000 lbs
WOB SLIDING (HI):	20000 lbf	WOB ROTATE (HI):	0 lbf
WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	0 lbf
RPM (ROTARY):	20 rpm	DRAG UP:	225000 lbf
RPM (MOTOR):	138 rpm	DRAG DN:	100000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1	HOLE SIZE: 8.75 in	SECTION TYPE: Intermediate	SURVEY TYPE: Positive Pulse MWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: 675-50179	MODEL: 7/8, 5.7
SETTING: 2 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: Security 6x18's	TYPE: MMD64	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 1 / ? / ? / X / I / ? / BHA			NOZZLES: 1.491 in² TFA
			MTR HRS TO DATE: 34.516666666666

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: NOV	STABILIZER: No	SERIAL#: NOV 900813-9	MODEL: 7/8, 5.0
SETTING: 2.12 °	KICKPAD: No	SIZE: 6.75	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: Security 6x18's	TYPE: MMD64	MTR HRS THIS DAY: 7.75
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / BHA			NOZZLES: 1.491 in² TFA
			MTR HRS TO DATE: 7.75

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT 675-3661	MODEL: 7/8 5.7
SETTING: 2.6 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: PDC Bit 3x18's 3x16'	TYPE: DP406	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			NOZZLES: 1.335 in² TFA
			MTR HRS TO DATE: 0

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 6 - 2013/11/27

PUMP PARAMETERS

PRESSURE ON BTM: 2950**PRESSURE OFF BTM:** 2850**TOTAL FLOW RATE:** 593.26 gal/min**PUMP 1: TYPE:** 1600**EFF.:** 97.0%**SPM:** 85.00**LINER:** 5.50 in**STROKE VOL.:** 3.5977 gal/stk**PUMP 2: TYPE:** 1600**EFF.:** 97.0%**SPM:** 85.00**LINER:** 5.50 in**STROKE VOL.:** 3.5977 gal/stk**PUMP 3: TYPE:****EFF.:** 100.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND**VISC:** 38 sec/qt**WTR LOSS:** 5.6 cc/30min**PV:** 10 cP**YP:** 10 lb/100 ft² **pH:** 9**DENSITY:** 10 lb/gal**GEL 0/10:** 2.00 lb/100 ft²**SAND:** 0.4**SOLIDS:** 2.6**OIL:** 0**TEMP:** 88 °F**LIQUID BASE:** Water**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min

COMMENTS:

Drill Curve F/7,292' T/7,341'
POOH To Check Bit & Motor.

Once on surface the motor looked good and drained good. There was 1/4" squat and an 1/8" rotational play. The motor had no noticeable lateral play in it. The bit graded a 1/1 X I and will be reran on the next run. No noticeable rubber or plugged jets.

The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this all day and the decision was made to POOH and check the BHA.

BHA appeared to be in good condition on surface, the bit was graded 1/1, motor had no squat or rotational play and we were able to drain it with the rotary table.

Pick up WFT, 7/8lobe, 5.7stage motor with DP406 and trip in hole to drill the curve.

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.3981

Day 7 - 2013/11/28

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 7341.0 ft

END DEPTH: 7935.0 ft

PROGRESS: 594.0 ft

AVG. ROP.: 31.3 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	Trip In	2.00	7341	3	12:00-12:10	Circ & Accumulate Surveys	0.17	7680	3
02:00-02:30	Orienting With Motor	0.50	7351	3	12:10-13:00	Rig Service	0.83	7680	3
02:30-03:05	Rig Repair - Change Swab	0.58	7351	3	13:00-13:25	Rotating With Motor	0.42	7720	3
03:05-04:25	Orienting With Motor	1.33	7424	3	13:25-14:45	Orienting With Motor	1.33	7765	3
04:25-04:37	Circ & Accumulate Surveys	0.20	7424	3	14:45-15:00	Circ & Accumulate Surveys	0.25	7765	3
04:37-07:30	Orienting With Motor	2.88	7509	3	15:00-15:15	Rotating With Motor	0.25	7765	3
07:30-07:37	Circ & Accumulate Surveys	0.12	7509	3	15:15-18:41	Orienting With Motor	3.43	7850	3
07:37-08:11	Rotating With Motor	0.57	7544	3	18:41-18:55	Circ & Accumulate Surveys	0.23	7850	3
08:11-09:28	Orienting With Motor	1.28	7594	3	18:55-21:35	Rotating With Motor	2.67	7893	3
09:28-09:37	Circ & Accumulate Surveys	0.15	7594	3	21:35-23:30	Orienting With Motor	1.92	7935	3
09:37-10:05	Rotating With Motor	0.47	7623	3	23:30-24:00	Rig Service	0.50	7935	3
10:05-12:00	Orienting With Motor	1.92	7680	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 18.97	ORIENTING HRS: 14.60	ROTARY DRILL: 0.00	ROTARY TORQUE: 18000 ft-lb	STRING WEIGHT: 150000 lbs
TIME DRILL: 0.00	ROTATING HRS: 4.37	MOTOR HRS: 20.08	WOB SLIDING (HI): 50000 lbf	WOB ROTATE (HI): 35000 lbf
MOTOR REAM: 0.00		TRIP: 2.00	WOB SLIDING (LO): 30000 lbf	WOB ROTATE (LO): 25000 lbf
CIRC: 1.12	ROTARY DRILL: 0.00	OTHER: 1.92	RPM (ROTARY): 15 rpm	DRAG UP: 225000 lbf
MOTOR HRS: 20.08	DRILL HRS: 18.97	TOTAL HRS: 24.00	RPM (MOTOR): 138 rpm	DRAG DN: 120000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT 675-3661	MODEL: 7/8 5.7
SETTING: 2.6 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: PDC Bit 3x18's 3x16'	TYPE: DP406	MTR HRS THIS DAY: 20.08333333
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			MTR HRS TO DATE: 20.083333333333
			NOZZLES: 1.335 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3400	PRESSURE OFF BTM: 3050	TOTAL FLOW RATE: 593.26 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 85.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 85.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 38 sec/qt	WTR LOSS: 4 cc/30min	PV: 12 cP	YP: 10 lb/100 ft²	pH: 9.3
DENSITY: 10 lb/gal	GEL 0/10: 4.00 lb/100 ft²	SAND: 0.5	SOLIDS: 5.6	OIL: 0	TEMP: 163 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

TIH with new assembly.
Drill curve F/7,341' T/7,935'

Geo Steering Updates Are As Follows:

We are drilling in the curve at 7544' MD. We have cut the Sharon Springs and Niobrara tops about 5' high to prog. At the moment, our projected



Daily Activity Report

Drilling Services
v4.2.3981

Day 7 - 2013/11/28

landing depth puts us in the Carlile. I know its early in the curve, but I'd like to move the target up 6' to 7771' TVD @ 0' VS w/ 90 INC. This is the same TVD that we landed at on the previous Codell on this pad, so hopefully it'll be good for this well too. Please see me with any questions.

New Target: 7771' TVD @ 0' VS w/ 90 INC

Good afternoon, We are drilling in the curve at 7821' MD. The B Chalk top has come in 3' low to prog and our landing depth looks great. No changes to the target. Please see me with any questions.

Good evening, We are drilling in the curve at 7883' MD. We have cut the Nio C Chalk 3' low to prog. Our landing target of 7771' TVD still looks great. No changes to the target. Please see me with any questions.

CUSTOMER SIGNATURE: _____



Weatherford®

Daily Activity Report

Drilling Services
v4.2.3981

Day 8 - 2013/11/29

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 7935.0 ft

END DEPTH: 8224.0 ft

PROGRESS: 289.0 ft

AVG. ROP.: 29.4 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Circ & Accumulate Surveys	0.17	7935	3	09:30-09:50	Circ & Accumulate Surveys	0.33	8191	3
00:10-00:56	Rotating With Motor	0.77	7950	3	09:50-10:15	Orienting With Motor	0.42	8201	3
00:56-03:43	Orienting With Motor	2.78	8021	3	10:15-10:50	Rotating With Motor	0.58	8224	3
03:43-04:00	Circ & Accumulate Surveys	0.28	8021	3	10:50-10:55	Circ & Accumulate Surveys - TD Curve	0.08	8224	3
04:00-06:02	Rotating With Motor	2.03	8106	3	10:55-12:30	Circ & Condition Hole	1.58	8224	3
06:02-06:15	Circ & Accumulate Surveys	0.22	8106	3	12:30-18:30	POOH To Run Casing	6.00	8224	3
06:15-06:20	Rotating With Motor	0.08	8126	3	18:30-20:00	Lay Down Directional Tools	1.50	8224	3
06:20-09:30	Orienting With Motor	3.17	8191	3	20:00-24:00	Wait On Orders	4.00	8224	n/a

TIME SUMMARY (hrs):

MOTOR DRILL:	9.83	ORIENTING HRS:	6.37	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	3.47	MOTOR HRS:	12.50
MOTOR REAM:	0.00	TRIP:	6.00		
CIRC:	2.67	ROTARY DRILL:	0.00	OTHER:	5.50
MOTOR HRS:	12.50	DRILL HRS:	9.83	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	16000 ft-lb	STRING WEIGHT	150000 lbs
WOB SLIDING (HI):	55000 lbf	WOB ROTATE (HI):	30000 lbf
WOB SLIDING (LO):	40000 lbf	WOB ROTATE (LO):	15000 lbf
RPM (ROTARY):	20 rpm	DRAG UP:	225000 lbf
RPM (MOTOR):	174 rpm	DRAG DN:	125000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT 675-3661	MODEL: 7/8 5.7
SETTING: 2.6 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: PDC Bit 3x18's 3x16'	TYPE: DP406	MTR HRS THIS DAY: 12.5
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD			MTR HRS TO DATE: 32.583333333333
			NOZZLES: 1.335 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3400	PRESSURE OFF BTM: 3200	TOTAL FLOW RATE: 593.26 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 85.00	LINER: 5.50 in
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 85.00	LINER: 5.50 in
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 3.5977 gal/stk
		STROKE VOL.: 3.5977 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 38 sec/qt	WTR LOSS: 12 cc/30min	PV: 10 cP	YP: 4 lb/100 ft²	pH: 9.3
DENSITY: 10 lb/gal	GEL 0/10: 4.00 lb/100 ft²	SAND: 0.5	SOLIDS: 5.6	OIL: 0	TEMP: 165 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill Curve F/7,935' T/8224

Geo Steering Updates Are As Follows:

Good morning, We are drilling in the curve at 8101' MD. Our landing depth still looks great, but it is ok to land up to 5' high to the target. No changes. Please see me with any questions.

TD Curve POOH To Run 7" Casing



Daily Activity Report

Drilling Services
v4.2.3981

Day 8 - 2013/11/29

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981

Day 9 - 2013/11/30

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 8224.0 ft

END DEPTH: 8224.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-17:00	Wait On Orders	17.00	8224	n/a	18:50-21:30	Trip In	2.67	8224	4
17:00-18:30	PU Directional Tools	1.50	8224	4	21:30-22:00	Rig Service	0.50	8224	4
18:30-18:50	Shallow Test Tools	0.33	8224	4	22:00-24:00	Trip In	2.00	8224	4

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 4.67
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 19.33
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Discovery	STABILIZER: 5 7/8" (149mm)	SERIAL#: DiscoveryDDS007	MODEL: Discovery
SETTING: 1.5 °	KICKPAD: No	SIZE: 4.75	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security 5x20's	TYPE: n/a	MTR HRS THIS DAY: 0
			MTR HRS TO DATE: 0
IADC BIT GRADE: 8 / 8 / *RO / G / X / 3 / BT / TQ			NOZZLES: 1.534 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 5.50 in
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 5.50 in
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 3.5977 gal/stk
		STROKE VOL.: 3.5977 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 37 sec/qt	WTR LOSS: 8 cc/30min	PV: 9 cP	YP: 9 lb/100 ft²	pH: 8
DENSITY: 9 lb/gal	GEL 0/10: 4.00 lb/100 ft²	SAND: 0.5	SOLIDS: 2.3	OIL: 0	TEMP: 93 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Run 7" Casing, cement casing, pressure test, pick up BHA, TIH.

Target changes / updates are as follows:

Good afternoon, Below, I have detailed the drill out target and lateral plan. Please see me with any questions. Drill Out Target:

7766' TVD @ 0° VS w/ 90 INC 5' up/5' down

Lateral Plan, This lateral will be very similar to the previous Codell drilled on this pad. We will drill out a 90° and hold this until 2000' VS. Around 2000' VS a new target will be issued to begin going up around 1°.

o While we didn't see any faulting on the previous Codell, we should be prepared to see steep bed roll and a fault around 2500' VS. We may be in the Ft. Hays in this area. After the fault, formation is expected to begin dipping upwards around 1 degree and may increase as we get towards the toe. Target/window adjustments may need to be made to keep us moving up with formation and away from the Carlile. In the last 2000' of the lateral, we should expect to see formation greatly affect the BHA, whether by decreasing slide effectiveness or causing the BHA to want to build. If formation is coming in differently than anticipated, target/window adjustments may need to be made.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Day 10 - 2013/12/01**Drilling Services**

v4.2.3981

FILE #: 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Steven Bumgarner**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 8224.0 ft**END DEPTH:** 10447.0 ft**PROGRESS:** 2223.0 ft**AVG. ROP.:** 136.4 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:00	Trip In	1.00	8224	4	10:34-10:47	Circ & Accumulate Surveys	0.22	9507	4
01:00-01:55	Drill Out Flt, Shoe & Cmnt	0.92	8224	4	10:47-11:04	Rotating With Motor	0.28	9592	4
01:55-02:16	Rotating With Motor	0.35	8271	4	11:04-11:10	Circ & Accumulate Surveys	0.10	9592	4
02:16-02:25	Circ & Accumulate Surveys	0.15	8271	4	11:10-11:20	Orienting With Motor	0.17	9602	4
02:25-02:43	Orienting With Motor	0.30	8285	4	11:20-11:37	Rotating With Motor	0.28	9678	4
02:43-02:53	Circ & Accumulate Surveys	0.17	8285	4	11:37-11:49	Circ & Accumulate Surveys	0.20	9678	4
02:53-03:00	Rotating With Motor	0.12	8313	4	11:49-11:54	Orienting With Motor	0.08	9688	4
03:00-03:10	Circ & Accumulate Surveys	0.17	8313	4	11:54-12:12	Rotating With Motor	0.30	9763	4
03:10-03:16	Rotating With Motor	0.10	8338	4	12:12-12:17	Circ & Accumulate Surveys	0.08	9763	4
03:16-03:26	Circ & Accumulate Surveys	0.17	8338	4	12:17-12:22	Orienting With Motor	0.08	9775	4
03:26-03:39	Orienting With Motor	0.22	8352	4	12:22-12:39	Rotating With Motor	0.28	9848	4
03:39-03:49	Rotating With Motor	0.17	8404	4	12:39-12:53	Circ & Accumulate Surveys	0.23	9848	4
03:49-04:01	Circ & Accumulate Surveys	0.20	8404	4	12:53-13:00	Orienting With Motor	0.12	9863	4
04:01-04:11	Orienting With Motor	0.17	8414	4	13:00-13:57	Rotating With Motor	0.95	9934	4
04:11-04:20	Rotating With Motor	0.15	8475	4	13:57-14:11	Circ & Accumulate Surveys	0.23	9934	4
04:20-04:29	Circ & Accumulate Surveys	0.15	8475	4	14:11-14:34	Orienting With Motor	0.38	9954	4
04:29-04:41	Orienting With Motor	0.20	8485	4	14:34-15:20	Rotating With Motor	0.77	10019	4
04:41-04:45	Rotating With Motor	0.07	8497	4	15:20-15:24	Circ & Accumulate Surveys - Check Shot	0.07	10019	4
04:45-04:50	Circ & Accumulate Surveys	0.08	8497	4	15:24-16:05	Orienting With Motor	0.68	10019	4
04:50-04:58	Rotating With Motor	0.13	8540	4	16:05-16:10	Circ & Accumulate Surveys	0.08	10019	4
04:58-05:04	Circ & Accumulate Surveys	0.10	8540	4	16:10-16:45	Rig Service	0.58	10019	4
05:04-05:12	Rotating With Motor	0.13	8579	4	16:45-17:12	Orienting With Motor	0.45	10034	4
05:12-05:25	Orienting With Motor	0.22	8589	4	17:12-17:25	Rotating With Motor	0.22	10055	4
05:25-05:34	Circ & Accumulate Surveys	0.15	8589	4	17:25-17:30	Circ & Accumulate Surveys - Check Shot	0.08	10055	4
05:34-05:59	Rotating With Motor	0.42	8682	4	17:30-17:45	Rotating With Motor	0.25	10070	4
05:59-06:10	Circ & Accumulate Surveys	0.18	8682	4	17:45-17:50	Circ & Accumulate Surveys - Check Shot	0.08	10070	4
06:10-06:18	Orienting With Motor	0.13	8692	4	17:50-18:07	Rotating With Motor	0.28	10105	4
06:18-06:51	Rotating With Motor	0.55	8775	4	18:07-18:11	Circ & Accumulate Surveys	0.07	10105	4
06:51-06:56	Circ & Accumulate Surveys	0.08	8775	4	18:11-18:28	Orienting With Motor	0.28	10123	4
06:56-07:15	Rotating With Motor	0.32	8866	4	18:28-18:45	Rotating With Motor	0.28	10148	4
07:15-07:20	Circ & Accumulate Surveys	0.08	8866	4	18:45-18:55	Circ & Accumulate Surveys	0.17	10148	4
07:20-07:30	Orienting With Motor	0.17	8874	4	18:55-19:07	Orienting With Motor	0.20	10168	4
07:30-07:39	Rotating With Motor	0.15	8959	4	19:07-19:18	Rotating With Motor	0.18	10190	4
07:39-07:55	Circ & Accumulate Surveys	0.27	8959	4	19:18-19:28	Circ & Accumulate Surveys	0.17	10190	4
07:55-08:10	Rotating With Motor	0.25	9052	4	19:28-19:48	Rotating With Motor	0.33	10233	4
08:10-08:15	Circ & Accumulate Surveys	0.08	9052	4	19:48-19:53	Circ & Accumulate Surveys	0.08	10233	4
08:15-08:40	Rotating With Motor	0.42	9145	4	19:53-20:10	Orienting With Motor	0.28	10243	4
08:40-08:50	Circ & Accumulate Surveys	0.17	9150	4	20:10-20:23	Rotating With Motor	0.22	10276	4
08:50-09:03	Rotating With Motor	0.22	9237	4	20:23-20:34	Circ & Accumulate Surveys	0.18	10276	4
09:03-09:16	Circ & Accumulate Surveys	0.22	9237	4	20:34-20:50	Rotating With Motor	0.27	10318	4

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 10 - 2013/12/01

09:16-09:32	Rotating With Motor	0.27	9330	4	20:50-20:57	Circ & Accumulate Surveys	0.12	10318	4
09:32-09:42	Circ & Accumulate Surveys	0.17	9330	4	20:57-21:43	Rotating With Motor	0.77	10361	4
09:42-10:00	Orienting With Motor	0.30	9340	4	21:43-21:52	Circ & Accumulate Surveys	0.15	10361	4
10:00-10:14	Rotating With Motor	0.23	9422	4	21:52-23:00	Rotating With Motor	1.13	10404	4
10:14-10:21	Circ & Accumulate Surveys	0.12	9422	4	23:00-23:11	Circ & Accumulate Surveys	0.18	10404	4
10:21-10:26	Orienting With Motor	0.08	9432	4	23:11-23:38	Orienting With Motor	0.45	10424	4
10:26-10:34	Rotating With Motor	0.13	9507	4	23:38-24:00	Rotating With Motor	0.37	10447	4

TIME SUMMARY (hrs):

MOTOR DRILL: 16.30
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 6.12
MOTOR HRS: 22.42

ORIENTING HRS: 4.97
ROTATING HRS: 11.33
ROTARY DRILL: 0.00
OTHER: 0.58
DRILL HRS: 16.30

ROTARY DRILL: 0.00
MOTOR HRS: 22.42
TRIP: 1.00
OTHER: 0.58
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 11000 ft-lb
WOB SLIDING (HI): 50000 lbf
WOB SLIDING (LO): 30000 lbf
RPM (ROTARY): 70 rpm
RPM (MOTOR): 300 rpm
STRING WEIGHT 155000 lbs
WOB ROTATE (HI): 25000 lbf
WOB ROTATE (LO): 15000 lbf
DRAG UP: 215000 lbf
DRAG DN: 105000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4
MANFCT.: Discovery
SETTING: 1.5 °
MANFCT: Security
IADC BIT GRADE: 8 / 8 / *RO / G / X / 3 / BT / TQ

HOLE SIZE: 6.125 in
STABILIZER: 5 7/8" (149mm)
KICKPAD: No
BIT TYPE: Security 5x20's

SECTION TYPE: Lateral 1
SERIAL#: Discovery DDS007
SIZE: 4.75
TYPE: n/a

SURVEY TYPE: HEL LWD
MODEL: Discovery
MTR HRS THIS DAY: 22.416666666666666
NOZZLES: 1.534 in² TFA

LOBE CFG.: 5/6
NOZZLES TO DATE: 22.416666666666666

PUMP PARAMETERS

PRESSURE ON BTM: 3400
PUMP 1: TYPE: 1600
PUMP 2: TYPE: 1600
PUMP 3: TYPE:

PRESSURE OFF BTM: 2700
EFF.: 97.0%
EFF.: 97.0%
EFF.: 100.0%

SPM: 86.00
SPM: 0.00
SPM: 0.00

LINER: 5.50 in
LINER: 5.50 in
LINER: 0.00 in

TOTAL FLOW RATE: 300.12 gal/min
STROKE VOL.: 3.5977 gal/stk
STROKE VOL.: 3.5977 gal/stk
STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND
DENSITY: 9.6 lb/gal
LIQUID BASE: Water

VISC: 37 sec/qt
GEL 0/10: 8.00 lb/100 ft²

WTR LOSS: 6 cc/30min
SAND: 0.5
LIQUID RATE: 0 gal/min

PV: 10 cP
SOLIDS: 2.6
GAS TYPE:

YP: 9 lb/100 ft²
OIL: 0
GAS RATE: 0 cu ft/min

pH: 8.2
TEMP: 202 °F

COMMENTS:

TIH, Drill cement, float & shoe.
 Drill Lateral F/8,224' T/10,447'

At a MD of 10004' I took a checkshot seeing 20' of slide 30R. The checkshot showed us dropping angle from an 89.83 to 85. All slide being seen was good slide and Co man questioned it. He was shown on the Pason that all slide was up and to the right. The reason for the checkshot was to double check the angle as it appeared to be dropping even with seeing slide. A target change was issued 242' prior bringing it up 10' in TVD. I slid 15' up and right with 90.3 inclination and it dropped to a 89.83. I proceeded with a 20' slide up and right stopping to checkshot where I would be seeing all my slide and that is when the inc dropped to 85 degrees. It appears that we also hit a fault around this area. We ended up in the Carlile and were instructed to get aggressive with it to bring angle up. By doing so a 4.6 DL was put in the wellbore.

Target changes / updates are as follows:

Good morning, We have drilled out in the lateral and are now at 8408' MD. We are in the top of the Codell with relatively flat formation dip. No changes to the target or window. Please see me with any questions.
 Target: 7766' TVD @ 0' VS w/ 90 INC Window: 5' up/5' down

Good morning, We are drilling in the lateral at 9408' MD. Formation has remained relatively flat. I will likely be making a change to go up at 2000' VS, but no changes right now. Please see me with any questions.

Good morning, We are drilling in the lateral at 9762' MD. I have re-correlated our position, and it looks like we are in the mid to low Codell. It is a bit earlier than I was anticipating, but I would like to adjust the target 10' up to 7756' TVD @ 0' VS w/ 90 INC with 5' up and 5' down. We should be prepared to see a fault around 2600' VS, and just to be safe, I would like us to get up to the target line before flattening out. Please come up to the target line gradually; no need to go screaming up. Please see me with any questions. New Target: 7756' TVD @ 0' VS w/ 90 INC



Daily Activity Report

Day 10 - 2013/12/01

Drilling Services
v4.2.3981

Window: 5' up/5' down (but please come up to the line before flattening out)

Good evening, We are drilling in the lateral at 10374' MD. Samples indicate that around 10300' MD we cut back into the Codell, however, ROP continues to be very low. Please continue to come up and flatten out at the target line. We may see a fault around 2600' VS, and formation will begin to dip upwards around 3500' VS. No changes to the target line. Please see me with any questions. Target: 7756' TVD @ 0' VS w/ 90 INC Window: 5' up/5' down (come up to the line before flattening out)

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 11 - 2013/12/02**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Steven Bumgarner**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 10447.0 ft**END DEPTH:** 10684.0 ft**PROGRESS:** 237.0 ft**AVG. ROP.:** 36.3 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:35	Rig Service	0.58	10447	4	06:37-06:54	Circ & Accumulate Surveys	0.28	10617	4
00:35-00:45	Circ & Accumulate Surveys	0.17	10447	4	06:54-07:30	Rotating With Motor	0.60	10643	4
00:45-01:15	Rotating With Motor	0.50	10475	4	07:30-07:35	Circ & Accumulate Surveys - check shot	0.08	10643	4
01:15-01:23	Circ & Accumulate Surveys	0.13	10475	4	07:35-09:24	Orienting With Motor	1.82	10673	4
01:23-01:44	Rotating With Motor	0.35	10489	4	09:24-09:37	Rotating With Motor	0.22	10684	4
01:44-02:16	Orienting With Motor	0.53	10505	4	09:37-09:42	Circ & Accumulate Surveys - check shot	0.08	10684	4
02:16-03:10	Rotating With Motor	0.90	10532	4	09:42-10:45	Circ & Condition Hole	1.05	10684	4
03:10-03:20	Circ & Accumulate Surveys	0.17	10532	4	10:45-16:05	POOH - See Comments - Check Bit & Motor	5.33	10684	4
03:20-04:47	Other - See Comments - SPR & P/U,S/O,ROT	1.45	10575	4	16:05-16:30	Handle Directional Tools	0.42	10684	4
04:47-05:00	Circ & Accumulate Surveys	0.22	10575	4	16:30-17:30	Rig Repair - Blow down topdrive	1.00	10684	n/a
05:00-06:07	Orienting With Motor	1.12	10595	4	17:30-18:00	Change Motor	0.50	10684	5
06:07-06:37	Rotating With Motor	0.50	10617	4	18:00-24:00	Trip In	6.00	10684	5

TIME SUMMARY (hrs):

MOTOR DRILL: 6.53	ORIENTING HRS: 3.47	ROTARY DRILL: 0.00	ROTARY TORQUE: 16000 ft-lb	STRING WEIGHT 155000 lbs
TIME DRILL: 0.00	ROTATING HRS: 3.07	MOTOR HRS: 8.72	WOB SLIDING (HI): 60000 lbf	WOB ROTATE (HI): 25000 lbf
MOTOR REAM: 0.00		TRIP: 11.33	WOB SLIDING (LO): 30000 lbf	WOB ROTATE (LO): 15000 lbf
CIRC: 2.18	ROTARY DRILL: 0.00	OTHER: 3.95	RPM (ROTARY): 70 rpm	DRAG UP: 215000 lbf
MOTOR HRS: 8.72	DRILL HRS: 6.53	TOTAL HRS: 24.00	RPM (MOTOR): 300 rpm	DRAG DN: 110000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Discovery	STABILIZER: 5 7/8" (149mm)	SERIAL#: DiscoveryDDS007	MODEL: Discovery
SETTING: 1.5 °	KICKPAD: No	SIZE: 4.75	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security 5x20's	TYPE: n/a	MTR HRS THIS DAY: 8.716666666666667
IADC BIT GRADE: 8 / 8 / *RO / G / X / 3 / BT / TQ			MTR HRS TO DATE: 31.133333333333333
			NOZZLES: 1.534 in² TFA

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Wenzel	STABILIZER: No	SERIAL#: WZL 475-M5-136	MODEL: 5/6 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / PP			MTR HRS TO DATE: 0
			NOZZLES: 1.534 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3400	PRESSURE OFF BTM: 2700	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 86.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 36 sec/qt	WTR LOSS: 5.4 cc/30min	PV: 9 cP	YP: 7 lb/100 ft²	pH: 8.2
DENSITY: 9.6 lb/gal	GEL 0/10: 4.00 lb/100 ft²	SAND: 1	SOLIDS: 3.7	OIL: 0	TEMP: 202 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



Weatherford®

Daily Activity Report

Drilling Services

v4.2.3981

Day 11 - 2013/12/02

COMMENTS:

Drill Lateral F/10,447' T/10,684'

POOH to change Bit & Motor due to excessive stalling. Once the assembly was on surface the Discovery motor seemed to be very weak and the bit was damaged beyond repair.

Target changes / updates are as follows:

Good morning, We are drilling in the lateral at 10503' MD. At 10396' survey MD, it looks like we hit something (possibly a fault), because it knocked the BHA back down to 87 degrees. Samples still indicate Codell, so please continue to try and come up to the line. Contact me with any questions.

Good morning, We are drilling in the lateral at 10594' MD. Samples indicate that we are still in the Codell, however, we are low in the Codell. Please continue to move up to the line if possible. Feel free to contact me with any questions.

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981

Day 12 - 2013/12/03

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 10684.0 ft

END DEPTH: 10780.0 ft

PROGRESS: 96.0 ft

AVG. ROP.: 82.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:22	Wash To Bottom - 10,361'-10,684'	0.37	10684	5	02:00-04:00	POOH - See Comments - for lost circulation	2.00	10780	5
00:22-00:40	Orienting With Motor	0.30	10694	5	04:00-05:00	Other - See Comments - build LCM pill	1.00	10780	5
00:40-00:50	Rotating With Motor	0.17	10703	5	05:00-06:00	Other - See Comments - Pump LCM Pill	1.00	10780	5
00:50-01:00	Circ & Accumulate Surveys	0.17	10703	5	06:00-07:20	RIH	1.33	10780	5
01:00-01:15	Rotating With Motor	0.25	10725	5	07:20-07:35	Other - See Comments - Pump LCM Pill	0.25	10780	5
01:15-01:25	Circ & Accumulate Surveys	0.17	10725	5	07:35-08:30	Unplug Tools	0.92	10780	5
01:25-01:40	Rotating With Motor	0.25	10760	5	08:30-22:30	POOH - See Comments - Tool Pack Off w/ LCM	14.00	10780	5
01:40-01:48	Circ & Accumulate Surveys	0.13	10760	5	22:30-24:00	Handle Directional Tools - Clean out LCM	1.50	10780	5
01:48-02:00	Rotating With Motor	0.20	10780	5			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	1.17	ORIENTING HRS:	0.30	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.87	MOTOR HRS:	2.00
MOTOR REAM:	0.00	TRIP:	17.33	OTHER:	4.67
CIRC:	0.83	ROTARY DRILL:	0.00		
MOTOR HRS:	2.00	DRILL HRS:	1.17	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	16000 ft-lb	STRING WEIGHT	155000 lbs
WOB SLIDING (HI):	40000 lbf	WOB ROTATE (HI):	20000 lbf
WOB SLIDING (LO):	20000 lbf	WOB ROTATE (LO):	15000 lbf
RPM (ROTARY):	70 rpm	DRAG UP:	225000 lbf
RPM (MOTOR):	300 rpm	DRAG DN:	110000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 5	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Wenzel	STABILIZER: No	SERIAL#: WZL 475-M5-136	MODEL: 5/6 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	MTR HRS THIS DAY: 2
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	NOZZLES: 1.534 in² TFA
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / PP			

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2700	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 86.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 40 sec/qt	WTR LOSS: 9.8 cc/30min	PV: 12 cP	YP: 12 lb/100 ft²	pH: 9
DENSITY: 9.2 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.5	SOLIDS: 1.6	OIL: 0	TEMP: 217 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Ream F/10,361' T/10,684'

Drill Lateral F/10,684' T/10,780'

POOH for lost circulation.

Target changes / updates are as follows:



Daily Activity Report

Day 12 - 2013/12/03

Drilling Services
v4.2.3981

Good morning, We are drilling in the lateral at 10780' MD. We remain in the bottom of the Codell. If possible, please continue to work back up to the line of 7756' TVD @ 0' VS w/ 90 INC. Please see me with any questions.

At a MD of 10,780' We lost 100% circulation. It was decided by Anadarko to POOH to the shoe and pump an LCM pill. The company man was informed by Weatherford personnel that we suggest making sure the pill is through the bit and out of the pipe before tripping back to bottom. This request was ignored and the pill packed off on top of the junk basket on the LWD tool. POOH due to pack off and increased pump pressure.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 13 - 2013/12/04**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Brian Trani, Josh Monroe, Steven Bumgarner**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 10780.0 ft**END DEPTH:** 10780.0 ft**PROGRESS:** 0.0 ft**AVG. ROP.:** 0.0 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Handle Directional Tools - Change HEL Tool	1.50	10780	6	12:40-15:00	Handle Directional Tools - Inspect, Steam	2.33	10780	6
01:30-01:45	Shallow Test Tools	0.25	10780	6	15:00-15:30	Lay Down Directional Tools - Motor plugged	0.50	10780	6
01:45-03:00	Other - See Comments - Test Agitator	1.25	10780	6	15:30-17:15	PU Directional Tools	1.75	10780	7
03:00-04:00	Rig Service	1.00	10780	6	17:15-17:45	Other - See Comments - Gens down	0.50	10780	7
04:00-09:12	Trip In	5.20	10780	6	17:45-19:00	Other - See Comments - clean out Mud Pumps	1.25	10780	7
09:12-10:15	Other - See Comments - Troubleshoot pressur	1.05	10780	6	19:00-24:00	Trip In	5.00	10780	7
10:15-12:40	POOH - See Comments - Pressure	2.42	10780	6			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 12.62
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 11.38
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 16000 ft-lb	STRING WEIGHT 155000 lbs
WOB SLIDING (HI): 40000 lbf	WOB ROTATE (HI): 20000 lbf
WOB SLIDING (LO): 20000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 70 rpm	DRAG UP: 225000 lbf
RPM (MOTOR): 300 rpm	DRAG DN: 110000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 6	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Wenzel	STABILIZER: No	SERIAL#: WZL 475-M5-136	MODEL: 5/6 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?		NOZZLES: 1.534 in ² TFA	MTR HRS TO DATE: 2

BHA: 7	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT475-45704	MODEL: 5/6, 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?		NOZZLES: 1.534 in ² TFA	MTR HRS TO DATE: 0

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2700	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 86.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 38 sec/qt	WTR LOSS: 8 cc/30min	PV: 10 cP	YP: 11 lb/100 ft ²	pH: 9
DENSITY: 9.2 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.5	SOLIDS: 2.9	OIL: 0	TEMP: 90 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Change out HEL tool. We picked up the agitator and attempted to pump through it and were not able to. The rig put 2,000psi on the agitator and it would not circulate (plugged with LCM). Anadarko has made the decision to TIH without an agitator and attempt finishing the well.

Rig Service, TIH

A new agitator was brought to location and will be ran to finish well. Before picking up the new agitator the rig tried pumping on the drill string and it immediatly pressured up. POOH to troubleshoot pressure issues.



Daily Activity Report

Day 13 - 2013/12/04

Drilling Services
v4.2.3981

Changed out mud motor due to it being packed off with LCM. This motor never drilled a single foot after being ran in the hole 2 different times. Pick up new WFT motor and TIH.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 14 - 2013/12/05**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Brian Trani, Steven Bumgarner**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 10780.0 ft**END DEPTH:** 11558.0 ft**PROGRESS:** 778.0 ft**AVG. ROP.:** 127.5 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-14:45	Trip In	14.75	10780	7	19:46-20:45	Other - See Comments - rack washed stand	0.98	11142	7
14:45-14:55	Rotating With Motor	0.17	10791	7	20:45-21:05	Rotating With Motor	0.33	11217	7
14:55-15:09	Circ & Accumulate Surveys	0.23	10791	7	21:05-21:19	Circ & Accumulate Surveys	0.23	11217	7
15:09-15:53	Rotating With Motor	0.73	10876	7	21:19-21:25	Orienting With Motor	0.10	11227	7
15:53-16:04	Circ & Accumulate Surveys	0.18	10876	7	21:25-21:47	Rotating With Motor	0.37	11303	7
16:04-17:02	Rotating With Motor	0.97	10961	7	21:47-21:58	Circ & Accumulate Surveys	0.18	11303	7
17:02-17:15	Circ & Accumulate Surveys	0.22	10961	7	21:58-22:18	Rotating With Motor	0.33	11388	7
17:15-18:00	Rotating With Motor	0.75	11000	7	22:18-22:31	Circ & Accumulate Surveys	0.22	11388	7
18:00-18:15	Orienting With Motor	0.25	11013	7	22:31-22:45	Orienting With Motor	0.23	11403	7
18:15-18:32	Rotating With Motor	0.28	11047	7	22:45-23:05	Rotating With Motor	0.33	11473	7
18:32-18:49	Circ & Accumulate Surveys	0.28	11047	7	23:05-23:15	Other - See Comments - SPR's	0.17	11473	7
18:49-19:21	Rotating With Motor	0.53	11132	7	23:15-23:28	Circ & Accumulate Surveys	0.22	11473	7
19:21-19:35	Circ & Accumulate Surveys	0.23	11132	7	23:28-23:43	Orienting With Motor	0.25	11485	7
19:35-19:46	Orienting With Motor	0.18	11142	7	23:43-24:00	Rotating With Motor	0.28	11558	7

TIME SUMMARY (hrs):

MOTOR DRILL: 6.10	ORIENTING HRS: 1.02	ROTARY DRILL: 0.00	ROTARY TORQUE: 17000 ft-lb	STRING WEIGHT 155000 lbs
TIME DRILL: 0.00	ROTATING HRS: 5.08	MOTOR HRS: 8.10	WOB SLIDING (HI): 60000 lbf	WOB ROTATE (HI): 25000 lbf
MOTOR REAM: 0.00		TRIP: 14.75	WOB SLIDING (LO): 40000 lbf	WOB ROTATE (LO): 15000 lbf
CIRC: 2.00	ROTARY DRILL: 0.00	OTHER: 1.15	RPM (ROTARY): 70 rpm	DRAG UP: 215000 lbf
MOTOR HRS: 8.10	DRILL HRS: 6.10	TOTAL HRS: 24.00	RPM (MOTOR): 285 rpm	DRAG DN: 110000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 7	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT475-45704	MODEL: 5/6, 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 8.1
			MTR HRS TO DATE: 8.1
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?			
NOZZLES: 1.534 in ² TFA			

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2600	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 86.00	LINER: 5.50 in STROKE VOL.: 3.5977 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 5.50 in STROKE VOL.: 3.5977 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 36 sec/qt	WTR LOSS: 6.8 cc/30min	PV: 10 cP	YP: 8 lb/100 ft ²	pH: 8.9
DENSITY: 9.2 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.25	SOLIDS: 2.9	OIL: 0	TEMP: 212 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

TIH. Rabbit and Steam Pipe. Fill pipe with screen every 1000ft while TIH.

Drill Lateral F/10,780' T/11,558'



Daily Activity Report

Drilling Services
v4.2.3981

Day 14 - 2013/12/05

Rotate without sliding until 11,000MD to get clear of previous lost circulation zone/fault. Angle dropping off from 93INC to 91.7 by 10,900MD. Pumps left at 200GPM until 11,000MD then brought to full flow.

No lost circulation problems.

Assy leveling off a few feet high of target 7756TVD. Initially not hooking hard left like previously at 60 RPM. 200GPM. 100FT/HR/ 10KWOB. At 10909 assy had not turned left and remained at 1.4 azm.

Slide placed at 11,000MD in preparation for avoiding PANAMGUAM offset well to our left. AZM must be brought back to 2.93°+.

Geo Update Below:

From Zack Heider 16:25PM: "We are back on bottom and drilling in the lateral at 10911' MD. After getting more GR data, it looks like we crossed a fault at 10723' MD, and are now up in the Ft. Hays. This is likely the fault that caused us to lose circulation. We have made great progress coming up to the target line, and we should be ok to flatten out at the line and remain in the 5' up/5' down window. We'll hold this line until we need to start going up, likely around 45000' – 50000' VS. Please see me with any questions. Target: 7756' TVD @ 0' VS w/ 90 INC Window: 5' up/5' down."

Good evening, We are drilling in the lateral at 11390' MD. We are back in the Codell as formation is flattening out. In preparation for formation to dip upwards, please adjust the window to 10' up and 0' down. Please see me with any questions. Target: 7756' TVD @ 0' VS w/ 90 INC Window: 10' up/0' down

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.3981

Day 15 - 2013/12/06**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Brian Trani, Steven Bumgarner**MWD Supervisor:** Jon Leger**Other:** Cody McCullah**GROUND ELEV:** 5033 ft**KB ELEV:** 5049 ft**START DEPTH:** 11558.0 ft**END DEPTH:** 13475.0 ft**PROGRESS:** 1917.0 ft**AVG. ROP.:** 127.4 ft/hr**DAILY COST:** USD\$0.00**PREVIOUS COST:** USD\$0.00**TOTAL COST:** USD\$0.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Rig Service	0.50	11558	7	09:43-10:17	Orienting With Motor	0.57	12512	7
00:30-00:46	Circ & Accumulate Surveys	0.27	11558	7	10:17-10:33	Rotating With Motor	0.27	12582	7
00:46-00:58	Orienting With Motor	0.20	11570	7	10:33-10:52	Circ & Accumulate Surveys - ST80	0.32	12582	7
00:58-01:12	Rotating With Motor	0.23	11644	7	10:52-11:30	Rotating With Motor	0.63	12667	7
01:12-01:22	Circ & Accumulate Surveys	0.17	11644	7	11:30-11:45	Back Reaming - C/S	0.25	12667	7
01:22-01:40	Rotating With Motor	0.30	11729	7	11:45-12:25	Rotating With Motor	0.67	12753	7
01:40-01:52	Circ & Accumulate Surveys	0.20	11729	7	12:25-12:43	Circ & Accumulate Surveys	0.30	12753	7
01:52-02:17	Rotating With Motor	0.42	11814	7	12:43-13:10	Orienting With Motor	0.45	12768	7
02:17-02:35	Circ & Accumulate Surveys	0.30	11814	7	13:10-13:37	Rotating With Motor	0.45	12838	7
02:35-02:47	Orienting With Motor	0.20	11830	7	13:37-13:52	Ream Hole - C/S	0.25	12838	7
02:47-03:02	Rotating With Motor	0.25	11900	7	13:52-14:07	Orienting With Motor	0.25	12853	7
03:02-03:14	Circ & Accumulate Surveys	0.20	11900	7	14:07-14:35	Rotating With Motor	0.47	12924	7
03:14-03:28	Orienting With Motor	0.23	11916	7	14:35-15:02	Circ & Accumulate Surveys - Pump Issue	0.45	12924	7
03:28-03:41	Rotating With Motor	0.22	11985	7	15:02-15:34	Rotating With Motor	0.53	13009	7
03:41-04:00	Circ & Accumulate Surveys	0.32	11985	7	15:34-15:50	Circ & Accumulate Surveys	0.27	13009	7
04:00-04:11	Orienting With Motor	0.18	12000	7	15:50-16:18	Rig Repair - Pump	0.47	13009	7
04:11-04:24	Circ & Accumulate Surveys	0.22	12070	7	16:18-16:53	Rotating With Motor	0.58	13094	7
04:24-04:40	Rotating With Motor	0.27	12070	7	16:53-17:05	Circ & Accumulate Surveys	0.20	13094	7
04:40-04:54	Orienting With Motor	0.23	12085	7	17:05-17:51	Rig Repair - Pump Press LWD	0.77	13094	7
04:54-05:10	Rotating With Motor	0.27	12155	7	17:51-18:20	Orienting With Motor	0.48	13109	7
05:10-05:30	Circ & Accumulate Surveys	0.33	12155	7	18:20-18:40	Rotating With Motor	0.33	13179	7
05:30-05:45	Orienting With Motor	0.25	12167	7	18:40-18:53	Circ & Accumulate Surveys	0.22	13179	7
05:45-06:00	Rotating With Motor	0.25	12241	7	18:53-19:55	Orienting With Motor	1.03	13194	7
06:00-06:15	Circ & Accumulate Surveys	0.25	12241	7	19:55-20:20	Rotating With Motor	0.42	13265	7
06:15-06:35	Orienting With Motor	0.33	12256	7	20:20-20:40	Circ & Accumulate Surveys	0.33	13265	7
06:35-07:00	Rotating With Motor - Gens	0.42	12326	7	20:40-21:20	Rotating With Motor	0.67	13350	7
07:00-07:45	Circ & Accumulate Surveys - MAD Pass LWD	0.75	12326	7	21:20-21:45	Circ & Accumulate Surveys	0.42	13350	7
07:45-08:17	Orienting With Motor	0.53	12341	7	21:45-22:35	Orienting With Motor	0.83	13366	7
08:17-08:31	Rotating With Motor	0.23	12411	7	22:35-23:10	Rotating With Motor	0.58	13436	7
08:31-08:45	Circ & Accumulate Surveys	0.23	12411	7	23:10-23:25	Circ & Accumulate Surveys	0.25	13436	7
08:45-08:59	Rotating With Motor	0.23	12497	7	23:25-23:51	Orienting With Motor	0.43	13454	7
08:59-09:40	Rig Service	0.68	12497	7	23:51-24:00	Rotating With Motor	0.15	13475	7
09:40-09:43	Circ & Accumulate Surveys	0.05	12497	7			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 15.05	ORIENTING HRS: 6.22	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 8.83	MOTOR HRS: 21.58
MOTOR REAM: 0.25		TRIP: 0.00
CIRC: 6.28	ROTARY DRILL: 0.00	OTHER: 2.42
MOTOR HRS: 21.58	DRILL HRS: 15.05	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 18000 ft-lb	STRING WEIGHT 155000 lbs
WOB SLIDING (HI): 75000 lbf	WOB ROTATE (HI): 18000 lbf
WOB SLIDING (LO): 60000 lbf	WOB ROTATE (LO): 12000 lbf
RPM (ROTARY): 70 rpm	DRAG UP: 265000 lbf
RPM (MOTOR): 288 rpm	DRAG DN: 115000 lbf

— **BHA / MOTOR / BIT INFORMATION:** —

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.3981**Day 15 - 2013/12/06**

BHA: 7 **HOLE SIZE:** 6.125 in **SECTION TYPE:** Lateral 1 **SURVEY TYPE:** HEL LWD
MANFCT.: WFT **STABILIZER:** No **SERIAL#:** WFT475-45704 **MODEL:** 5/6, 8.3 **LOBE CFG.:** 5/6
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 4 3/4" (121mm) **MTR HRS THIS DAY:** 21.58333333 **MTR HRS TO DATE:** 29.6833333333
MANFCT: Security **BIT TYPE:** Security Bit 5x20's **TYPE:** MMD54 **NOZZLES:** 1.534 in² TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2500	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 86.00	LINER: 5.50 in STROKE VOL.: 3.5977 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 40 sec/qt	WTR LOSS: 3.8 cc/30min	PV: 11 cP	YP: 9 lb/100 ft²	pH: 9
DENSITY: 9.2 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.25	SOLIDS: 2.7	OIL: 0	TEMP: 226 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill Lateral F/11,558' T/13,475'

Target changes / updates are as follows:

Good morning, We are drilling in the lateral at 12018' MD. We are in the mid to lower Codell with mostly flat formation. I would like to adjust the target to 7785' TVD @ 0' VS w/ 90.5 INC with 5' up and 5' down. Formation is expected to dip up soon, so this target will help us get moving upwards. Please see me with any questions. New Target: 7785' TVD @ 0' VS w/ 90.5 INC Window: 5' up/5' down

Zack Heider 16:50PM: Target Change to Window

"We are drilling in the lateral at 13100' MD. We are in the mid to upper Codell with formation dipping up around 0.5-1 degree. I would like to adjust the window to 10' up and 0' down to help with rotation. Please see me with any questions.

Target: 7785' TVD @ 0' VS w/ 90.50 INC

Window: 10' up/0' down"

Good evening, We are drilling in the lateral at 13361' MD. We are in the middle of the Codell and formation is about to start dipping up around 1-1.5 degrees. In order to follow formation up the last 2000' of the well, please adjust the target to 7833' TVD @ 0' VS w/ 91 INC, with 5' up and 5' down. Ideally, we should be able to hold this target for the rest of the well. Please see me with any questions. New Target: 7833' TVD @ 0' VS w/ 91 INC Window: 5' up/5' down

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.3981

Day 16 - 2013/12/07

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 13475.0 ft

END DEPTH: 14975.0 ft

PROGRESS: 1500.0 ft

AVG. ROP.: 133.1 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rotating With Motor	0.25	13521	7	07:28-07:46	Circ & Accumulate Surveys	0.30	14203	7
00:15-00:45	Rig Service	0.50	13521	7	07:46-08:12	Orienting With Motor	0.43	14218	7
00:45-01:00	Circ & Accumulate Surveys	0.25	13521	7	08:12-08:35	Rotating With Motor	0.38	14289	7
01:00-01:19	Rotating With Motor	0.32	13606	7	08:35-08:47	Ream Hole - C/S	0.20	14289	7
01:19-01:32	Circ & Accumulate Surveys	0.22	13606	7	08:47-09:50	Rig Repair - Lost PSI	1.05	14289	7
01:32-01:49	Rotating With Motor	0.28	13691	7	09:50-11:04	Rig Repair - Lost PSI	1.23	14289	7
01:49-02:10	Rig Repair - Change Saver sub	0.35	13691	7	11:04-11:40	Orienting With Motor	0.60	14299	7
02:10-02:30	Orienting With Motor	0.33	13701	7	11:40-12:02	Rotating With Motor	0.37	14459	7
02:30-02:47	Rotating With Motor	0.28	13777	7	12:02-12:42	Rig Service	0.67	14459	7
02:47-03:00	Circ & Accumulate Surveys	0.22	13777	7	12:42-12:45	Circ & Accumulate Surveys	0.05	14459	7
03:00-03:18	Rotating With Motor	0.30	13862	7	12:45-13:10	Rotating With Motor	0.42	14545	7
03:18-03:30	Circ & Accumulate Surveys	0.20	13862	7	13:10-13:25	Circ & Accumulate Surveys	0.25	14545	7
03:30-03:51	Rotating With Motor	0.35	13947	7	13:25-13:55	Rotating With Motor	0.50	14630	7
03:51-04:13	Circ & Accumulate Surveys	0.37	13947	7	13:55-14:09	Circ & Accumulate Surveys	0.23	14630	7
04:13-04:32	Orienting With Motor	0.32	13963	7	14:09-15:08	Rotating With Motor	0.98	14715	7
04:32-04:55	Rotating With Motor	0.38	14033	7	15:08-15:23	Circ & Accumulate Surveys	0.25	14715	7
04:55-05:10	Circ & Accumulate Surveys	0.25	14033	7	15:23-16:05	Orienting With Motor	0.70	14730	7
05:10-05:33	Orienting With Motor	0.38	14049	7	16:05-16:40	Rotating With Motor	0.58	14801	7
05:33-05:50	Rotating With Motor	0.28	14118	7	16:40-17:00	Back Reaming - C/S	0.33	14801	7
05:50-06:02	Circ & Accumulate Surveys	0.20	14118	7	17:00-18:00	Rotating With Motor	1.00	14971	7
06:02-06:16	Orienting With Motor	0.23	14136	7	18:00-18:12	Circ & Accumulate Surveys	0.20	14971	7
06:16-07:00	Rotating With Motor	0.73	14162	7	18:12-18:35	Rotating With Motor	0.38	14975	7
07:00-07:14	Orienting With Motor	0.23	14172	7	18:35-22:00	Circulating	3.42	14975	7
07:14-07:28	Rotating With Motor	0.23	14203	7	22:00-24:00	POOH To Run Casing	2.00	14975	7

TIME SUMMARY (hrs):

MOTOR DRILL: 11.27	ORIENTING HRS: 3.23	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 8.03	MOTOR HRS: 18.20
MOTOR REAM: 0.20		TRIP: 2.00
CIRC: 6.73	ROTARY DRILL: 0.00	OTHER: 3.80
MOTOR HRS: 18.20	DRILL HRS: 11.27	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 18000 ft-lb	STRING WEIGHT: 155000 lbs
WOB SLIDING (HI): 75000 lbf	WOB ROTATE (HI): 22000 lbf
WOB SLIDING (LO): 40000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 70 rpm	DRAG UP: 275000 lbf
RPM (MOTOR): 288 rpm	DRAG DN: 100000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 7	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT475-45704	MODEL: 5/6, 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 18.2
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?			MTR HRS TO DATE: 47.883333333333
			NOZZLES: 1.534 in² TFA



Weatherford®

Daily Activity Report

Drilling Services

v4.2.3981

Day 16 - 2013/12/07

PUMP PARAMETERS

PRESSURE ON BTM: 3500

PRESSURE OFF BTM: 2500

TOTAL FLOW RATE: 296.63 gal/min

PUMP 1: TYPE: 1600

EFF.: 97.0%

SPM: 85.00

LINER: 5.50 in

STROKE VOL.: 3.5977 gal/stk

PUMP 2: TYPE: 1600

EFF.: 97.0%

SPM: 0.00

LINER: 5.50 in

STROKE VOL.: 3.5977 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND

VISC: 40 sec/qt

WTR LOSS: 3.8 cc/30min

PV: 11 cP

YP: 9 lb/100 ft²

pH: 9

DENSITY: 9.2 lb/gal

GEL 0/10: 3.00 lb/100 ft²

SAND: 0.25

SOLIDS: 2.7

OIL: 0

TEMP: 226 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Drill Lateral F/13,475' T/14,975' TD Well

Target changes / updates are as follows:

Good morning, We are drilling in the lateral at 14126' MD. Formation is dipping up around 1 degree. We are in the middle of the Codell, and just to make sure that we don't get to low, I'd like to adjust the window to 10' up and 0' down. Please see me with any questions. Target: 7833' TVD @ 0' VS w/ 91 INC

Window: 10' up/ 0' down

Torque climbed rapidly and drilling became ratty 150ft prior to TD. We attempted to drill the final 25ft to TD but were so limited by torque at 19K that we were not able to rotate top drive on bottom. Drilling engineer decided to call TD short rather than back ream trouble areas and attempt to drill.

TD well 8ft high inside window.

CUSTOMER SIGNATURE: _____



Weatherford

Daily Activity Report

Drilling Services
v4.2.3981

Day 17 - 2013/12/08

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

Other: Cody McCullah

GROUND ELEV: 5033 ft

KB ELEV: 5049 ft

START DEPTH: 14975.0 ft

END DEPTH: 15000.0 ft

PROGRESS: 25.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$0.00

PREVIOUS COST: USD\$0.00

TOTAL COST: USD\$0.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-16:00	POOH To Run Casing	16.00	15000	7	17:10-24:00	Other - See Comments - End Of Well	6.83	15000	7
16:00-17:10	Lay Down Directional Tools	1.17	15000	7			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00
MOTOR REAM:	0.00			TRIP:	16.00
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	8.00
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	19000 ft-lb	STRING WEIGHT	155000 lbs
WOB SLIDING (HI):	110000 lbf	WOB ROTATE (HI):	18000 lbf
WOB SLIDING (LO):	20000 lbf	WOB ROTATE (LO):	12000 lbf
RPM (ROTARY):	80 rpm	DRAG UP:	250000 lbf
RPM (MOTOR):	280 rpm	DRAG DN:	90000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 7	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: WFT	STABILIZER: No	SERIAL#: WFT475-45704	MODEL: 5/6, 8.3
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 5/6
MANFCT: Security	BIT TYPE: Security Bit 5x20's	TYPE: MMD54	MTR HRS THIS DAY: 0
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?			MTR HRS TO DATE: 47.883333333333

PUMP PARAMETERS

PRESSURE ON BTM: 3600	PRESSURE OFF BTM: 2600	TOTAL FLOW RATE: 300.12 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 86.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 5.50 in	STROKE VOL.: 3.5977 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: LSND	VISC: 40 sec/qt	WTR LOSS: 3.5 cc/30min	PV: 12 cP	YP: 10 lb/100 ft²	pH: 8.8
DENSITY: 10 lb/gal	GEL 0/10: 2.00 lb/100 ft²	SAND: 0.3	SOLIDS: 3.1	OIL: 0	TEMP: 225 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

LD Tools.

Ship out all tools.

One truck with LWD to Houston, one truck to WFT Casper. All Stabil Drill components remain on location.

End of Job.

CUSTOMER SIGNATURE: _____



BHA REPORTS

**Weatherford®**

BHA Report

Drilling Services
v4.2.3981

BHA 1 - Intermediate Section

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security 6x18's	Security	12262950	MMD64	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	WFT	675-50179	7/8, 5.7	6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	33.91 ft	34.91 ft
1	Muleshoe	WFT	675-38132	NM UBHO	6.76	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.59 ft	38.50 ft
1	6 3/4 Slick NMDC	WFT	675-38675	Non Mag	6.85	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.45 ft	68.95 ft
1	6-3/4 Pony Collar	Stabil Drill	SD44009	Pony	6.87	3.31	0	4 1/2" IF Pin	4 1/2" IF Box	19.98 ft	88.93 ft
1	6 3/4 Flex NMDC	Stabil Drill	SD42654	Flex Collar	6.76	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	30.58 ft	119.51 ft
60	5" DP 20 stands	Rig	Rig	Drill Pipe	5	4.276	0	4 1/2" IF Pin	4 1/2" IF Box	1876.88	1996.39 ft
1	X/O XT39B x 4.5IF	Stabil Drill	SD112650	Crossover	6.8	2.875	0	4 1/2" IF Pin	4" XT 39 Box	3.11 ft	1999.50 ft
60	4" HWDP 20 Stand	Rig	Rig	HeavyWeight DP4	2.75	0	0	4" XT-39 Pin	4" XT-39 Box	1841.77	3841.27 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/11/25 TO 2013/11/27
 DEPTH IN: 1232.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 7292.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 25.10 BUILD: 0.00 °
 ORIENTING HRS: 7.98 HOLE MADE: 6060.00 ft
 ROTATING HRS: 17.12 AVG R.O.P.: 241.43 ft/hr

MOTOR INFORMATION

MANFCT. WFT SETTING: 2.00 °
 SERIAL #: 675-50179 KICK PAD: No
 MODEL: 7/8, 5.7 STABILIZER: No
 LOBE CFG: 7/8 MOTOR HRS: 34.52
 BIT TO BEND: 3.85

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	85	85	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	593.25988 gal/min		
PUMP PRESSURE:	OFF BTM: 2850 psi	ON BTM: 2950 psi	

MUD INFORMATION

MUD TYPE: LSND LIQUID BASE: Water
 DENSITY: 10 lb/gal TEMP: 88 °F
 VISCOSITY: 38 sec/qt pH: 9
 WTR LOSS: 5.6 cc/30min SAND: 0.4 LIQUID RATE: 0 gal/min
 PLAST VISC: 10 cP SOLIDS: 2.6 GAS TYPE:
 YIELD PT: 10 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: MMD64 IADC BIT GRADE: 1 / 1 / ? / ? / X / 1 / ? / BHA
 NOZZLES: 1.491 in² TFA

REASON FOR BHA CHANGE

Check BHA

bbb

FORMATION CHARACTERISTICS

All formations above the Niobrara had a tendency to drop angle dramatically. When attempting to rotate a full stand the angle would drop up to 4.5 degrees. This well also turned towards the east while trying to hold the tangent.

Pason Bit Hours = 20
 Pason Circ Hours = 29.6
 First Bit Hours = 25.10
 First Circ. Hours = 34.52

**BHA 1 - Intermediate Section**

MWD COMMENTS

Mud Pulse MWD performed as expected. a 60 degree orifice was used with a 6 3.4" pulser. Battery Consumption was 21% and downhole temp was 153.97. No pump or formation problems encountered on this run.

Pason Bit Hours = 20
Pason Circ Hours = 29.6
First Bit Hours = 25.10
First Circ. Hours = 34.52

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

Average buildup rates were very sporadic. We were seeing buildup rates as low as 10 degrees per 100' and as high as 20 degrees per 100'. Condition of BHA looked good when pulled. BHA objective and status was unsuccessful attempting the one run vertical and curve. Once we attempted to kick off the curve The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this for 2 hours and the decision was made to POOH and check the BHA. Motor acted like it was very loose. Once on surface the motor looked good and drained good. There was 1/4" squat and an 1/8" rotational play. The motor had no noticeable lateral play in it. The bit graded a 1/1 X I and will be reran on the next run. No noticeable rubber or plugged jets.

Pason Bit Hours = 20
Pason Circ Hours = 29.6
First Bit Hours = 25.10
First Circ. Hours = 34.52

**Weatherford®**

BHA Report

BHA 2 - Curve Section

Drilling Services
v4.2.3981**FILE #:** 4030881**JOB TYPE:** Horizontal**RIG & NO:** Xtreme 23**WELL NAME:** Howard 24C-22HZ**COMPANY:** Anadarko Petroleum Corporation**SURFACE LOCATION:** Weld County**SERVICE CO.:** Precision Energy Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Wattenburg / CO / USA**DIR Supervisor:** Josh Monroe, Brian Trani, Steven Bumgarner**MWD Supervisor:** Jon Leger**BHA SURVEY TYPE:** Positive Pulse MWD**HOLE SIZE:** 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security 6x18's	Security	12262950	MMD64	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	NOV	NOV 900813-9	7/8, 5.0	6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	24.44 ft	25.44 ft
1	Muleshoe	WFT	675-38132	NM UBHO	6.76	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.59 ft	29.03 ft
1	6 3/4 Slick NMDC	WFT	675-38675	Non Mag	6.85	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.45 ft	59.48 ft
1	6-3/4 Pony Collar	Stabil Drill	SD44009	Pony	6.87	3.31	0	4 1/2" IF Pin	4 1/2" IF Box	19.98 ft	79.46 ft
1	6 3/4 Flex NMDC	Stabil Drill	SD42654	Flex Collar	6.76	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	30.58 ft	110.04 ft
60	5" DP 20 stands	Rig	Rig	Drill Pipe	5	4.276	0	4 1/2" IF Pin	4 1/2" IF Box	1876.88	1986.92 ft
1	X/O XT39B x 4.5IF	Stabil Drill	SD112650	Crossover	6.8	2.875	0	4 1/2" IF Pin	4" XT 39 Box	3.11 ft	1990.03 ft
60	4" HWDP 20 Stand	Rig	Rig	HeavyWeight DP4	2.75	0	0	4" XT-39 Pin	4" XT-39 Box	1841.77	3831.80 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/11/27 TO 2013/11/27
DEPTH IN: 7292.00 ft **ANGLE IN:** 0.00 °
DEPTH OUT: 7341.00 ft **ANGLE OUT:** 0.00 °
DRILL HRS: 5.50 **BUILD:** 0.00 °
ORIENTING HRS: 5.50 **HOLE MADE:** 49.00 ft
ROTATING HRS: 0.00 **AVG R.O.P.:** 8.91 ft/hr

MOTOR INFORMATION

MANFCT. NOV
SERIAL #: NOV 900813-9
MODEL: 7/8, 5.0
LOBE CFG: 7/8
BIT TO BEND: 3.65
SETTING: 2.12 °
KICK PAD: No
STABILIZER: No
MOTOR HRS: 7.75

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	85	85	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	593.25988 gal/min		
PUMP PRESSURE:	OFF BTM: 2850 psi	ON BTM: 2950 psi	

MUD INFORMATION

MUD TYPE: LSND **LIQUID BASE:** Water
DENSITY: 10 lb/gal **TEMP:** 88 °F
VISCOSITY: 38 sec/qt **pH:** 9
WTR LOSS: 5.6 cc/30min **SAND:** 0.4 **LIQUID RATE:** 0 gal/min
PLAST VISC: 10 cP **SOLIDS:** 2.6 **GAS TYPE:**
YIELD PT: 10 lb/100 ft² **OIL:** 0 **GAS RATE:** 0 cu ft/min

BIT INFORMATION

MANFCT: Security **TYPE:** MMD64 **IADC BIT GRADE:** 1 / 1 / NO / A / X / I / NO / BHA
NOZZLES: 1.491 in² TFA

REASON FOR BHA CHANGE

Differential spiking

FORMATION CHARACTERISTICS

Formation was very ratty stalling the motor multiple times while sliding. Unable to slide due to ratty formation.

MWD COMMENTS

Mud Pulse MWD performed as expected. a 60 degree orifice was used with a 6 3.4" pulser. Battery Consumption was 27% and downhole temp was 157.65. No pump or formation problems encountered on this run.



SIDETRACKING PROCEDURE COMMENTS

NA

RUN SUMMARY

Average buildup rates were undetermined. The only motor output was 5.5 with very ratty slides and motor stalling issues.. Condition of BHA looked good when pulled. BHA objective and status was unsuccessful attempting to build the curve. Once we attempted to kick off the curve The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this for 2 hours and the decision was made to POOH and check the BHA. Motor acted like it was very loose.



Weatherford®

BHA Report

BHA 3 - Curve Section

Drilling Services
v4.2.3981

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit 3x18's 3x18's	Hughes	7146039	DP406	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	WFT	WFT 675-3661	7/8 5.7	6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	32.55 ft	33.55 ft
1	Muleshoe	WFT	675-38132	NM UBHO	6.76	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.59 ft	37.14 ft
1	6 3/4 Slick NMDC	WFT	675-38675	Non Mag	6.85	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.45 ft	67.59 ft
1	6-3/4 Pony Collar	Stabil Drill	SD44009	Pony	6.87	3.31	0	4 1/2" IF Pin	4 1/2" IF Box	19.98 ft	87.57 ft
1	6 3/4 Flex NMDC	Stabil Drill	SD42654	Flex Collar	6.76	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	30.58 ft	118.15 ft
60	5" DP 20 stands	Rig	Rig	Drill Pipe	5	4.276	0	4 1/2" IF Pin	4 1/2" IF Box	1876.88	1995.03 ft
1	X/O XT39B x 4.5IF	Stabil Drill	SD112650	Crossover	6.8	2.875	0	4 1/2" IF Pin	4" XT 39 Box	3.11 ft	1998.14 ft
60	4" HWDP 20 Stand	Rig	Rig	HeavyWeight DP4	2.75	0	0	4" XT-39 Pin	4" XT-39 Box	1841.77	3839.91 ft

(O.D. units are in; I.D. units are in; F.Neck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/11/27 TO 2013/11/29
DEPTH IN: 7341.00 ft **ANGLE IN:** 0.00 °
DEPTH OUT: 8224.00 ft **ANGLE OUT:** 0.00 °
DRILL HRS: 28.80 **BUILD:** 0.00 °
ORIENTING HRS: 20.97 **HOLE MADE:** 883.00 ft
ROTATING HRS: 7.83 **AVG R.O.P.:** 30.66 ft/hr

MOTOR INFORMATION

MANFCT. WFT **SETTING:** 2.60 °
SERIAL #: WFT 675-3661 **KICK PAD:** No
MODEL: 7/8 5.7 **STABILIZER:** No
LOBE CFG: 7/8 **MOTOR HRS:** 32.58
BIT TO BEND: 6.2

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	85	85	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	593.25988 gal/min		
PUMP PRESSURE:	OFF BTM: 3200 psi	ON BTM: 3400 psi	

MUD INFORMATION

MUD TYPE: LSND **LIQUID BASE:** Water
DENSITY: 10 lb/gal **TEMP:** 165 °F
VISCOSITY: 38 sec/qt **pH:** 9.3
WTR LOSS: 12 cc/30min **SAND:** 0.5 **LIQUID RATE:** 0 gal/min
PLAST VISC: 10 cP **SOLIDS:** 5.6 **GAS TYPE:**
YIELD PT: 4 lb/100 ft² **OIL:** 0 **GAS RATE:** 0 cu ft/min

BIT INFORMATION

MANFCT: Hughes **TYPE:** DP406 **IADC BIT GRADE:** 1 / 1 / NO / A / X / I / NO / TD
NOZZLES: 1.335 in² TFA

REASON FOR BHA CHANGE

TD Curve

FORMATION CHARACTERISTICS

Formation was very ratty stalling the motor multiple times while sliding. Formation eventually started cooperating although sliding ROP remained slow. It's been noticed that the southwest side of the field in the DJ Basin is more troublesome and unforgiving formation especially drilling to the North.

MWD COMMENTS

Mud Pulse MWD performed as expected. a 60 degree orifice was used with a 6 3.4" pulser. Battery Consumption was 45% and downhole temp was 170. No pump or formation problems encountered on this run.



Weatherford®

BHA Report

BHA 3 - Curve Section

Drilling Services
v4.2.3981

SIDETRACKING PROCEDURE COMMENTS

NA

RUN SUMMARY

Average build rates varied from 8's - 20's. an average of 13's was used to land the curve. Condition of BHA looked good when pulled. BHA objective was successful landing the curve. No problems encountered.

**Weatherford®**

BHA Report

Drilling Services
v4.2.3981

BHA 4 - Lateral 1 Section

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security 5x20's	Security	11269393	n/a	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	Discovery	DiscoveryDDS007	Discovery	4.75	0	0	3 1/2" IF Box	3 1/2" IF Box	28.71 ft	29.71 ft
1	5-5/8 Stabilizer	SD	SD29646	3 Blade	4.75	3.125	0	3 1/2" IF Pin	3 1/2" IF Box	5.80 ft	35.51 ft
1	4-3/4 Pony Collar	Stabil Drill	SD49559	Pony Collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	7.96 ft	43.47 ft
1	LWD HEL	WFT	NW132664	Gamma, Dir. &	4.75	2.625	0	3 1/2" IF Pin	3 1/2" IF Box	22.16 ft	65.63 ft
1	4-3/4 Slick NMDC	Stabil Drill	SD49319	Slick collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	31.17 ft	96.80 ft
1	X/O XT39B x 3.5IFSD	SD	SD112190	Steel	5	2.75	0	3 1/2" IF Pin	4" XT 39 Box	1.81 ft	98.61 ft
1	4" HWDP 1 Joint	Rig	Rig	Transistion	4	2.75	0	4" XT-39 Pin	4" XT-39 Box	30.48 ft	129.09 ft
1	Ghost Reamer	Stabil Drill	SD 802575	Ghost Reamer	5.01	2.6875	2.12	4" XT 39 Pin	4" XT 39 Box	7.37 ft	136.46 ft
44	4" DP 22 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	1877.52	2013.98 ft
1	Shock Sub / Agitator	NOV	Packed Off	Packed Off	4.99	2	0	4" XT 39 Pin	4" XT 39 Box	22.04 ft	2036.02 ft
130	4" DP 65 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	5548.29	7584.31 ft
60	4" HWDP 20 Stands	Rig	Rig	HeavyWeight DP4		2.75	0	4" XT-39 Pin	4" XT-39 Box	1841.77	9426.08 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/11/30 TO 2013/12/02
 DEPTH IN: 8224.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 10684.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 22.83 BUILD: 0.00 °
 ORIENTING HRS: 8.43 HOLE MADE: 2460.00 ft
 ROTATING HRS: 14.40 AVG R.O.P.: 107.75 ft/hr

MOTOR INFORMATION

MANFCT. Discovery
 SERIAL #: DiscoveryDDS007
 MODEL: Discovery
 LOBE CFG: 5/6
 BIT TO BEND: 4.5
 SETTING: 1.50 °
 KICK PAD: No
 STABILIZER: 5 7/8" (149mm)
 MOTOR HRS: 31.13

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	86	0	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	300.11971 gal/min		
PUMP PRESSURE:	OFF BTM: 2700 psi	ON BTM: 3400 psi	

MUD INFORMATION

MUD TYPE: LSND
 LIQUID BASE: Water
 DENSITY: 9.6 lb/gal
 TEMP: 202 °F
 VISCOSITY: 36 sec/qt
 pH: 8.2
 WTR LOSS: 5.4 cc/30min
 SAND: 1
 LIQUID RATE: 0 gal/min
 PLAST VISC: 9 cP
 SOLIDS: 3.7
 GAS TYPE:
 YIELD PT: 7 lb/100 ft²
 OIL: 0
 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: n/a IADC BIT GRADE: 8 / 8 / *RO / G / X / 3 / BT / TQ
 NOZZLES: 1.534 in² TFA

REASON FOR BHA CHANGE

Ring Out Bit

FORMATION CHARACTERISTICS

Codell formation drilled as expected drilling in excess of 700' per hour at times. We hit a fault throwing us into the Carlisle formation and have not been able to get out of it. At a MD of 10004' I took a check shot seeing 20' of slide 30R. The check shot showed us dropping angle from an 89.83 to 85.

**BHA 4 - Lateral 1 Section**

—MWD COMMENTS

HEL LWD performed as expected. a 75 degree orifice was used with a 4 3/4" pulser. Battery Consumption was 5.41% and downhole temp was 206. No pump or formation problems encountered on this run.

—SIDETRACKING PROCEDURE COMMENTS

NA

—RUN SUMMARY

Average buildup rates were 0-20 degrees /100'. We were sucked into the Carlisle formation cause by faulting and have not been able to get out of it. Condition of BHA looked good when pulled. At a MD of 10004' I took a check shot seeing 20' of slide 30R. The check shot showed us dropping angle from an 89.83 to 85. All slide being seen was good slide and Co man questioned it. He was shown on the Pason that all slide was up and to the right. The reason for the check shot was to double check the angle as it appeared to be dropping even with seeing slide. A target change was issued 242' prior bringing it up 10' in TVD. I slid 15' up and right with 90.3 inclination and it dropped to a 89.83. I proceeded with a 20' slide up and right stopping to check shot where I would be seeing all my slide and that is when the inc dropped to 85 degrees. It appears that we also hit a fault around this area. We ended up in the Carlile and were instructed to get aggressive with it to bring the angle up. By doing so a 4.6 DL was put in the well bore. We keep getting knocked down while trying to slide up causing multiple 4-6 degree doglegs. We were advised per Anadarko to get aggressive sliding not worrying about any doglegs. They are more interested in getting back in the Codell formation.

31.13 Total Motor Hours

**Weatherford®**

BHA Report

Drilling Services
v4.2.3981

BHA 5 - Lateral 1 Section

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security Bit 5x20's	Security	12249212	MMD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	Wenzel	WZL 475-M5-136	5/6 8.3	4.75	0	0	3 1/2" REG Box	3 1/2" IF Box	29.58 ft	30.58 ft
1	5-5/8 Stabilizer	SD	SD29646	3 Blade	4.75	3.125	0	3 1/2" IF Pin	3 1/2" IF Box	5.80 ft	36.38 ft
1	4-3/4 Pony Collar	Stabil Drill	SD49559	Pony Collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	7.96 ft	44.34 ft
1	LWD HEL	WFT	NW132664	Gamma, Dir. &	4.75	2.625	0	3 1/2" IF Pin	3 1/2" IF Box	22.16 ft	66.50 ft
1	4-3/4 Slick NMDC	Stabil Drill	SD49319	Slick collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	31.17 ft	97.67 ft
1	X/O XT39B x 3.5IFSD	SD	SD112190	Steel	5	2.75	0	3 1/2" IF Pin	4" XT 39 Box	1.81 ft	99.48 ft
1	4" HWDP 1 Joint	Rig	Rig	Transistion	4	2.75	0	4" XT-39 Pin	4" XT-39 Box	30.48 ft	129.96 ft
1	Ghost Reamer	Stabil Drill	SD 802575	Ghost Reamer	5.01	2.6875	2.12	4" XT 39 Pin	4" XT 39 Box	7.37 ft	137.33 ft
44	4" DP 22 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	1877.52	2014.85 ft
1	Shock Sub / Agitator	NOV	Packed Off	Packed Off	4.99	2	0	4" XT 39 Pin	4" XT 39 Box	22.04 ft	2036.89 ft
130	4" DP 65 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	5548.29	7585.18 ft
60	4" HWDP 20 Stands	Rig	Rig	HeavyWeight DP4		2.75	0	4" XT-39 Pin	4" XT-39 Box	1841.77	9426.95 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/12/02 TO 2013/12/03
 DEPTH IN: 10684.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 10780.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 1.17 BUILD: 0.00 °
 ORIENTING HRS: 0.30 HOLE MADE: 96.00 ft
 ROTATING HRS: 0.87 AVG R.O.P.: 82.05 ft/hr

MOTOR INFORMATION

MANFCT. Wenzel SETTING: 1.50 °
 SERIAL #: WZL 475-M5-136 KICK PAD: No
 MODEL: 5/6 8.3 STABILIZER: No
 LOBE CFG: 5/6 MOTOR HRS: 2.00
 BIT TO BEND: 4.61

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	86	0	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	300.11971 gal/min		
PUMP PRESSURE:	OFF BTM: 2700 psi	ON BTM: 3500 psi	

MUD INFORMATION

MUD TYPE: LSND LIQUID BASE: Water
 DENSITY: 9.2 lb/gal TEMP: 217 °F
 VISCOSITY: 40 sec/qt pH: 9
 WTR LOSS: 9.8 cc/30min SAND: 0.5 LIQUID RATE: 0 gal/min
 PLAST VISC: 12 cP SOLIDS: 1.6 GAS TYPE:
 YIELD PT: 12 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: MMD54 IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / PP
 NOZZLES: 1.534 in² TFA

REASON FOR BHA CHANGE

Packed of Agitator / Shock Sub with LCM

FORMATION CHARACTERISTICS

Codell Formation drilled as expected. Once faulting back into the Codell from the Carlisle ROP picked up around 250' per hour.
 Formation tendency is undetermined due to lack of footage drilled.



Weatherford®

BHA Report

Drilling Services
v4.2.3981

BHA 5 - Lateral 1 Section

—MWD COMMENTS

HEL LWD performed as expected. a 75 degree orifice was used with a 4 3/4" pulser. Battery Consumption was 6% and downhole temp was 220 degrees F. No pump or formation problems encountered on this run.

—SIDETRACKING PROCEDURE COMMENTS

NA

—RUN SUMMARY

Average buildup rates were 10 degrees per 100' Condition of BHA looked good when pulled. BHA objective was successful drilling the curve. At a MD of 10,780' We lost 100% circulation. It was decided by Anadarko to POOH to the shoe and pump an LCM pill. The company represented was informed by Weatherford personnel that we suggest making sure the pill is through the bit and out of the pipe before tripping back to bottom. This request was ignored and the pill packed off on top of the junk basket on the LWD tool. POOH due to pack off and increased pump pressure.

**Weatherford®**

BHA Report

Drilling Services
v4.2.3981

BHA 6 - Lateral 1 Section

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security Bit 5x20's	Security	12249212	MMD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	Wenzel	WZL 475-M5-136	5/6 8.3	4.75	0	0	3 1/2" REG Box	3 1/2" IF Box	29.58 ft	30.58 ft
1	5-5/8 Stabilizer	SD	SD29646	3 Blade	4.75	3.125	0	3 1/2" IF Pin	3 1/2" IF Box	5.80 ft	36.38 ft
1	4-3/4 Pony Collar	Stabil Drill	SD49559	Pony Collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	7.96 ft	44.34 ft
1	LWD HEL	WFT	NW132804	Gamma, Dir &	4.77	2.5	0	3 1/2" IF Pin	3 1/2" IF Box	22.17 ft	66.51 ft
1	4-3/4 Slick NMDC	Stabil Drill	SD49319	Slick collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	31.17 ft	97.68 ft
1	X/O XT39B x 3.5IFSD	SD	SD112190	Steel	5	2.75	0	3 1/2" IF Pin	4" XT 39 Box	1.81 ft	99.49 ft
1	4" HWDP 1 Joint	Rig	Rig	Transistion	4	2.75	0	4" XT-39 Pin	4" XT-39 Box	30.48 ft	129.97 ft
1	Ghost Reamer	Stabil Drill	SD 802575	Ghost Reamer	5.01	2.6875	2.12	4" XT 39 Pin	4" XT 39 Box	7.37 ft	137.34 ft
44	4" DP 22 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	1877.52	2014.86 ft
1	Shock Sub / Agitator	NOV	NOV 113893-14	Shock Sub &	4.98	2	2.01	4" XT 39 Pin	4" XT 39 Box	22.35 ft	2037.21 ft
130	4" DP 65 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	5548.29	7585.50 ft
60	4" HWDP 20 Stand	Rig	Rig	HeavyWeight DP4		2.75	0	4" XT-39 Pin	4" XT-39 Box	1841.77	9427.27 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/12/04 TO 2013/12/04
 DEPTH IN: 10780.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 10780.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 0.00 BUILD: 0.00 °
 ORIENTING HRS: 0.00 HOLE MADE: 0.00 ft
 ROTATING HRS: 0.00 AVG R.O.P.: 0.00 ft/hr

MOTOR INFORMATION

MANFCT. Wenzel SETTING: 1.50 °
 SERIAL #: WZL 475-M5-136 KICK PAD: No
 MODEL: 5/6 8.3 STABILIZER: No
 LOBE CFG: 5/6 MOTOR HRS: 0.00
 BIT TO BEND: 4.61

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	86	0	0
STROKE VOLUME:	3.5977 gal/stk	3.5977 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	300.11971 gal/min		
PUMP PRESSURE:	OFF BTM: 2700 psi	ON BTM: 3500 psi	

MUD INFORMATION

MUD TYPE: LSND LIQUID BASE: Water
 DENSITY: 9.2 lb/gal TEMP: 90 °F
 VISCOSITY: 38 sec/qt pH: 9
 WTR LOSS: 8 cc/30min SAND: 0.5 LIQUID RATE: 0 gal/min
 PLAST VISC: 10 cP SOLIDS: 2.9 GAS TYPE:
 YIELD PT: 11 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: MMD54 IADC BIT GRADE: ?/?/?/?/?/?/?/?
 NOZZLES: 1.534 in² TFA

REASON FOR BHA CHANGE

FORMATION CHARACTERISTICS



BHA Report

BHA 6 - Lateral 1 Section

Drilling Services
v4.2.3981

—MWD COMMENTS—

—SIDETRACKING PROCEDURE COMMENTS—

—RUN SUMMARY—



Weatherford®

BHA Report

Drilling Services
v4.2.3981

BHA 7 - Lateral 1 Section

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security Bit 5x20's	Security	12249212	MMD54	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	WFT	WFT475-45704	5/6, 8.3	4.75	0	0	3 1/2" REG Pin	3 1/2" IF Box	30.77 ft	31.77 ft
1	5-5/8 Stabilizer	SD	SD29646	3 Blade	4.75	3.125	0	3 1/2" IF Pin	3 1/2" IF Box	5.80 ft	37.57 ft
1	4-3/4 Pony Collar	Stabil Drill	SD49559	Pony Collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	7.96 ft	45.53 ft
1	LWD HEL	WFT	NW132804	Gamma, Dir &	4.77	2.5	0	3 1/2" IF Pin	3 1/2" IF Box	22.17 ft	67.70 ft
1	4-3/4 Slick NMDC	Stabil Drill	SD49319	Slick collar	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	31.17 ft	98.87 ft
1	X/O XT39B x 3.5IFSD	SD	SD112190	Steel	5	2.75	0	3 1/2" IF Pin	4" XT 39 Box	1.81 ft	100.68 ft
1	4" HWDP 1 Joint	Rig	Rig	Transistion	4	2.75	0	4" XT-39 Pin	4" XT-39 Box	30.48 ft	131.16 ft
1	Ghost Reamer	Stabil Drill	SD 802575	Ghost Reamer	5.01	2.6875	2.12	4" XT 39 Pin	4" XT 39 Box	7.37 ft	138.53 ft
44	4" DP 22 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	1876.24	2014.77 ft
1	Shock Sub / Agitator	NOV	NOV 113893-14	Shock Sub &	4.98	2	2.01	4" XT 39 Pin	4" XT 39 Box	22.35 ft	2037.12 ft
130	4" DP 65 Stands	Rig	Rig	Pushpipe XT-39, 4		3.5	0	4" XT-39 Pin	4" XT-39 Box	5545.75	7582.87 ft
60	4" HWDP 20 Stand	Rig	Rig	HeavyWeight DP4		2.75	0	4" XT-39 Pin	4" XT-39 Box	1841.75	9424.62 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/12/04 TO 2013/12/08
 DEPTH IN: 10780.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 15000.00 ft ANGLE OUT: 0.00 °
 DRILL HRS: 32.42 BUILD: 0.00 °
 ORIENTING HRS: 10.47 HOLE MADE: 4220.00 ft
 ROTATING HRS: 21.95 AVG R.O.P.: 130.17 ft/hr

MOTOR INFORMATION

MANFCT. WFT
 SERIAL #: WFT475-45704
 MODEL: 5/6, 8.3
 LOBE CFG: 5/6
 BIT TO BEND: 30.77
 SETTING: 1.50 °
 KICK PAD: No
 STABILIZER: No
 MOTOR HRS: 47.88

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	86	0	0
STROKE VOLUME:	3.5977 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	300.11971 gal/min		
PUMP PRESSURE:	OFF BTM: 2600 psi	ON BTM: 3600 psi	

MUD INFORMATION

MUD TYPE: LSND
 LIQUID BASE: Water
 DENSITY: 10 lb/gal
 TEMP: 225 °F
 VISCOSITY: 40 sec/qt
 pH: 8.8
 WTR LOSS: 3.5 cc/30min
 SAND: 0.3
 LIQUID RATE: 0 gal/min
 PLAST VISC: 12 cP
 SOLIDS: 3.1
 GAS TYPE:
 YIELD PT: 10 lb/100 ft²
 OIL: 0
 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: MMD54 IADC BIT GRADE: ?/?/?/?/?/?/?/?
 NOZZLES: 1.534 in² TFA

REASON FOR BHA CHANGE

FORMATION CHARACTERISTICS



BHA Report

BHA 7 - Lateral 1 Section

Drilling Services
v4.2.3981

—MWD COMMENTS—

—SIDETRACKING PROCEDURE COMMENTS—

—RUN SUMMARY—



MOTOR REPORTS

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 1 - Intermediate Section, Motor #675-50179

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 1
DATE IN: 2013/11/25
DATE OUT: 2013/11/27
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 7.98
START DEPTH: 1232.00 ft
END DEPTH: 7292.00 ft
HOLE MADE: 6060.00 ft
AVG ROP: 241.43 ft/hr
ROTATING HRS: 17.12

MOTOR INFORMATION:

MANFCT: WFT
SERIAL #: 675-50179
MODEL: 7/8, 5.7
LOBE: 7/8
SETTING: 2.00 °
BIT TO BEND: 3.85 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: MMD64
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 1 / 1 / ? / ? / X / I / ? / BHA
TOTAL FLOW RATE: 593.26 gal/min
NOZZLES: 1.491 in² TFA
PUMP PRESS: (OFF) 2850.00 psi
(ON) 2950.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 10 lb/gal
SAND: 0.400
SOLIDS: 2.600
OIL: 0.000
TEMP: 88 °F
LIQUID BASE: Water
VISCOSITY: 38 sec/qt
WATER LOSS: 5.60 cc/30min
PLASTIC VISC: 10.0 cP
YIELD POINT: 10.0 lb/100 ft²
pH: 9.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 9.42
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 25.10
MOTOR HOURS THIS RUN: 34.52
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 34.52
TOTAL BRT HOURS: 34.52

MOTOR EVALUATION COMMENTS:

WFT Motor 7857 SN 650-50179

Pre Run Specs: No Squat & No Rotational Play

Post Run Specs: 1/4" squat & 1/8" rotational play.

Motor performed as expected during the vertical section of this well. Once we reached KOP we were unable to tag bottom without the motor stalling out. Motor acted like it was very loose. Once on surface the motor looked good and drained good. There was 1/4" squat and an 1/8" rotational play. The motor had no noticeable lateral play in it. The bit graded a 1/1 X I and will be reran on the next run. No noticeable rubber or plugged jets.

Pason Bit Hours = 20

Pason Circ Hours = 29.6

First Bit Hours = 25.10

First Circ. Hours = 34.52



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 1 - Intermediate Section, Motor #675-50179

— **REASON FOR BHA CHANGE:** _____

Check BHA

bbb

— **COMMENTS FROM LAST DAY RAN:** _____

Drill Curve F/7,292' T/7,341'
POOH To Check Bit & Motor.

Once on surface the motor looked good and drained good. There was 1/4" squat and an 1/8" rotational play. The motor had no noticeable lateral play in it. The bit graded a 1/1 X I and will be reran on the next run. No noticeable rubber or plugged jets.

The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this all day and the decision was made to POOH and check the BHA.

BHA appeared to be in good condition on surface, the bit was graded 1/1, motor had no squat or rotational play and we were able to drain it with the rotary table.

Pick up WFT, 7/8lobe, 5.7stage motor with DP406 and trip in hole to drill the curve.

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 2 - Curve Section, Motor #NOV 900813-9

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 2
 DATE IN: 2013/11/27
 DATE OUT: 2013/11/27
 ANGLE IN: 0.00 °
 ANGLE OUT: 0.00 °
 ORIENTING HRS: 5.50

START DEPTH: 7292.00 ft
 END DEPTH: 7341.00 ft
 HOLE MADE: 49.00 ft
 AVG ROP: 8.91 ft/hr
 ROTATING HRS: 0.00

MOTOR INFORMATION:

MANFCT: NOV
 SERIAL #: NOV 900813-9
 MODEL: 7/8, 5.0
 LOBE: 7/8
 SETTING: 2.12 °

BIT TO BEND: 3.65 ft
 KICKPAD: No
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: MMD64
 BIT PRESS DROP: 0.00 psi
 MTR PRESS DROP: 0.00 psi

IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / BHA
 TOTAL FLOW RATE: 593.26 gal/min
 NOZZLES: 1.491 in² TFA

PUMP PRESS: (OFF) 2850.00 psi
 (ON) 2950.00 psi

MUD INFORMATION:

MUD TYPE: LSND
 DENSITY: 10 lb/gal
 SAND: 0.400
 SOLIDS: 2.600
 OIL: 0.000
 TEMP: 88 °F

LIQUID BASE: Water
 VISCOSITY: 38 sec/qt
 WATER LOSS: 5.60 cc/30min
 PLASTIC VISC: 10.0 cP
 YIELD POINT: 10.0 lb/100 ft²
 pH: 9.0

(All units are imperial.)

LIQUID RATE: 0.00 gal/min
 GAS TYPE:
 GAS RATE: 0.00 cu ft/min

TIME INFORMATION:

CIRCULATING HOURS: 2.25
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 5.50

MOTOR HOURS THIS RUN: 7.75
 PREVIOUS HOURS: 0.00

TOTAL MOTOR HOURS: 7.75
 TOTAL BRT HOURS: 7.75

MOTOR EVALUATION COMMENTS:

NOV Motor 7857 SN 900813-9
 Pre Run Specs: No Squat & No Rotational Play
 Post Run Specs: No Squat & No Rotational Play

REASON FOR BHA CHANGE:

Differential spiking

COMMENTS FROM LAST DAY RAN:

Drill Curve F/7,292' T/7,341'
 POOH To Check Bit & Motor.

Once on surface the motor looked good and drained good. There was 1/4" squat and an 1/8" rotational play. The motor had no

**BHA 2 - Curve Section, Motor #NOV 900813-9**

noticeable lateral play in it. The bit graded a 1/1 X I and will be reran on the next run. No noticeable rubber or plugged jets.

The motor would stall as soon as we tagged bottom. We would tag with minimal WOB (10K) and Diff. Pressure (75psi) and the motor continued to stall reaching up to 800 psi on the differential pressure. We struggled with this all day and the decision was made to POOH and check the BHA.

BHA appeared to be in good condition on surface, the bit was graded 1/1, motor had no squat or rotational play and we were able to drain it with the rotary table.

Pick up WFT, 7/8lobe, 5.7stage motor with DP406 and trip in hole to drill the curve.

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 3 - Curve Section, Motor #WFT 675-3661

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 3
DATE IN: 2013/11/27
DATE OUT: 2013/11/29
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 20.97
START DEPTH: 7341.00 ft
END DEPTH: 8224.00 ft
HOLE MADE: 883.00 ft
AVG ROP: 30.66 ft/hr
ROTATING HRS: 7.83

MOTOR INFORMATION:

MANFCT: WFT
SERIAL #: WFT 675-3661
MODEL: 7/8 5.7
LOBE: 7/8
SETTING: 2.60 °
BIT TO BEND: 6.2 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: DP406
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD
TOTAL FLOW RATE: 593.26 gal/min
NOZZLES: 1.335 in² TFA
PUMP PRESS: (OFF) 3200.00 psi
(ON) 3400.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 10 lb/gal
SAND: 0.500
SOLIDS: 5.600
OIL: 0.000
TEMP: 165 °F
LIQUID BASE: Water
VISCOSITY: 38 sec/qt
WATER LOSS: 12.00 cc/30min
PLASTIC VISC: 10.0 cP
YIELD POINT: 4.0 lb/100 ft²
pH: 9.3
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 3.78
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 28.80
MOTOR HOURS THIS RUN: 32.58
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 32.58
TOTAL BRT HOURS: 32.58

MOTOR EVALUATION COMMENTS:

WFT Motor 7857 SN 675-3661
 Pre Run Specs: 1/4" Squat
 WFT Motor 7857 set @ a 2.6 drilled as expected. motor looked good and drained good when laid down. An 1/4 of an inch of noticeable squat and zero lateral and rotational play. 32.58 Total hours on this motor.

REASON FOR BHA CHANGE:

TD Curve

COMMENTS FROM LAST DAY RAN:

Drill Curve F/7,935' T/8224



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 3 - Curve Section, Motor #WFT 675-3661

Geo Steering Updates Are As Follows:

Good morning, We are drilling in the curve at 8101' MD. Our landing depth still looks great, but it is ok to land up to 5' high to the target. No changes. Please see me with any questions.

TD Curve POOH To Run 7" Casing

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 4 - Lateral 1 Section, Motor #DiscoveryDDS007

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 4
DATE IN: 2013/11/30
DATE OUT: 2013/12/02
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 8.43
START DEPTH: 8224.00 ft
END DEPTH: 10684.00 ft
HOLE MADE: 2460.00 ft
AVG ROP: 107.75 ft/hr
ROTATING HRS: 14.40

MOTOR INFORMATION:

MANFCT: Discovery
SERIAL #: DiscoveryDDS007
MODEL: Discovery
LOBE: 5/6
SETTING: 1.50 °
BIT TO BEND: 4.5 ft
KICKPAD: No
STABILIZER: 5 7/8" (149mm)

DRILLING INFORMATION:

BIT TYPE: n/a
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 8 / 8 / *RO / G / X / 3 / BT / TQ
TOTAL FLOW RATE: 300.12 gal/min
NOZZLES: 1.534 in² TFA
PUMP PRESS: (OFF) 2700.00 psi
(ON) 3400.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 10 lb/gal
SAND: 1.000
SOLIDS: 3.700
OIL: 0.000
TEMP: 202 °F
LIQUID BASE: Water
VISCOSITY: 36 sec/qt
WATER LOSS: 5.40 cc/30min
PLASTIC VISC: 9.0 cP
YIELD POINT: 7.0 lb/100 ft²
pH: 8.2
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 8.30
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 22.83
MOTOR HOURS THIS RUN: 31.13
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 31.13
TOTAL BRT HOURS: 31.13

MOTOR EVALUATION COMMENTS:

Discovery Motor 5/6 lobes 8.3 stage motor SN 47-DDS-043
Pre Run Specs: No squat and no rotational or lateral play.

Post Run Specs: 1/4" squat & full Rotational Play.
Motor came out very loose. Motor would turn 360 degrees by hand.

31.13 Total Motor Hours

REASON FOR BHA CHANGE:

Ring Out Bit



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 4 - Lateral 1 Section, Motor #DiscoveryDDS007

— COMMENTS FROM LAST DAY RAN: —

Drill Lateral F/10,447' T/10,684'

POOH to change Bit & Motor due to excessive stalling. Once the assembly was on surface the Discovery motor seemed to be very weak and the bit was damaged beyond repair.

Target changes / updates are as follows:

Good morning, We are drilling in the lateral at 10503' MD. At 10396' survey MD, it looks like we hit something (possibly a fault), because it knocked the BHA back down to 87 degrees. Samples still indicate Codell, so please continue to try and come up to the line. Contact me with any questions.

Good morning, We are drilling in the lateral at 10594' MD. Samples indicate that we are still in the Codell, however, we are low in the Codell. Please continue to move up to the line if possible. Feel free to contact me with any questions.

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 5 - Lateral 1 Section, Motor #WZL 475-M5-136

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 5
DATE IN: 2013/12/02
DATE OUT: 2013/12/03
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 0.30
START DEPTH: 10684.00 ft
END DEPTH: 10780.00 ft
HOLE MADE: 96.00 ft
AVG ROP: 82.05 ft/hr
ROTATING HRS: 0.87

MOTOR INFORMATION:

MANFCT: Wenzel
SERIAL #: WZL 475-M5-136
MODEL: 5/6 8.3
LOBE: 5/6
SETTING: 1.50 °
BIT TO BEND: 4.61 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: MMD54
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / PP
TOTAL FLOW RATE: 300.12 gal/min
NOZZLES: 1.534 in² TFA
PUMP PRESS: (OFF) 2700.00 psi
(ON) 3500.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 9 lb/gal
SAND: 0.500
SOLIDS: 1.600
OIL: 0.000
TEMP: 217 °F
LIQUID BASE: Water
VISCOSITY: 40 sec/qt
WATER LOSS: 9.80 cc/30min
PLASTIC VISC: 12.0 cP
YIELD POINT: 12.0 lb/100 ft²
pH: 9.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 0.83
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 1.17
MOTOR HOURS THIS RUN: 2.00
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 2.00
TOTAL BRT HOURS: 2.92

MOTOR EVALUATION COMMENTS:

Wenzel Motor 5/6 lobe 8.3 stage SN 475-M5-136

Pre Run Specs: No Squat and No Rotational Play

Post Run Specs: No squat and no rotational play

We will Re-run this motor in BHA 6

Total Motor Hours = 2

REASON FOR BHA CHANGE:

Packed of Agitator / Shock Sub with LCM



Weatherford

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 5 - Lateral 1 Section, Motor #WZL 475-M5-136

— COMMENTS FROM LAST DAY RAN: —

Ream F/10,361' T/10,684'

Drill Lateral F/10,684' T/10,780'
POOH for lost circulation.

Target changes / updates are as follows:

Good morning, We are drilling in the lateral at 10780' MD. We remain in the bottom of the Codell. If possible, please continue to work back up to the line of 7756' TVD @ 0' VS w/ 90 INC. Please see me with any questions.

At a MD of 10,780' We lost 100% circulation. It was decided by Anadarko to POOH to the shoe and pump an LCM pill. The company man was informed by Weatherford personnel that we suggest making sure the pill is through the bit and out of the pipe before tripping back to bottom. This request was ignored and the pill packed off on top of the junk basket on the LWD tool. POOH due to pack off and increased pump pressure.

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 6 - Lateral 1 Section, Motor #WZL 475-M5-136

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 6
DATE IN: 2013/12/04
DATE OUT: 2013/12/04
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 0.00
START DEPTH: 10780.00 ft
END DEPTH: 10780.00 ft
HOLE MADE: 0.00 ft
AVG ROP: 0.00 ft/hr
ROTATING HRS: 0.00

MOTOR INFORMATION:

MANFCT: Wenzel
SERIAL #: WZL 475-M5-136
MODEL: 5/6 8.3
LOBE: 5/6
SETTING: 1.50 °
BIT TO BEND: 4.61 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: MMD54
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?
TOTAL FLOW RATE: 300.12 gal/min
NOZZLES: 1.534 in² TFA
PUMP PRESS: (OFF) 2700.00 psi
(ON) 3500.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 9 lb/gal
SAND: 0.500
SOLIDS: 2.900
OIL: 0.000
TEMP: 90 °F
LIQUID BASE: Water
VISCOSITY: 38 sec/qt
WATER LOSS: 8.00 cc/30min
PLASTIC VISC: 10.0 cP
YIELD POINT: 11.0 lb/100 ft²
pH: 9.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 0.00
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 0.00
MOTOR HOURS THIS RUN: 0.00
PREVIOUS HOURS: 2.00
TOTAL MOTOR HOURS: 2.00
TOTAL BRT HOURS: 0.00

MOTOR EVALUATION COMMENTS:

Wenzel Motor 5/6 lobe 8.3 stage SN 475-M5-136
 Pre Run Specs: No Squat & No Lateral Play
 Post Run Specs:

REASON FOR BHA CHANGE:**COMMENTS FROM LAST DAY RAN:**

Change out HEL tool. We picked up the agitator and attempted to pump through it and were not able to. The rig put 2,000psi on the agitator and it would not circulate (plugged with LCM). Anadarko has made the decision to TIH without an agitator and attempt finishing the well.
 Rig Service, TIH



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 6 - Lateral 1 Section, Motor #WZL 475-M5-136

A new agitator was brought to location and will be ran to finish well. Before picking up the new agitator the rig tried pumping on the drill string and it immediatly pressured up. POOH to troubleshoot pressure issues.

Changed out mud motor due to it being packed off with LCM. This motor never drilled a single foot after being ran in the hole 2 different times. Pick up new WFT motor and TIH.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 7 - Lateral 1 Section, Motor #WFT475-45704

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 7
DATE IN: 2013/12/04
DATE OUT: 2013/12/08
ANGLE IN: 0.00 °
ANGLE OUT: 0.00 °
ORIENTING HRS: 10.47
START DEPTH: 10780.00 ft
END DEPTH: 15000.00 ft
HOLE MADE: 4220.00 ft
AVG ROP: 130.17 ft/hr
ROTATING HRS: 21.95

MOTOR INFORMATION:

MANFCT: WFT
SERIAL #: WFT475-45704
MODEL: 5/6, 8.3
LOBE: 5/6
SETTING: 1.50 °
BIT TO BEND: 30.77 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: MMD54
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: ?/?/?/?/?/?/?/?/?
TOTAL FLOW RATE: 300.12 gal/min
NOZZLES: 1.534 in² TFA
PUMP PRESS: (OFF) 2600.00 psi
(ON) 3600.00 psi

MUD INFORMATION:

MUD TYPE: LSND
DENSITY: 10 lb/gal
SAND: 0.300
SOLIDS: 3.100
OIL: 0.000
TEMP: 225 °F
LIQUID BASE: Water
VISCOSITY: 40 sec/qt
WATER LOSS: 3.50 cc/30min
PLASTIC VISC: 12.0 cP
YIELD POINT: 10.0 lb/100 ft²
pH: 8.8
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 15.02
REAMING HOURS: 0.45
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 32.42
MOTOR HOURS THIS RUN: 47.88
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 47.88
TOTAL BRT HOURS: 47.88

MOTOR EVALUATION COMMENTS:

Pre Run: 3/16" Squat, 1/8" Rotational, 0" Lateral play

REASON FOR BHA CHANGE:**COMMENTS FROM LAST DAY RAN:**

LD Tools.

Ship out all tools.

One truck with LWD to Houston, one truck to WFT Casper. All Stabil Drill components remain on location.



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.3981

BHA 7 - Lateral 1 Section, Motor #WFT475-45704

End of Job.



SLIDE SHEET REPORTS



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 1 - 2013/11/25 TO 2013/11/27

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani

MWD Supervisor: Jon Leger

BHA NO: 1	DATES RUN: 2013/11/25 TO 2013/11/27	SECTION: Intermedia	TOOLFACE OFFSET: 10.0 °	SURVEY OFFSET: 67 ft
MOTOR SETTING: 2.00 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8, 5.7	SERIAL NO: 675-50179
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
					Totals:			0.00 ft			0.00 ft			
					Percentages:			0.0%			0.0%			
					Time:			7.98 hrs			17.12 hrs			
					Percentages:			31.8%			68.2%			



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 2 - 2013/11/27 TO 2013/11/27

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 2	DATES RUN: 2013/11/27 TO 2013/11/27	SECTION: Curve	TOOLFACE OFFSET: 10 °	SURVEY OFFSET: 67 ft
MOTOR SETTING: 2.12 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8, 5.0	SERIAL NO: NOV 900813-9
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
					Totals:			0.00 ft			0.00 ft			
					Percentages:			0.0%			0.0%			
					Time:			5.50 hrs			0.00 hrs			
					Percentages:			100.0%			0.0%			



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 3 - 2013/11/27 TO 2013/11/29

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Brian Trani, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 3	DATES RUN: 2013/11/27 TO 2013/11/29	SECTION: Curve	TOOLFACE OFFSET: 188 °	SURVEY OFFSET: 65 ft
MOTOR SETTING: 2.60 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8 5.7	SERIAL NO: WFT 675-3661
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
					Totals:			0.00 ft			0.00 ft			
					Percentages:			0.0%			0.0%			
					Time:			20.97 hrs			7.83 hrs			
					Percentages:			72.8%			27.2%			



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 4 - 2013/11/30 TO 2013/12/02

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 4	DATES RUN: 2013/11/30 TO 2013/12/02	SECTION: Lateral 1	TOOLFACE OFFSET: 227 °	SURVEY OFFSET: 51 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: 5 7/8" (149mm)	MODEL: Discovery	SERIAL NO: DiscoveryDDS00BHA SURVEY TYPE: HEL LWD

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
					Totals:			0.00 ft			0.00 ft			
					Percentages:			0.0%			0.0%			
					Time:			8.43 hrs			14.40 hrs			
					Percentages:			36.9%			63.1%			



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 5 - 2013/12/02 TO 2013/12/03

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 5	DATES RUN: 2013/12/02 TO 2013/12/03	SECTION: Lateral 1	TOOLFACE OFFSET: 313 °	SURVEY OFFSET: 52 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: 5/6 8.3	SERIAL NO: WZL 475-M5-136
BHA SURVEY TYPE: HEL LWD				

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Totals:					0.00 ft			0.00 ft						
Percentages:					0.0%			0.0%						
Time:					0.30 hrs			0.87 hrs						
Percentages:					25.7%			74.3%						



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 6 - 2013/12/04 TO 2013/12/04

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 6	DATES RUN: 2013/12/04 TO 2013/12/04	SECTION: Lateral 1	TOOLFACE OFFSET: 174 °	SURVEY OFFSET: 52 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: 5/6 8.3	SERIAL NO: WZL 475-M5-136
BHA SURVEY TYPE: HEL LWD				

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY DEPTH	INC	AZM	TF	----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR	BUR	COMMENTS
					FROM	TO		FROM	TO					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Totals:					0.00 ft			0.00 ft						
Percentages:					0.0%			0.0%						
Time:					0.00 hrs			0.00 hrs						
Percentages:					0.0%			0.0%						



Slide Sheet Report

Drilling Services

v4.2.3981

BHA 7 - 2013/12/04 TO 2013/12/08

FILE #: 4030881

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Howard 24C-22HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Precision Energy Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Brian Trani, Josh Monroe, Steven Bumgarner

MWD Supervisor: Jon Leger

BHA NO: 7	DATES RUN: 2013/12/04 TO 2013/12/08	SECTION: Lateral 1	TOOLFACE OFFSET:	SURVEY OFFSET: 0 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: 5/6, 8.3	SERIAL NO: WFT475-45704
			BHA SURVEY TYPE: HEL LWD	

(Distances are shown in feet.)

BIT		SURVEY			----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FROM	TO		SEEN			
0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Totals:						0.00 ft		0.00 ft						
Percentages:						0.0%		0.0%						
Time:						10.47 hrs		21.95 hrs						
Percentages:						32.3%		67.7%						