

**ANADARKO PETROLEUM CORP - EBUS  
DO NOT MAIL - PO BOX 4995  
THE WOODLANDS, Texas**

Howard 24C-22HZ

**Majors 41**

## **Post Job Summary** **Cement Surface Casing**

Date Prepared: 10/24/2013  
Version: 1

Service Supervisor: BULINSKI, MATTHEW

Submitted by: TRIER, DEREK

**HALLIBURTON**

# HALLIBURTON

## Wellbore Geometry

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Job Tubulars					MD		Shoe Joint Length ft
Type	Description	Size in	ID in	Wt lbm/ft	Top ft	Bottom ft	
Casing	9 5/8" Surface Casing	9.63	8.921	36.00	0.00	1,232.00	42.00
Open Hole Section	13 1/2" Open Hole Section		13.500		0.00	1,235.00	0.00

# HALLIBURTON

## ***Pumping Schedule***

Stage / Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Downhole Volume (bbl)
1	1	Spacer	Fresh Water Spacer	8.33	5.00	10.0
1	2	Spacer	MudFlush	8.40	5.00	12.0
1	3	Spacer	Fresh Water Spacer	8.33	5.00	10.0
1	4	Cement Slurry	SwiftCem B2	14.20	5.00	127.6

## ***Fluids Pumped***

**Stage/Plug # 1      Fluid 1:**      Fresh Water Spacer  
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal  
Pump Rate: 5.00 bbl/min

**Stage/Plug # 1      Fluid 2:**      MudFlush  
DUMMY MUD / FLUSH / SPACER SBC MATERIAL  
10 lbm/Mgal      Mud Flush III  
10 lbm/bbl      Mud Flush III

Fluid Density: 8.40 lbm/gal  
Pump Rate: 5.00 bbl/min

**Stage/Plug # 1      Fluid 3:**      Fresh Water Spacer  
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal  
Pump Rate: 5.00 bbl/min

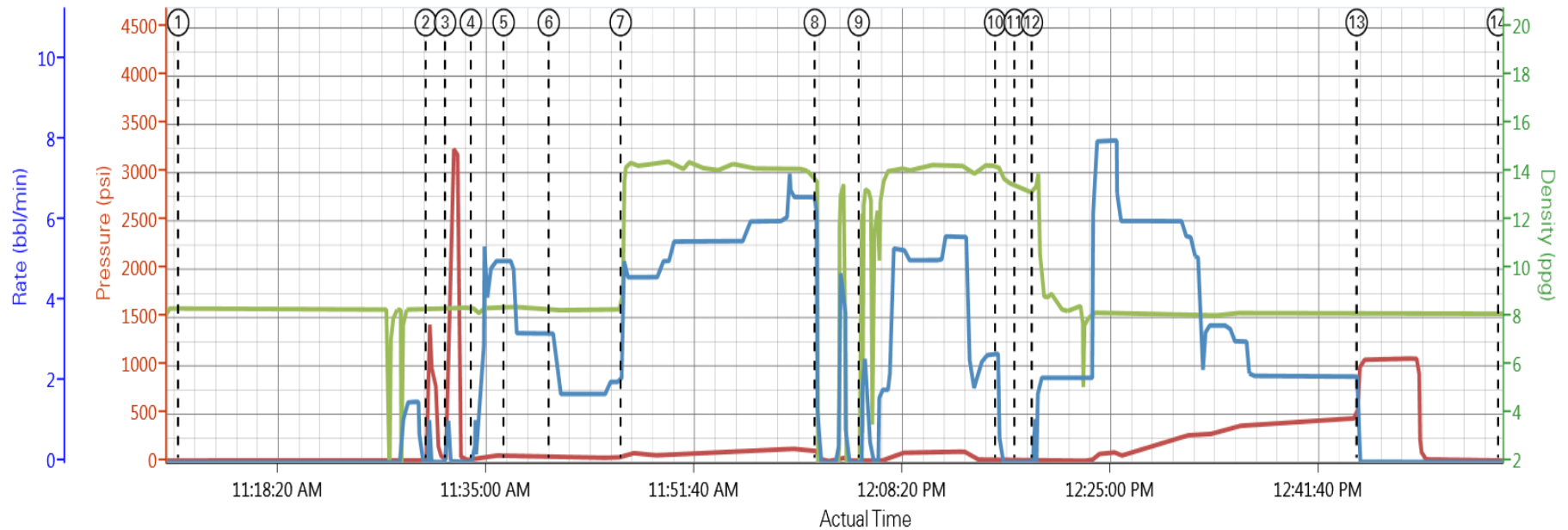
**Stage/Plug # 1      Fluid 4:**      SwiftCem B2  
SWIFTCM (TM) SYSTEM

Fluid Weight: 14.20 lbm/gal  
Slurry Yield: 1.54 ft<sup>3</sup>/sack  
Total Mixing Fluid: 7.67 Gal  
Surface Volume: 462.0 sacks  
Sacks: 462.0 sacks

# HALLIBURTON

## Data Acquisition

Howard 24C-22HZ Anadarko cmt surface 10-19-13



Density (psi) 35 Pump Rate (ppg) 8.17 Pump Pressure (bbbl/min) 1.8

① Start Job 18;8.33;0	④ Pump Spacer 1 21;8.42;0	⑦ Pump Cement 74;13.52;4.6	⑩ Shutdown 37;14.27;2.7	⑬ Bump Plug 1008;8.19;0
② Low Pressure Test 841;8.37;1	⑤ Pump Spacer 2 73;8.34;5	⑧ Shutdown Fix weight of cmt 70;0.67;0	⑪ Drop Top Plug 12;13.39;0	⑭ End Job 18;8.09;0
③ High Prssure Test 1644;8.34;0.2	⑥ Pump Spacer 1 51;8.37;3.2	⑨ Resume 13;3.22;1.9	⑫ Pump Displacement 15;13.33;1.1	

# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
10/19/2013 04:30		Call Out					Called out at 04:30
10/19/2013 09:00		Depart Yard Safety Meeting					09:00 JSA on job materials needed, pre-tripping trucks, and driving to location
10/19/2013 10:00		Assessment Of Location Safety Meeting					Hazard Hunt on location before spotting in trucks
10/19/2013 10:00		Arrive at Location from Service Center					Arrived right on time and rig is ready and waiting
10/19/2013 10:15		Safety Meeting - Pre Rig-Up					JSA on rigging up bulk trucks and iron
10/19/2013 10:25		Rig-Up Equipment					
10/19/2013 10:50		Rig-Up Completed					
10/19/2013 11:00		Safety Meeting - Pre Job					JSA with Company Man, Rig hands, Third party, and HES on pump schedule
10/19/2013 11:10		Start Job					
10/19/2013 11:30		Test Lines					3000psi Pressure Test Lines to Rig Floor
10/19/2013 11:34		Pump Spacer 1	5	10		72.0	10bbls H2O spacer
10/19/2013 11:36		Pump Spacer 2	5	12		70.0	12bbls Mud flush spacer
10/19/2013 11:40		Pump Spacer 1	5	10		75.0	10bbls H2O spacer
10/19/2013 11:46		Pump Cement	5	126.7		103.0	460sks Swiftcem, 14.2ppg, 1.54yield, 7.67gal/sk, Mixed with rig water and # verify 3 x's
10/19/2013 12:16		Shutdown					
10/19/2013 12:17		Drop Top Plug					Pre-Loaded
10/19/2013 12:18		Pump Displacement	6	91		400.0	91bbls H2O displacement, Good returns throughout.. Cmt to surface 16bbls
10/19/2013 12:45		Bump Plug	3			456.0	Slowed down last 20 bbls to 2bbl/min to land, Plug landed at 456psi and brought to 1072psi
10/19/2013 12:55		Check Floats					Floats Held
10/19/2013 12:56		End Job					
10/19/2013 13:00		Safety Meeting - Pre Rig-Down					JSA on rigging down bulk trucks and iron
10/19/2013 13:15		Rig-Down Equipment					
10/19/2013 13:45		Rig-Down Completed					
10/19/2013 13:55		Safety Meeting - Departing Location					JSA on pre-tripping trucks, walk around location and driving back to Brighton yard

### The Road to Excellence Starts with Safety

<b>Sold To #:</b> 300466	<b>Ship To #:</b> 3122694	<b>Quote #:</b>	<b>Sales Order #:</b> 900833052
<b>Customer:</b> ANADARKO PETROLEUM CORP - EBUS		<b>Customer Rep:</b> PORTER, BOB	
<b>Well Name:</b> Howard		<b>Well #:</b> 24C-22HZ	<b>API/UWI #:</b> 05-123-38232
<b>Field:</b> WATTEBERG	<b>City (SAP):</b> DACONO	<b>County/Parish:</b> Weld	<b>State:</b> Colorado
<b>Lat:</b> N 40.016 deg. OR N 40 deg. 0 min. 57.6 secs.		<b>Long:</b> W 104.875 deg. OR W -105 deg. 7 min. 30 secs.	
<b>Contractor:</b> Majors		<b>Rig/Platform Name/Num:</b> Major 41	
<b>Job Purpose:</b> Cement Surface Casing			
<b>Well Type:</b> Development Well		<b>Job Type:</b> Cement Surface Casing	
<b>Sales Person:</b> PLIENESS, RYAN		<b>Srvc Supervisor:</b> BULINSKI, MATTHEW	<b>MBU ID Emp #:</b> 483865

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ALVAREZ, BRANDON Paul	0.0	555850	BULINSKI, MATTHEW J	0.0	483865	CARPENTER, JACOB P	0.0	499500
Coronado, Eddie	0.0	123456	NESBITT, ROY Iverson	0.0	537416	SINCLAIR, RICHARD	0.0	368195

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10246780C	20 mile	10988836C	20 mile	11064046C	20 mile	11542778	20 mile
11605598	20 mile						

### Job

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	Water Depth	Perforation Depth (MD)	From	To
				BHST	1232. ft				

### Job Times

Date	Time	Time Zone
19 - Oct - 2013	04:30	MST
19 - Oct - 2013	10:00	MST
19 - Oct - 2013	11:10	MST
19 - Oct - 2013	12:56	MST
19 - Oct - 2013	14:00	MST

### Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
13 1/2" Open Hole Section				13.5				.	1235.		
9 5/8" Surface Casing	Unknown		9.625	8.921	36.		J-55	.	1232.		

### Fluid Data

Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

1	Fresh Water Spacer			bbl	8.33	.0	.0	5.0	
2	MudFlush			bbl	8.4	.0	.0	5.0	
10 lbm/Mgal		MUD FLUSH III - SBM (528788)							
10 lbm/bbl		MUD FLUSH III, 40 LB SACK (101633304)							
3	Fresh Water Spacer			bbl	8.33	.0	.0	5.0	
4	SwiftCem B2	SWIFTCEM (TM) SYSTEM (452990)	462.0	sacks	14.2	1.54	7.67	5.0	7.67
7.67 Gal		FRESH WATER							
<b>Calculated Values</b>		<b>Pressures</b>		<b>Volumes</b>					
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad	
Top Of Cement		5 Min		Cement Returns		16.0		Actual Displacement 91.0	
Frac Gradient		15 Min		Spacers		32.0		Load and Breakdown	
<b>Rates</b>									
Circulating		Mixing		Displacement		Avg. Job			
Cement Left In Pipe		Amount 42 ft		Reason		Shoe Joint			
Frac Ring # 1 @		ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID	
The Information Stated Herein Is Correct				Customer Representative Signature					

