

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

Howard 24N-22HZ

MAJORS 41

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

Prepared for:  
Date Prepared: 10/24/2013  
Version: 1

Service Supervisor: NIELSON, BRANDON

Submitted by: FINNEY, SEAN

**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	1,228.00	42.00
Open Hole Section	13 1/2" Open Hole Section		13.500		0.00	1,228.00	0.00

# HALLIBURTON

## Pumping Schedule

Stage / Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	Fresh Water Spacer	8.33	2.50	10.0 bbl	10.0 bbl
1	2	Spacer	Mud Flush	8.40	2.50	12.0 bbl	12.0 bbl
1	3	Spacer	Fresh Water Spacer	8.33	3.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	SwiftCem B2	14.20	5.00	460.0 sacks	460.0 sacks
1	5	Mud	Displacement	8.33	5.00	91.0 bbl	91.0 bbl

## Fluids Pumped

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

Fluid Density: 8.33 lbm/gal  
Fluid Volume: 10.00 bbl  
Pump Rate: 2.50 bbl/min

**Stage/Plug # 1      Fluid 2:**      Mud Flush  
DUMMY MUD / FLUSH / SPACER SBC MATERIAL  
3.33 lbm/bbl      Mud Flush III  
42 gal/bbl      Mud Flush III

Fluid Density: 8.40 lbm/gal  
Fluid Volume: 12.00 bbl  
Pump Rate: 2.50 bbl/min

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

Fluid Density: 8.33 lbm/gal  
Fluid Volume: 10.00 bbl  
Pump Rate: 3.00 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: 7.66 Gal  
Surface Volume: 460.0 sacks  
Sacks: 460.0 sacks  
Calculated Fill: 900.00 ft  
Calculated Top of Fluid: 0.00 ft

# HALLIBURTON

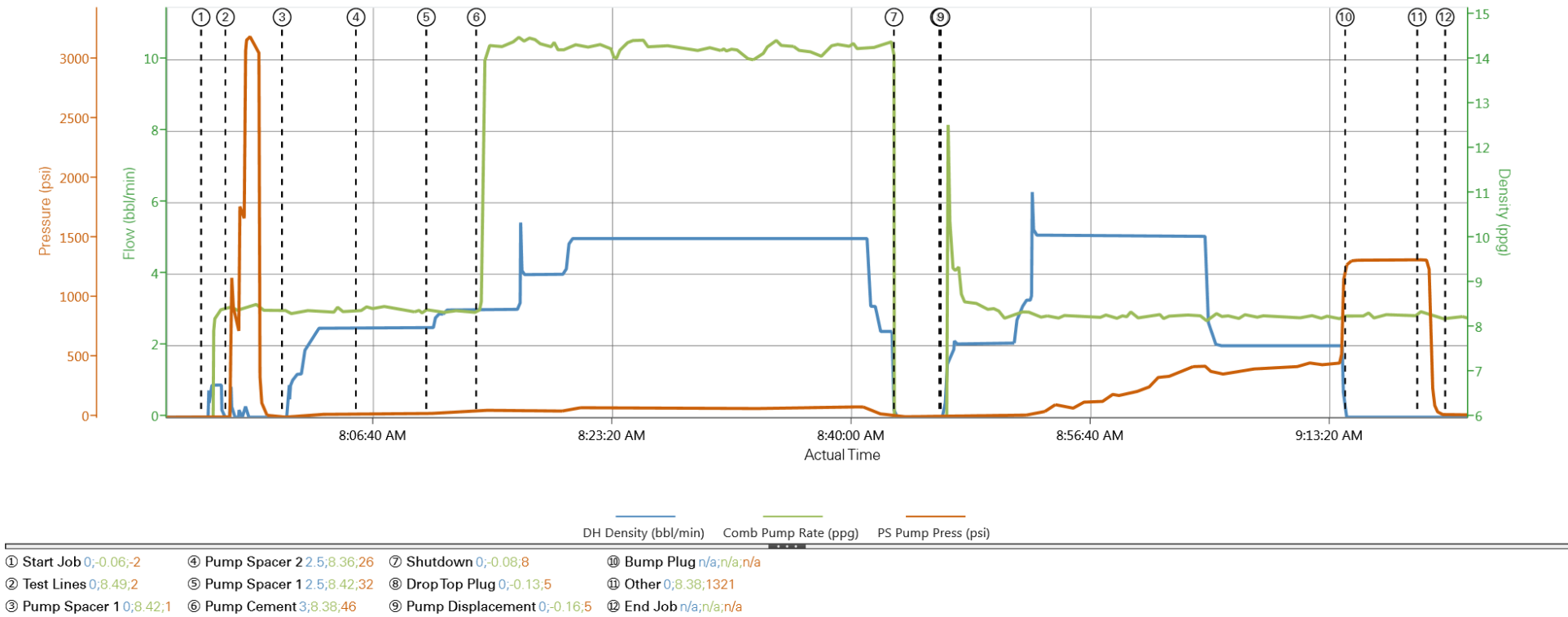
**Stage/Plug # 1**      **Fluid 5:**      Displacement

Fluid Density: 8.33 lbm/gal  
Fluid Volume: 91.00 bbl  
Pump Rate: 5.00 bbl/min

# HALLIBURTON

## Data Acquisition

ANDARKO HOWARD 24N-22HZ



# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/12/2013 22:30		Call Out							
10/13/2013 01:00		Crew Leave Yard							
10/13/2013 01:15		Arrive At Loc							On location time changed from 02:30 to 03:30. upon arrival rig was just getting ready to start running casing.
10/13/2013 01:20		Assessment Of Location Safety Meeting							DID A HAZARD HUNT AND HELPED HOT SHOT SET UP THE CONTAINMENT.
10/13/2013 01:35		Rig-Up Equipment							RIGGED UP ALL PUMPING LINES AND THE WATER LINE.
10/13/2013 02:00		Rig-Up Completed							
10/13/2013 06:30		Casing on Bottom							
10/13/2013 07:30		Safety Meeting							JSA WITH RIG CREW
10/13/2013 07:54		Start Job							
10/13/2013 07:55		Test Lines							TESTED LINES TO 3000 PSI NO VISIBLE LEAKS
10/13/2013 07:59		Pump Spacer 1	2.5	10				26.0	FRESH WATER
10/13/2013 08:04		Pump Spacer 2	2.5	12				30.0	MUD FLUSH
10/13/2013 08:09		Pump Spacer 1	3	10				42.0	FRESH WATER
10/13/2013 08:13		Pump Cement	5	126				81.0	460 sks Swiftcem mixed @ 14.2 ppg with fresh water. Took 3 samples weight on first was 14.25 ppg, second was 14.3 ppg, third was 14.2 ppg.
10/13/2013 08:38		Shutdown							
10/13/2013 08:45		Drop Top Plug							PLUG PRE LOADED WITNESSED BY COMPANY REP. Washed up on top of the Plug per company reps request.
10/13/2013 08:45		Pump Displacement	5	90.8				254.0	Fresh water. Cement returned to surface 78.5 bbl into leaving us with 12.5 bbl back.
10/13/2013 09:13		Bump Plug	2					480.0	CALCULATED PRESSURE TO LAND WAS 390 PSI. HELD FOR 5 MINUTES
10/13/2013 09:18		Check Floats						1322.0	FLOATS HELD WITH .5 BBL BACK TO THE TRUCK. CEMENT FELL ABOUT 2 FT SO I BUCKETED A LITTLE BIT BACK INTO THE ANNULAS TO FILLIT BACK UP
10/13/2013 09:21		End Job							

## The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3111085	Quote #:	Sales Order #: 900817353
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: Strong, Brett	
Well Name: Howard		Well #: 24N-22HZ	API/UWI #:
Field: WATTENBERG	City (SAP): DACONO	County/Parish: Weld	State: Colorado
Contractor: MAJORS		Rig/Platform Name/Num: MAJORS 41	
Job Purpose: Cement Surface Casing			
Well Type: Development Well		Job Type: Cement Surface Casing	
Sales Person: FLING, MATTHEW	Srvc Supervisor: NIELSON, BRANDON		MBU ID Emp #: 479703

## Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BARNES, BRIAN L	9.3	485204	BARRAH, J	9.3	0	DEY, JERRY A	9.3	505015
NIELSON, BRANDON K	9.3	479703						

## Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248062C	8 mile	11645063	8 mile	11812069C	8 mile	12010172	8 mile

## Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
TOTAL			Total is the sum of each column separately					

## Job

## Job Times

Formation Name					Date		Time	Time Zone
Formation Depth (MD)	Top		Bottom		Called Out	12 - Oct - 2013	22:30	MST
Form Type		BHST			On Location	13 - Oct - 2013	01:15	MST
Job depth MD	1228. ft	Job Depth TVD	1228. ft		Job Started	13 - Oct - 2013	07:54	MST
Water Depth		Wk Ht Above Floor	3. ft		Job Completed	13 - Oct - 2013	09:20	MST
Perforation Depth (MD)	From		To		Departed Loc	13 - Oct - 2013	10:30	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				.	1228.		
9 5/8" Surface Casing	Unknown		9.625	8.921	36.		J-55	.	1228.		

Sales/Rental/3<sup>rd</sup> Party (HES)

Description	Qty	Qty uom	Depth	Supplier
CMT CASING EQUIPMENT BOM	1	JOB		
MILEAGE FOR CEMENTING CREW,ZI	30	MI		
ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	30	MI		
KIT,HALL WELD-A	1	EA		
CNTRLZR, 9 5/8"x13 3/4',#500-0963-1375	7	EA		
BASKET - CEMENT - 9-5/8 CSG X 12-1/4	1	EA		
Description	Qty	Qty uom	Depth	Supplier

PLUG,CMTG, TOP, 9 5/8, HWE, 8.16 MIN/9.06 MA						1	EA		
COLLAR-STOP-9 5/8"-FRICTION-HINGED						2	EA		
Fluid Data									
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Fresh Water Spacer		10.00	bbl	8.33			2.5	
2	Mud Flush		12.00	bbl	8.4			2.5	
3.33 lbm/bbl		MUD FLUSH III, 40 LB SACK (101633304)							
42 gal/bbl		MUD FLUSH III - SBM (528788)							
3	Fresh Water Spacer		10.00	bbl	8.33			3.0	
4	SwiftCem B2	SWIFTCEM (TM) SYSTEM (452990)	460.0	sacks	14.2	1.54	7.66	5.0	7.66
7.66 Gal		FRESH WATER							
5	Displacement		91.00	bbl	8.33			5.0	
Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad	
Top Of Cement		5 Min		Cement Returns 12.5		Actual Displacement 91.0		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	
Rates									
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					



