

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

Pettinger 4NE-18HZ

**Majors 42**

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

Prepared for:  
Date Prepared: 11/20/2013  
Version: 1

Service Supervisor: MCBRIDE, NATHAN

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	1,068.00	43.00
Open Hole Section	13 1/2" Open Hole Section		13.500		0.00	1,078.00	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	5.00	10.0 bbl	10.0 bbl
1	2	Spacer	Mud Flush	8.40	5.00	10.0 bbl	10.0 bbl
1	1	Spacer	Fresh Water Spacer	8.33	5.00	10.0 bbl	10.0 bbl
1	3	Cement Slurry	SwiftCem B2	14.20	5.00	427.0 sacks	427.0 sacks

## 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: 5.00 bbl/min

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

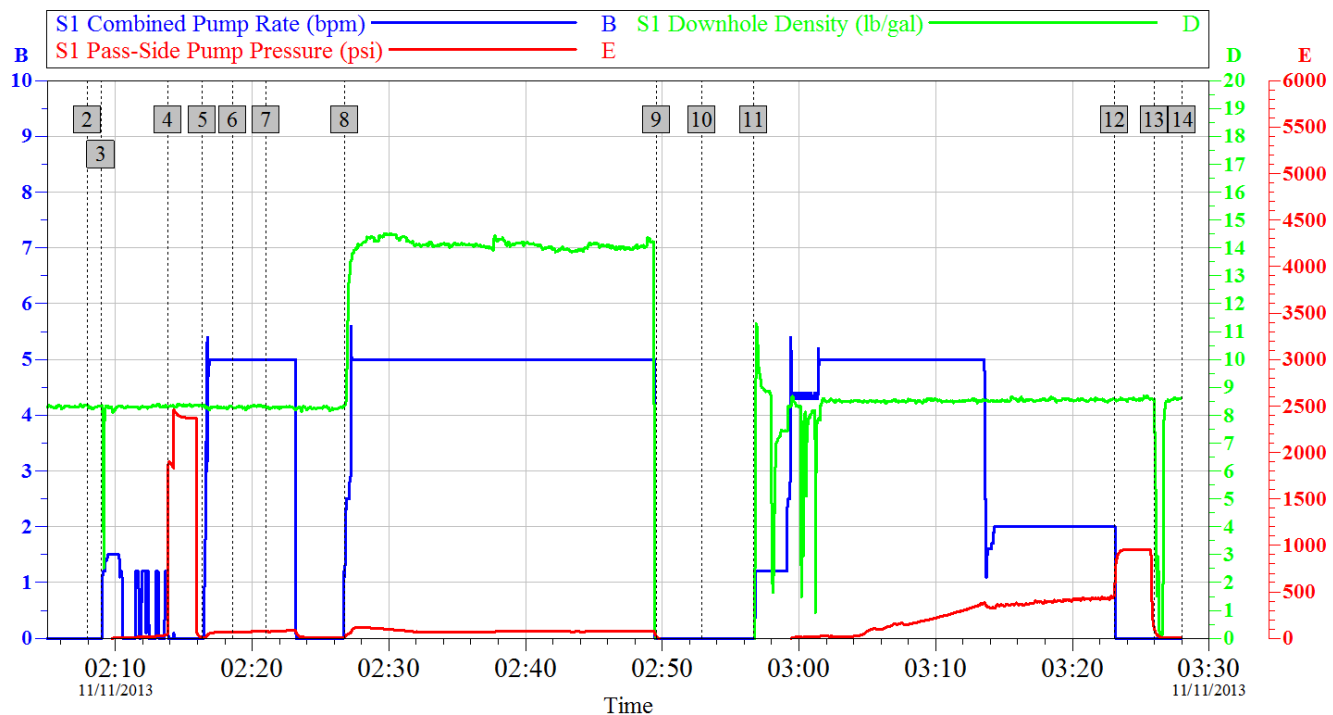
Fluid Density: 8.40 lbm/gal  
Fluid Volume: 10.00 bbl  
Pump Rate: 5.00 bbl/min

**Stage/Plug # 1      Fluid 3:**      SwiftCem B2  
SWIFTCM (TM) SYSTEM

Fluid Weight: 14.20 lbm/gal  
Slurry Yield: 1.53 ft<sup>3</sup>/sack  
Total Mixing Fluid: 7.63 Gal  
Surface Volume: 427.0 sacks  
Sacks: 427.0 sacks  
Calculated Fill: 900.00 ft  
Calculated Top of Fluid: 0.00 ft

# HALLIBURTON

## Data Acquisition



Global Event Log					
2	Start Job	02:07:56	3	Fill Lines	02:08:56
4	Test Lines	02:13:49	5	Fresh Water Ahead	02:16:21
6	Mud Flush	02:18:33	7	Fresh Water	02:21:01
8	Pump Cement	02:26:44	9	Shutdown	02:49:35
10	Drop Top Plug	02:52:52	11	Pump Displacement	02:56:41
12	Bump Plug	03:23:04	13	Check Floats	03:25:59
14	Ending Job	03:28:03			

Customer: Anadarko	Job Date: 11-Nov-2013	Sales Order #: 900879737
Well Description: Pettinger 4NE-18HZ	Job Type: Surface	Supervisor: McBride

OptiCem v6.4.10  
11-Nov-13 03:33

# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
11/11/2013 00:50		Casing on Bottom					
11/11/2013 00:55		Circulate Well					
11/11/2013 01:00		Arrive at Location from Service Center					All equipment and materials on location On Bottom Circulating
11/11/2013 01:05		Assessment Of Location Safety Meeting					Hazard Hunt and review fluid location, wash up and truck layout
11/11/2013 01:10		Pre-Rig Up Safety Meeting					
11/11/2013 01:15		Rig-Up Equipment					
11/11/2013 01:40		Rig-Up Completed					
11/11/2013 01:50		Pre-Job Safety Meeting					
11/11/2013 02:08		Start Job					
11/11/2013 02:08		Pump Water	2	2		30.0	Fill Lines
11/11/2013 02:13		Test Lines				2356.0	
11/11/2013 02:16		Pump Spacer	5	10		50.0	Fresh Water
11/11/2013 02:18		Pump Spacer	5	10		70.0	Mud Flush
11/11/2013 02:21		Pump Spacer	5	10		65.0	Fresh Water
11/11/2013 02:26		Pump Lead Cement	5	117.1		80.0	427sks @ 14.2ppg, 1.54yield, 7.66gal/sk
11/11/2013 02:52		Drop Top Plug					
11/11/2013 02:56		Pump Displacement	5	88.7			Fresh Water
11/11/2013 03:09		Spacer Returns to Surface					Mud Flush to Surface 50bbls into Displacement
11/11/2013 03:19		Cement Returns to Surface					82bbls Displaced 7bbls to Surface
11/11/2013 03:23		Bump Plug				856.0	
11/11/2013 03:25		Check Floats					Floats Good
11/11/2013 03:28		End Job					Thanks McBride and Crew

## The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3117350	Quote #:	Sales Order #: 900879737
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: Porter, Bob	
Well Name: Pettinger		Well #: 4NE-18HZ	API/UWI #: 05-123-38021
Field: WATTENBERG	City (SAP): BRIGHTON	County/Parish: Weld	State: Colorado
Lat: N 40.045 deg. OR N 40 deg. 2 min. 41.604 secs.		Long: W 104.712 deg. OR W -105 deg. 17 min. 15.238 secs.	
Contractor: Majors		Rig/Platform Name/Num: Majors 42	
Job Purpose: Cement Surface Casing			
Well Type: Development Well		Job Type: Cement Surface Casing	
Sales Person: GREGORY, JON		Srvc Supervisor: MCBRIDE, NATHAN	MBU ID Emp #: 313810

## Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CHISLUM, DENNIS	0.0	512130	MCBRIDE, NATHAN Charles	0.0	313810			

## Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
11488570C	10 mile	11764054C	10 mile	11764737	10 mile	12010170	10 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							
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## Job

## Job Times

Formation Name					Date	Time	Time Zone
Formation Depth (MD)	Top		Bottom		Called Out	10 - Nov - 2013	00:00 MST
Form Type		BHST			On Location	11 - Nov - 2013	01:00 MST
Job depth MD	1199. ft	Job Depth TVD	1189. ft		Job Started	11 - Nov - 2013	02:07 MST
Water Depth		Wk Ht Above Floor	5. ft		Job Completed	11 - Nov - 2013	03:28 MST
Perforation Depth (MD)	From		To		Departed Loc	11 - Nov - 2013	04:00 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				.	1078.		
9 5/8" Surface Casing	Unknown		9.625	8.921	36.		J-55	.	1068.		

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	20	MI		
ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	20	MI		
KIT,HALL WELD-A	1	EA		
CNTRLZR, 9 5/8"x13 3/4',#500-0963-1375	9	EA		
Description	Qty	Qty uom	Depth	Supplier

BASKET - CEMENT - 9-5/8 CSG X 12-1/4					1	EA			
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			5.0	
2	Mud Flush		10.00	bbl	8.4			5.0	
3.5 lbm/bbl		MUD FLUSH III, 40 LB SACK (101633304)							
42 gal/bbl		MUD FLUSH III - SBM (528788)							
1	Fresh Water Spacer		10.00	bbl	8.33			5.0	
3	SwiftCem B2	SWIFTCM (TM) SYSTEM (452990)	427.0	sacks	14.2	1.53	7.63	5.0	7.63
7.63 Gal		FRESH WATER							
Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement		88.7	Treatment
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	
Rates									
Circulating		Mixing		Displacement		Avg. Job			
Cement Left In Pipe		Amount	43 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					

