

# HALLIBURTON

iCem<sup>®</sup> Service

**ANADARKO PETROLEUM CORP - EBUS**

**For: ALAN SECREST**

Date: Saturday, July 05, 2014

**DOLPH 1C-1HZ**

Case 1

Sincerely,  
**AARON SMITH**

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## 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Dolph 1C-1HZ** cement **Surface** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Brighton]

**Job Times**

	<b>Date</b>	<b>Time</b>	<b>Time Zone</b>
<b>Called Out</b>	7/5/2014	11:30:00	MT
<b>On Location</b>	7/5/2014	15:15:00	MT
<b>Job Started</b>	7/5/2014	20:24:50	MT
<b>Job Completed</b>	7/5/2014	22:06:11	MT
<b>Departed Location</b>	7/5/2014	23:00:00	MT

## 1.2 Cementing Job Summary

*The Road to Excellence Starts with Safety*

Sold To #: 300466		Ship To #: 3472984		Quote #:		Sales Order #: 0901484399					
Customer: ANADARKO PETROLEUM CORP - EBUS				Customer Rep: ALAN SECRET							
Well Name: DOLPH			Well #: 1C-1HZ			API/UWI #: 05-123-39334-00					
Field: WATTENBERG		City (SAP): IONE		County/Parish: WELD		State: COLORADO					
Legal Description: SE SE-1-2N-66W-661 FSL-725FEL											
Contractor:					Rig/Platform Name/Num: Majors 42						
Job BOM: 7521											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA/HB47901					Srvc Supervisor: Aaron Smith						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		1420ft			Job Depth TVD		1420				
Water Depth					WK HL ABOVE FLOOR		5'				
Perforation Depth (MD)		From			To						
Well Data											
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft	
Casing	0	9.625	8.921	36		J-55	0	1410	0	1410	
Open Hole Section			13.5				0	1420	0	1420	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make			
Guide Shoe					Top Plug	9.625	1	HES			
Float Shoe	9.625	1	SSII	1410	Bottom Plug			HES			
Float Collar	9.625	1	SSII	1368	SSR plug set			HES			
Insert Float					Plug Container	9.625	1	HES			
Stage Tool					Centralizers	9.625	12	HES			
Miscellaneous Materials											
Gelling Agt		Conc		Surfactant		Conc	Acid Type		Qty	Conc	
Treatment Fld		Conc		Inhibitor		Conc	Sand Type		Size	Qty	
Fluid Data											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Mud Flush III (Powder)	Mud Flush III			12	bbl	8.4				32
42 gal/bbl		FRESH WATER									
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal

Last updated on 7/5/2014 9:40:31 PM

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2	Lead Cement	SWIFTCEM (TM) SYSTEM	552	sack	14.2	1.54	7.64	6	100.5
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	106	bbl	8.33				106
Cement Left In Pipe		Amount	42 ft		Reason		Shoe Joint		
Comment									

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## Summary Report

Crew: \_\_\_\_\_  
 Job Start Date: 7/5/2014

Sales Order #: 0901484399  
 WO #: 0901484399  
 PO/AFE #: 2093680

Customer:	ANADARKO PETROLEUM CORP - EBUS	Field:	WATTENBERG	Job Type:	CMT SURFACE CASING BOM
UWI / API Number:	05-123-39334-00	County/Parish:	WELD	Service Supervisor:	Aaron Smith
Well Name:	DOLPH	State:	COLORADO		
Well No:	1C-1HZ	Latitude:	40.161901		
		Longitude:	-104.716504	Cust Rep Name:	ALAN SECREST
		Sect / Twn / Rng:	1/2/66	Cust Rep Phone #:	

Remarks:		
The Information Stated Herein Is Correct	Customer Representative Signature	Date
	Customer Representative Printed Name	

## **1.3 Planned Pumping Schedule**

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- 1. Fill Lines with Water**
  - a. Density = 8.33
  - b. Volume = 2.0 bbl
- 2. Pressure Test Lines to 2500psi**
- 3. Pump Fresh Water Spacer**
  - a. Density = 8.33 lb/gal
  - b. Volume = 10.0 bbl
  - c. Rate = 5.0 bpm
- 4. Pump Mud Flush Spacer**
  - a. Density = 8.4 lb/gal
  - b. Volume = 12.0 bbl
  - c. Rate = 5.0 bpm
- 5. Pump Fresh Water Spacer**
  - a. Density = 8.33 lb/gal
  - b. Volume = 10.0 bbl
  - c. Rate = 5.0 bpm
- 6. Drop Bottom Plug**
- 7. Pump SwiftCem (Lead)**
  - a. Density = 14.2
  - b. Yield = 1.54
  - c. Water Requirement = 7.66
  - d. Volume = 552 sks (151.4 bbls)
  - e. Rate = 6.0 bpm
- 8. Start Displacement**
- 9. Pump Displacement Water**
  - a. Density = 8.33 lb/gal
  - b. Volume = 106.0 bbls
  - c. Rate = 6.0 bpm
10. Land Plug – Anticipated Final Circulation Pressure 596 psi

**Calculated Total Displacement = 106.0 bbls**

## 1.4 Job Overview

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		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	
4	Time circulated before job	HH:MM	
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	N
8	Rig pressure while circulating	Psi	
9	Time from end mud circulation to start of job	HH:MM	
10	Pipe movement during cementing	Y/N	N
11	Calculated displacement	Bbls	106
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	N
14	Annular flow after job	Y/N	N
15	Length of rat hole	Ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	N



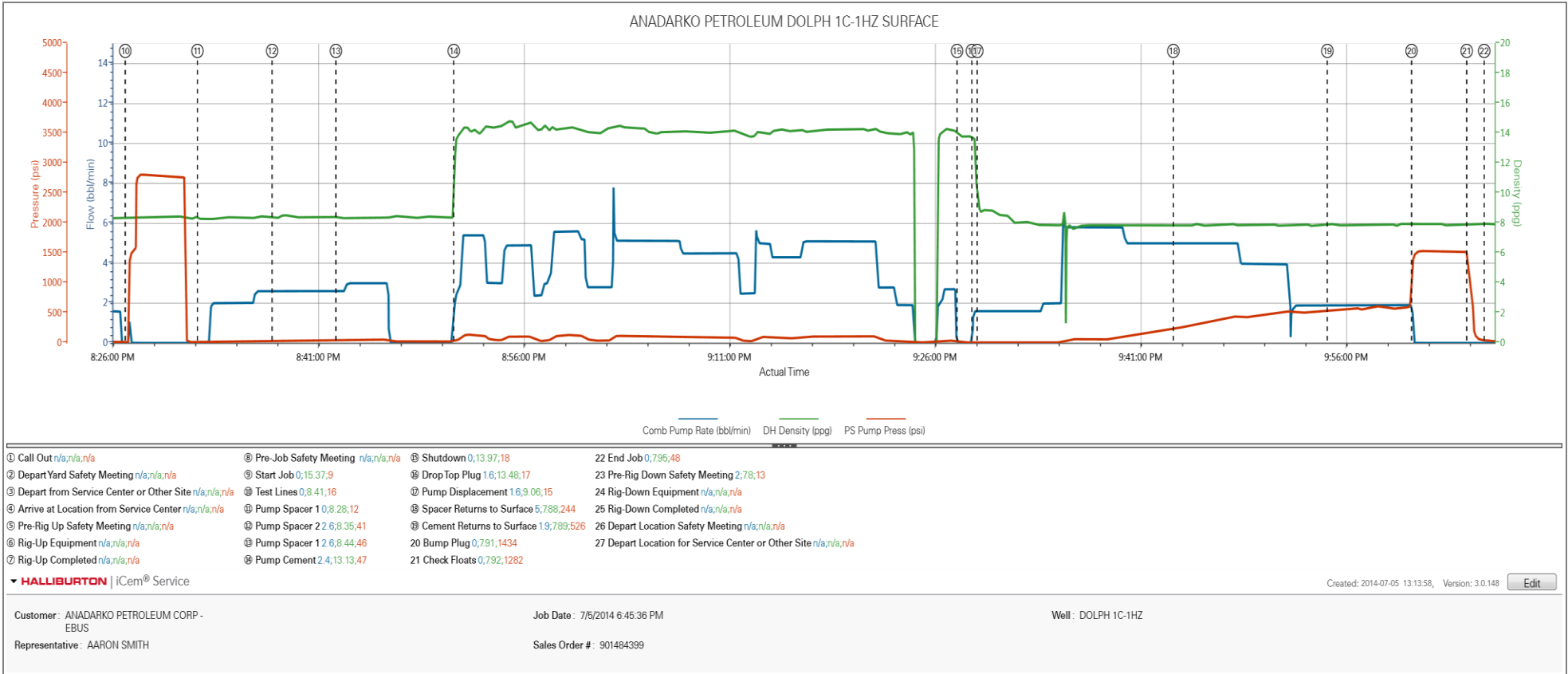
## 1.5 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Comment
Event	1	Call Out	Call Out	7/5/2014	11:30:00	USER				CALLED OUT BY ARC FOR ON LOCATION @ 1600
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/5/2014	14:45:00	USER				JOURNEY MANAGMENT MEETING PRIOR TO DEPARTURE
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/5/2014	15:00:00	USER				
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/5/2014	15:15:00	USER				WITH ALL EQUIPMENT AND MATERIALS, RIG JUST STARTED RUNNING CASING. REQUESTED ON LOCATION TIME 1600.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/5/2014	15:20:00	USER				RIG-UP JSA WITH HES CREW
Event	6	Rig-Up Equipment	Rig-Up Equipment	7/5/2014	15:26:53	USER				ALL EQUIPMENT RIGGED UP EXCEPT FOR ON FLOOR, WAITED UNITILL AFTER PRE-JOB SAFETY MEETING TO RIG UP ON FLOOR.
Event	7	Rig-Up Completed	Rig-Up Completed	7/5/2014	15:27:02	USER				AFTER PRE-JOB SAFETY MEETING.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/5/2014	15:27:09	USER				WITH CUSTOMER REP AND RIG CREW
Event	9	Start Job	Start Job	7/5/2014	20:24:50	COM4	0.00	15.37	9.00	
Event	10	Test Lines	Test Lines	7/5/2014	20:27:02	COM4	0.00	8.41	16.00	@ 2500 PSI,
Event	11	Pump Spacer 1	Pump Spacer 1	7/5/2014	20:32:18	COM4	0.00	8.28	12.00	10 BBLS FRESH WATER
Event	12	Pump Spacer 2	Pump Spacer 2	7/5/2014	20:37:45	COM4	2.60	8.35	41.00	12 BBLS MUD FLUSH
Event	13	Pump Spacer 1	Pump Spacer 1	7/5/2014	20:42:24	COM4	2.60	8.44	46.00	10 BBLS FRESH WATER
Event	14	Pump Cement	Pump Cement	7/5/2014	20:51:00	COM4	2.40	13.13	47.00	151 BBLS 552 SACKS @ 14.2 PPG, 1.54 YIELD,, 7.66 GAL/SK

Event	15	Shutdown	Shutdown	7/5/2014	21:27:43	COM4	0.00	13.97	18.00	
Event	16	Drop Top Plug	Drop Top Plug	7/5/2014	21:28:48	COM4	1.60	13.48	17.00	PRE-LOADED HWE TOP PLUG, VERIFIED BY CUSTOMER REP
Event	17	Pump Displacement	Pump Displacement	7/5/2014	21:29:12	COM4	1.60	9.06	15.00	106 BBLS FRESH WATER, WASHED UP ON TOP OF PLUG
Event	18	Other	Spacer Returns to Surface	7/5/2014	21:43:30	COM4	5.00	7.88	244.00	@61 BBLS DISPLACEMENT 32 BBLS TO SURFACE
Event	19	Other	Cement Returns to Surface	7/5/2014	21:54:44	COM4	1.90	7.89	526.00	@ 93 BBLS DISPLACEMENT, 13 BBLS TO SURFACE
Event	20	Bump Plug	Bump Plug	7/5/2014	22:00:53	COM4	0.00	7.91	1434.00	FINAL CIRCULATING PRESSURE 596 PSI, FINAL BUMP 1536 PSI
Event	21	Check Floats	Check Floats	7/5/2014	22:04:54	USER	0.00	7.92	1282.00	FLOATS HELD 1 BBL BACK
Event	22	End Job	End Job	7/5/2014	22:06:11	COM4	0.00	7.95	48.00	THANKS AARON SMITH AND CREW
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/5/2014	22:20:00	USER	2.00	7.80	13.00	RIG-DOWN JSA WITH HES CREW
Event	24	Rig-Down Equipment	Rig-Down Equipment	7/5/2014	22:25:00	USER				
Event	25	Rig-Down Completed	Rig-Down Completed	7/5/2014	22:40:00	USER				
Event	26	Depart Location Safety Meeting	Depart Location Safety Meeting	7/5/2014	22:50:00	USER				JOURNEY MANAGMENT MEETING PRIOR TO DEPARTURE
Event	27	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/5/2014	23:00:00	USER				DEPART LOCATION WITH ALL EQUIPMENT AND PERSONEL

2.0 Custom Graphs

2.1 Custom Graph



3.0 Appendix

