

# HALLIBURTON

iCem<sup>®</sup> Service

**ANADARKO PETROLEUM CORP - EBUS**

**For:**

Date: Tuesday, June 03, 2014

**Elliott State 41C-17HZ**

Case 1

Sincerely,

**BIRCHELL, DEVIN**

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## 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Elliott State 41C-17HZ** 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

	Date	Time	Time Zone
Called Out	4/5/2014	13:00:20	
On Location	4/5/2014	16:30:29	
Job Started	4/5/2014	18:08:14	
Job Completed	4/5/2014	19:51:34	
Departed Location	4/5/2014	20:30:43	

## 1.2 Cementing Job Summary

Sold To #: 300466		Ship To #: 3363048		Quote #:		Sales Order #: 0901249309				
Customer: ANADARKO PETROLEUM CORP - EBUS				Customer Rep: Bob Porter						
Well Name: ELLIOTT STATE		Well #: 41C-17 HZ		API/UWI #: 05-123-39080-00						
Field: WATTENBERG		City (SAP): PLA		County/Parish: WELD		State: COLORADO				
Legal Description: SW NW-17-3N-67W-1546FNL-839FWL										
Contractor: Bob Porter				Rig/Platform Name/Num: Majors 42						
Job BOM: 7521										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX46524				Srv Supervisor: Devin Birchell						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		1246ft		Job Depth TVD						
Water Depth				Wk Ht Above Floor						
Perforation Depth (MD)		From		To						
Well Data										
Description	New / Used	Size in	ID in	Weight lbn/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		9.625	8.921	36		J-55	0	1246		
Open Hole Section			13.5				0	1246		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625	1		1246		Top Plug	9.625	1	HES	
Float Shoe	9.625	1				Bottom Plug	9.625	1	HES	
Float Collar	9.625	1				SSR plug set	9.625	1	HES	
Insert Float	9.625	1				Plug Container	9.625	1	HES	
Stage Tool	9.625	1				Centralizers	9.625	1	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	0	bbl	8.4					
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	

2	Lead Cement	SWIFTCEM (TM) SYSTEM	467	Sack/Ton	14.2	1.54		6	7.64
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HALLIBURTON


*Summary Report*

Crew: \_\_\_\_\_  
Job Start Date: 4/5/2014

Sales Order #: 0901249309  
WO #: 0901249309  
PO/AFE #: NA

Customer: ANADARKO PETROLEUM CORP - Field: WATTENBERG Job Type: CMT SURFACE  
EBUS CASING BOM  
UWI / API Number: 05-123-39080-00 County/Parish: WELD Service Supervisor: Devin Birchell  
Well Name: ELLIOTT STATE State: COLORADO  
Well No: 41C-17 HZ Latitude: 40.229059  
Longitude: -104.920260 Cust Rep Name: Bob Porter  
Sect / Twn / Rng: 17/3/67 Cust Rep Phone #:

## Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature 	Date 4/5/2014
	Customer Representative Printed Name	

### 1.3 Planned Pumping Schedule

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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	2.0	10.0 bbl	10.0 bbl
1	1	Spacer	Mud Flush	8.40	2.5	12.0 bbl	12.0 bbl
1	1	Spacer	Fresh Water Spacer	8.33	4.0	10.0 bbl	10.0 bbl
1	2	Cement Slurry	SwiftCem B2	14.2	4.5	467.0 sacks	467.0 sacks

### 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	93
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	Y
14	Annular flow after job	Y/N	Y
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**

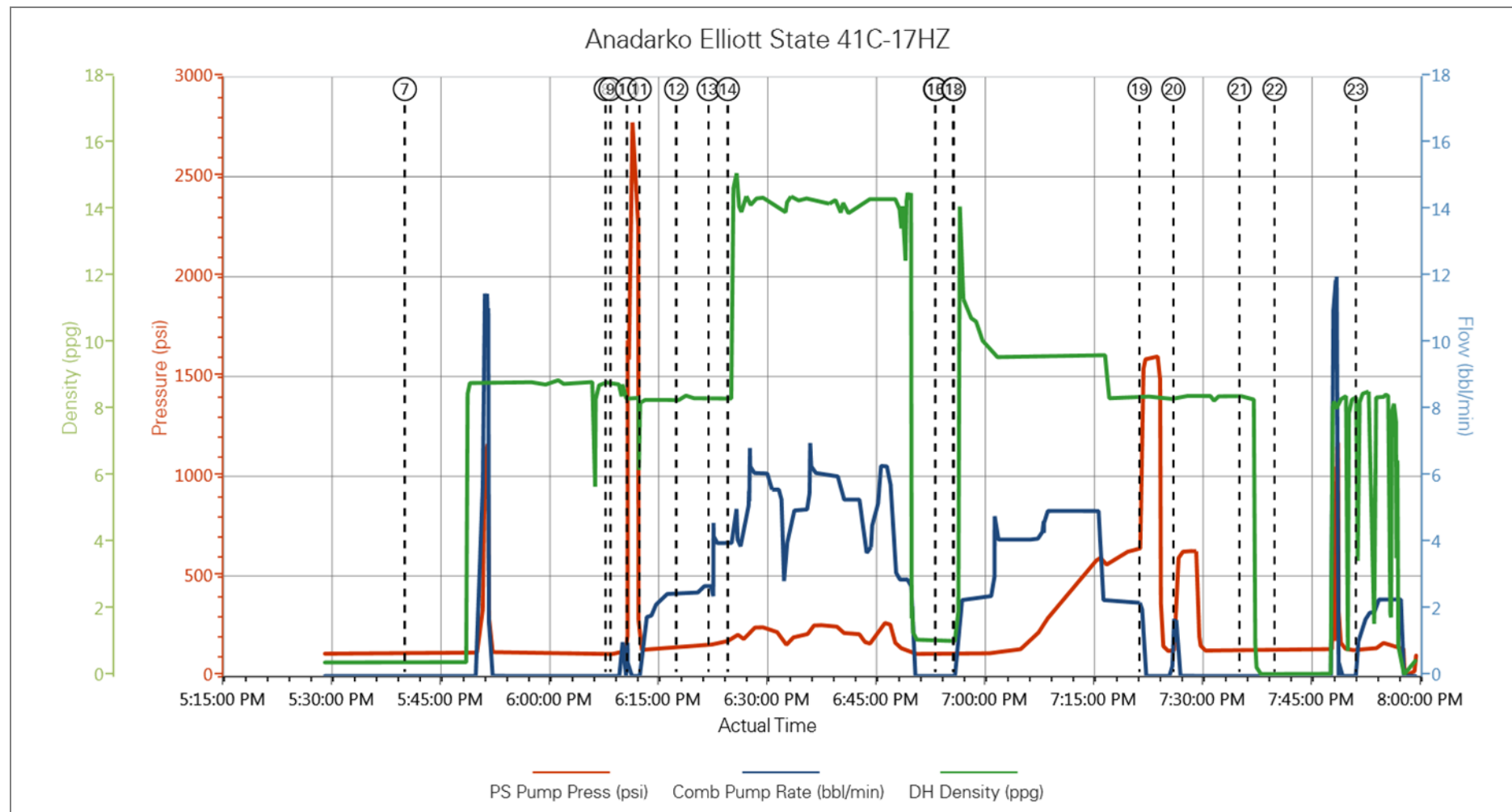
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Comment
Event	1	Call Out	Call Out	4/5/2014	13:00:20	USER				Called Crew For Anadarko Elliott State 41C-17HZ Surface
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/5/2014	15:40:02	USER				Discussed following distances other people road hazards
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/5/2014	16:00:38	USER				Leave for location
Event	4	Arrive At Loc	Arrive At Loc	4/5/2014	16:30:29	USER				Arrive to location talk to company rep on job volumes, depths, rates
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/5/2014	16:40:09	USER				discuss pinch points hand placement team lifting
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/5/2014	16:45:23	USER				Rig up iron, hoses, and bulk equipment
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/5/2014	17:40:34	USER	111.00	0.00	0.43	Discussed job procedures with rig and cement crews
Event	8	Start Job	Start Job	4/5/2014	18:08:14	COM1	110.00	0.00	8.84	
Event	9	Other	Other	4/5/2014	18:08:53	USER	110.00	0.00	8.78	
Event	10	Test Lines	Test Lines	4/5/2014	18:11:08	COM1	2079.00	0.00	8.44	Test pump and lines to 2740 psi
Event	11	Pump Spacer 1	Pump Spacer 1	4/5/2014	18:12:53	COM1	121.00	2.00	8.32	Pump 10 bbls fresh water spacer
Event	12	Pump Spacer 2	Pump Spacer 2	4/5/2014	18:17:56	COM1	147.00	2.50	8.26	pump 12 bbls mud flush III
Event	13	Pump Spacer 1	Pump Spacer 1	4/5/2014	18:22:24	COM1	154.00	4.00	8.33	Pump 10 bbls fresh water spacer
Event	14	Pump Lead Cement	Pump Lead Cement	4/5/2014	18:25:02	COM1	176.00	4.50	8.32	Pump 128 bbls 14.2 ppg Lead
Event	15	Shutdown	Shutdown	4/5/2014	18:53:36	COM1	109.00	0.00	1.01	
Event	16	Clean Lines	Clean Lines	4/5/2014	18:53:40	COM1	109.00	0.00	1.01	Cleaned pump and lines on plug
Event	17	Drop Top Plug	Drop Top Plug	4/5/2014	18:56:05	COM1	109.00	0.00	1.02	Drop plug



Event	18	Pump Displacement	Pump Displacement	4/5/2014	18:56:10	COM1	109.00	0.00	1.01	Pump 93 bbls fresh water displacement
Event	19	Bump Plug	Bump Plug	4/5/2014	19:21:45	COM1	1534.00	0.00	8.31	Bumped plug with 686 psi tool pressure to 1338 psi
Event	20	Other	Other	4/5/2014	19:26:26	COM1	536.00	0.00	8.34	Checked floats, Floats held and bumped it a second time
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Up Safety Meeting	4/5/2014	19:35:32	USER	128.00	0.00	8.45	discuss pinch points hand placement team lifting
Event	22	Rig-Down Equipment	Rig-Down Equipment	4/5/2014	19:40:23	USER	130.00	0.00	0.07	
Event	23	End Job	End Job	4/5/2014	19:51:34	COM1	130.00	1.30	8.25	
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/5/2014	20:20:32	USER				Discussed following distances other people road hazards
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	4/5/2014	20:30:43	USER				Thank you for using halliburton energy services

## 2.0 Custom Graphs

### 2.1 Custom Graph



### 3.0 Appendix

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Insert Planned Pump Schedule from Proposal or actual Job Procedure built for job