

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

Kunzman 3C-5HZ

Ensign 132

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

Prepared for:  
Date Prepared: 10/12/2013  
Version: 1

Service Supervisor: SMITH, AARON

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	855.00	40.51
Open Hole Section	13 1/2" Open Hole Section		13.500		0.00	865.00	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	3.00	10.0 bbl	10.0 bbl
1	2	Spacer	MUD FLUSH III	8.40	3.00	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	350.0 sacks	350.0 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: 3.00 bbl/min

**Stage/Plug # 1      Fluid 2:**      MUD FLUSH III  
MUD FLUSH III - SBM (528788)

Fluid Density: 8.40 lbm/gal  
Fluid Volume: 12.00 bbl  
Pump Rate: 3.00 bbl/min

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

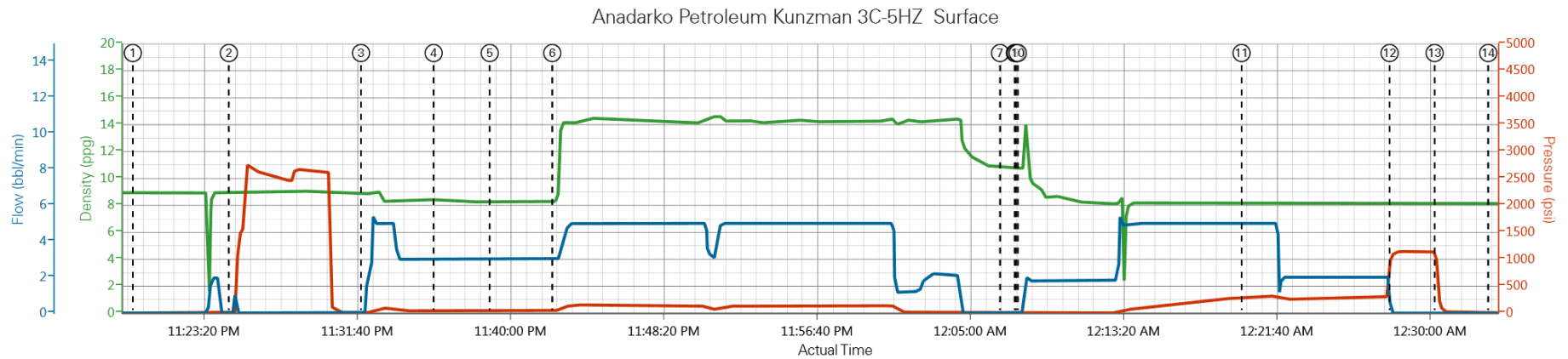
Fluid Density: 8.33 lbm/gal  
Fluid Volume: 10.00 bbl  
Pump Rate: 3.00 bbl/min

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

Fluid Weight: 14.20 lbm/gal  
Slurry Yield: 1.54 ft<sup>3</sup>/sack  
Total Mixing Fluid: 7.63 Gal  
Surface Volume: 350.0 sacks  
Sacks: 350.0 sacks  
Calculated Fill: 900.00 ft  
Calculated Top of Fluid: 0.00 ft

# HALLIBURTON

## Data Acquisition



DH Density (ppg) -0.2 PS Pump Press (psi) 1 Comb Pump Rate (bbl/min) 0

① Start Job 8.97;0,0   ③ Pump Spacer 1 8.92;4,0   ⑤ Pump Spacer 1 8.36;47,3   ⑦ Shutdown 10.82;2,0   ⑨ Clean Lines 10.78;2,0   ⑪ Spacer Returns to Surface 8.09;287,5   ⑬ Check Floats 8.12;677,0  
② Test Lines 8.98;6,0   ④ Pump Spacer 2 8.4;42,3   ⑥ Pump Cement 8.29;50,3   ⑧ Drop Top Plug 10.77;2,0   ⑩ Pump Displacement 10.77;2,0   ⑫ Bump Plug 8.16;1082,0   ⑭ End Job 8.11;4,0

▼ HALLIBURTON | iCem® Service

Created: 2013-10-04 21:32:25, Version: 2.0.606

Edit

Customer: ANADARKO PETROLEUM CORP -  
EBUS

Job Date: 10/4/2013 10:04:58 PM

Well: Kunzman 3C-5HZ

Representative: Aaron Smith

Sales Order #: 900801503

Thanks: Aaron Smith and Crew

# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/04/2013 20:20		Arrive at Location from Service Center							WITH ALL EQUIPMENT AND MATERIALS,
10/04/2013 20:30		Assessment Of Location Safety Meeting							
10/04/2013 21:00		Pre-Rig Up Safety Meeting							RIG-UP JSA
10/04/2013 21:05		Rig-Up Equipment							COULD NOT FINISH RIGGING UP UNTILL DUE TO CASING BEING RAN, AND RIG CREW RIGGING DOWN CASING CREW.
10/04/2013 22:15		Casing on Bottom							
10/04/2013 22:15		Circulate Well							
10/04/2013 22:30		Rig-Up Completed							
10/04/2013 22:45		Pre-Job Safety Meeting							WITH CUSTOMER REP AND RIG CREW
10/04/2013 23:19		Start Job							
10/04/2013 23:24		Test Lines					2500.0		
10/04/2013 23:32		Pump Spacer 1	3	10			85.0		FRESH WATER WITH NO ADDITIVES
10/04/2013 23:35		Pump Spacer 2	3	12			85.0		FRESH WATER WITH MUD FLUSH
10/04/2013 23:39		Pump Spacer 1	3	10			90.0		FRESH WATER WITH NO ADDITIVES
10/04/2013 23:42		Pump Cement	5	97			130.0		350 SKS SWIFTCM B1 @ 14.2 PPG 1.55 YIELD, 7.68 GAL/SK
10/05/2013 00:04		Shutdown							
10/05/2013 00:06		Drop Top Plug							PRE-LOADED HWE TOP PLUG IN PLUG CONTAINER VERIFIED BY CUSTOMER REP
10/05/2013 00:07		Clean Lines	2	10			25.0		WASH UP ON TOP OF PLUG, FIRST TEN OF DISPLACEMENT.
10/05/2013 00:08		Pump Displacement	5	53			304.0		FRESH WATER WITH NO ADDITIVES
10/05/2013 00:19		Cement Returns to Surface							@40 BBLs DISPLACEMENT, 23 BBLs TO THE PIT
10/05/2013 00:27		Bump Plug	2	63			1145.0		FINAL CIRCULATING PRESSURE 304, 248 PSI TO LAND, 371 PSI TO LIFT,
10/05/2013 00:30		Check Floats							FLOATS HELD, BBLs BACK
10/05/2013 00:33		End Job							RIG DOWN JSA, JOURNEY MANAGMENT MEETING, THANKS AARON SMITH AND CREW

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 300466		<b>Ship To #:</b> 3110213		<b>Quote #:</b>		<b>Sales Order #:</b> 900801503	
<b>Customer:</b> ANADARKO PETROLEUM CORP - EBUS				<b>Customer Rep:</b> Taylor, Sam			
<b>Well Name:</b> Kunzman			<b>Well #:</b> 3C-5HZ		<b>API/UWI #:</b> 05-123-37677		
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> FORT LUPTON		<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 104.898 deg. OR W -105 deg. 6 min. 7.2 secs.			
<b>Contractor:</b> Ensign			<b>Rig/Platform Name/Num:</b> Ensign 132				
<b>Job Purpose:</b> Cement Surface Casing							
<b>Well Type:</b> Development Well				<b>Job Type:</b> Cement Surface Casing			
<b>Sales Person:</b> FLING, MATTHEW			<b>Srvc Supervisor:</b> SMITH, AARON			<b>MBU ID Emp #:</b> 518187	

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
DODSON, RICHARD Bryan	5.0	518192	MULLER, MICHEL B	5.0	529830	SMITH, AARON David	5.0	518187

**Equipment**

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
11542778	15 mile						

**Job Hours**

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours

<b>TOTAL</b>	Total is the sum of each column separately							
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**Job**

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	Job Depth TVD	Water Depth	Perforation Depth (MD)	From	To
				BHST	865. ft	865. ft				

**Job Times**

Date	Time	Time Zone
04 - Oct - 2013	16:30	MST
04 - Oct - 2013	20:30	MST
04 - Oct - 2013	23:19	MST
05 - Oct - 2013	00:33	MST
05 - Oct - 2013	01:30	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				.	865.		
9 5/8" Surface Casing	New		9.625	8.921	36.		J-55	.	855.		

**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	.0	.0	3.0	
2	MUD FLUSH III	MUD FLUSH III - SBM (528788)	12.00	bbl	8.4	.0	.0	3.0	
3	Fresh water Spacer		10.00	bbl	8.33	.0	.0	3.0	
4	SwiftCem B2	SWIFTCem (TM) SYSTEM (452990)	350.0	sacks	14.2	1.54	7.63	5.0	7.63
7.63 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		Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	
<b>Rates</b>									
Circulating		Mixing		Displacement		Avg. Job			
Cement Left In Pipe	Amount	40.51 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID		Frac ring # 2 @	ID		Frac Ring # 3 @	ID		Frac Ring # 4 @
The Information Stated Herein Is Correct				Customer Representative Signature					

