

HALLIBURTON

iCem[®] Service

Post Job Report

ANADARKO PETROLEUM CORP - EBUS

For:

Date: Saturday, May 31, 2014

Spurling 13C-34HZ Surface

Case 1

Sincerely,

DEREK TRIER

Table of Contents

1.1	Executive Summary	Error! Bookmark not defined.
1.2	Cementing Job Summary	Error! Bookmark not defined.
1.3	Planned Pumping Schedule	Error! Bookmark not defined.
1.4	Job Overview	Error! Bookmark not defined.
1.5	Water Field Test	Error! Bookmark not defined.
1.6	«BeginGroup:RealTimeJobSummary»Job Event Log	Error! Bookmark not defined.
2.0	«BeginGroup:Attachments»Attachments	Error! Bookmark not defined.
2.1	«Caption»	Error! Bookmark not defined.
3.0	«BeginGroup:HydraulicsAdHocGraph»Custom Graphs	Error! Bookmark not defined.
3.1	Custom Graph	Error! Bookmark not defined.

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Spurling 13C-14HZ** 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
Requested Time On Location	04/12	0730	MST
Called Out	04/12	0300	
On Location	04/12	0730	
Job Started	04/12	0842	
Job Completed	04/12	1018	
Departed Location	04/12	1200	

1.2 Cementing Job Summary

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3354758	Quote #:	Sales Order #: 0901248679							
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: Larry Hersh								
Well Name: SPURLING	Well #: 13C-34 HZ	API/UWI #: 05-123-38949-00								
Field: WATTENBERG	City (SAP): ION	County/Parish: WELD	State: COLORADO							
Legal Description: NW NW-34-2N-67W-377FNL-1058FWL										
Contractor: Bob Porter		Rig/Platform Name/Num: Majors 42								
Job BOM: 7521										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX46524		Srvc Supervisor: Mark Dean								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	1055ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor	2 ft							
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		9.625	8.921	36		J-55	0	1065		
Open Hole Section			13.5				0	1065		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625	1		1055	Top Plug	9.625	1	HES		
Float Shoe	9.625	1			Bottom Plug	9.625	0	HES		
Float Collar	9.625	1		1016	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 ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Mud Flush III (Powder)	Mud Flush III	12	bbl	8.4					
42 gal/bbl		FRESH WATER								

HALLIBURTON

Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	Lead Cement	SWIFTCEM (TM) SYSTEM	366	Sack	14.2	1.54		6	7.64	
3	Displacement	Displacement	78.5	bbl	8.33					
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Comment										

1.3 Planned 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	8.33	4.00	10.0 bbl	10.0 bbl
1	2	Spacer	Mud Flush III	8.40	5.00	12.0 bbl	12.0 bbl
1	3	Spacer	Fresh Water	8.33	5.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	Lead Cement	14.20	7.00	366.0 sacks	366.0 sacks

1.4 Job Overview

		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	Actual mud Plastic Viscosity (PV)	cP	
5	Actual mud Yield Point (YP)	lb _f /100ft ²	
6	Actual mud 30 min Gel Strength	lb _f /100ft ²	
7	Time circulated before job	HH:MM	
8	Mud volume circulated	Bbls	
9	Rate at which well was circulated	Bpm	
10	Pipe movement during hole circulation	Y/N	N
11	Rig pressure while circulating	Psi	
12	Time from end mud circulation to start of job	HH:MM	
13	Pipe movement during cementing	Y/N	
14	Calculated displacement	Bbls	78.5
15	Job displaced by	Rig/HES	HES
16	Annular flow before job	Y/N	N
17	Annular flow after job	Y/N	N
18	Length of rat hole	Ft	
19	Units of gas detected while circulating	Units	
20	Was lost circulation experienced at any time?	Y/N	N

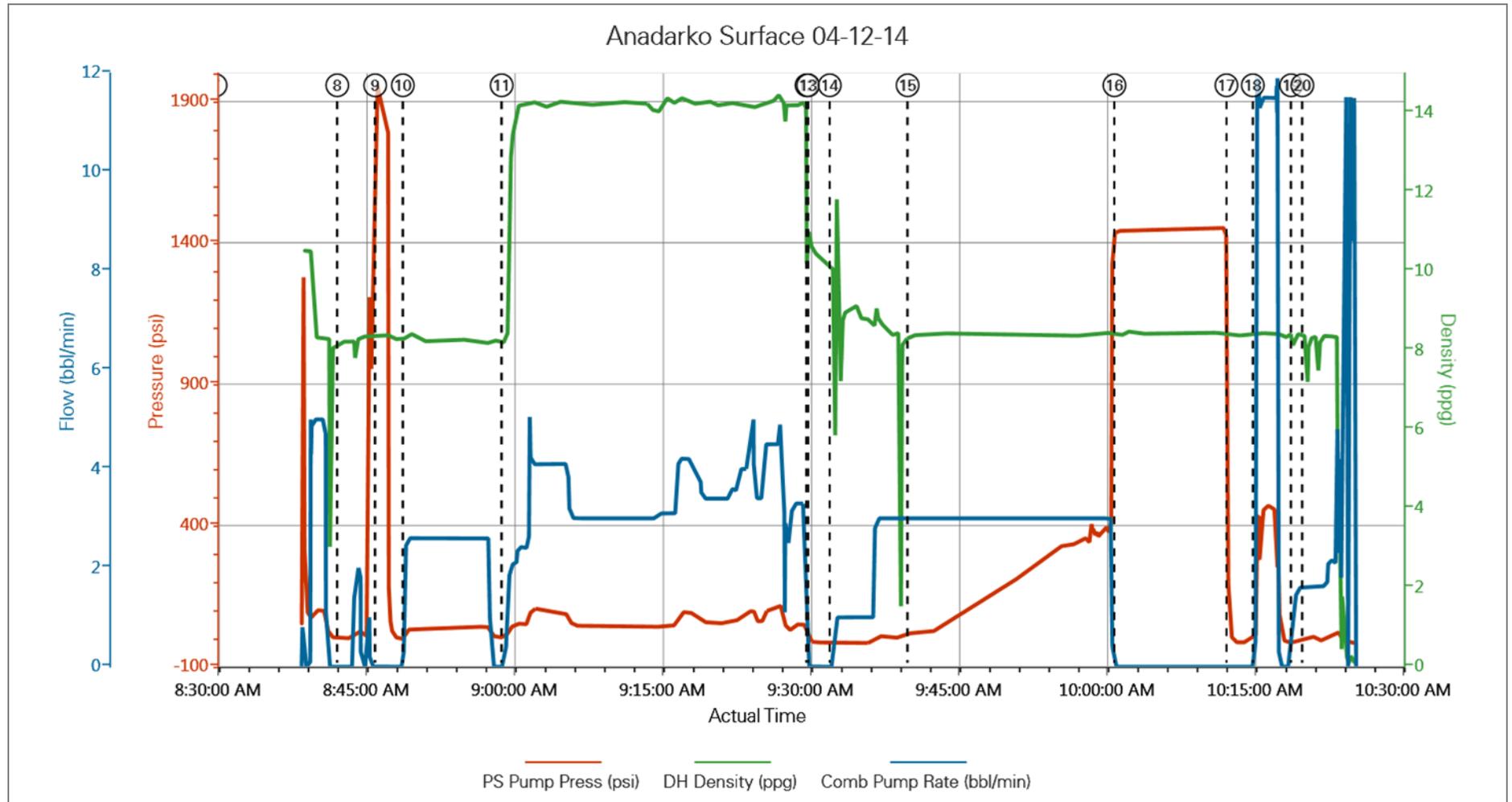
1.5 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comment
Event	1	Call Out	Call Out	4/12/2014	03:00:58	USER				Crew called out @ 3:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/12/2014	06:30:59	USER				Discussed Load Checks, directions & safe driving
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/12/2014	06:45:00	USER				
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	4/12/2014	07:30:01	USER				Arrived @ Location on time. rig on bottom circulating
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/12/2014	07:35:02	USER				Discussed spotting, layout and red zones
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/12/2014	07:45:03	USER				rigged up safely to HES and Customer standards
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/12/2014	08:30:04	USER				Discussed job procedure with customer and crew
Event	8	Start Job	Start Job	4/12/2014	08:42:23	COM1	1.00	8.15	0.00	
Event	9	Test Lines	Test Lines	4/12/2014	08:46:13	COM1	1923.00	8.34	0.00	Tested lines to 1000 psi (Pressure Held)
Event	10	Pump Spacer 1	Pump Mud Flush III	4/12/2014	08:49:01	COM1	28.00	8.24	2.60	Pumped 12 BBL of Mud Flush III
Event	11	Pump Lead Cement	Pump Lead Cement	4/12/2014	08:59:01	COM1	4.00	8.23	0.00	Pumped 100 BBL of CMT @ 14.2# (366sks)
Event	12	Shutdown	Shutdown	4/12/2014	09:29:53	COM1	-11.00	10.79	0.00	Shutdown to drop top plug
Event	13	Drop Top Plug	Drop Top Plug	4/12/2014	09:30:03	COM1	-13.00	10.60	0.00	
Event	14	Pump Displacement	Pump Displacement	4/12/2014	09:32:14	COM1	-14.00	10.02	0.00	Pumped 78.5 BBL of Fresh Water Displacement
Event	15	Cement Returns to Surface	Cement Returns to Surface	4/12/2014	09:40:08	USER	18.00	8.34	3.00	19 BBL of Cement returned to Surface
Event	16	Bump Plug	Bump Plug	4/12/2014	10:01:04	COM1	1445.00	8.43	0.00	Bumped plug @ 350 psi took pressure 1000 over to 1350
Event	17	Other	Check Floats	4/12/2014	10:12:24	COM1	34.00	8.34	0.00	.5 BBL back to truck (Floats Held)
Event	18	Post-Job Safety Meeting (Pre Rig-	Post-Job Safety Meeting (Pre Rig-Down)	4/12/2014	10:15:05	USER	374.00	8.39	11.50	Discussed trapped pressure and overhead loads

Down)										
Event	19	End Job	End Job	4/12/2014	10:18:57	COM1	-7.00	8.40	1.20	
Event	20	Rig Down Lines	Rig Down Lines	4/12/2014	10:20:06	USER	-5.00	8.37	1.60	Rigged down safely to HES and Customer Standards
Event	21	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	4/12/2014	12:00:07	USER				Thankyou for choosing Halliburton!

2.0 Custom Graphs

2.1 Custom Graph



3.0 Appendix

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