

# HALLIBURTON

iCem<sup>®</sup> Service

**ANADARKO PETROLEUM CORP - EBUS**

**For:**

Date: Wednesday, July 16, 2014

**Spurling 34N-34HZ Surface**

Anadarko Spurling 34N-34HZ

Sincerely,

**Derek Trier**

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## 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Spurling 34N-34HZ** 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
<b>Called Out</b>	04/14	0030	MST
<b>On Location</b>		0430	
<b>Job Started</b>		0636	
<b>Job Completed</b>		0740	
<b>Departed Location</b>		0900	

**1.2 Cementing Job Summary**

<i>The Road to Excellence Starts with Safety</i>											
Sold To #: <b>300466</b>			Ship To #: <b>3367924</b>			Primary Sales Order #: <b>0901253064</b>					
Customer: <b>ANADARKO PETROLEUM</b> CORP - EBUS						Job Purpose: <b>7521 CMT</b> SURFACE CASING BOM					
Well Name: <b>SPURLING</b>						Well #: <b>34N-34 HZ</b>			API/UWI #: <b>05-123-39124-00</b>		
Field: <b>WATTENBERG</b>			City: <b>ION</b>			Country/Parish: <b>WELD</b>			State/Prov: <b>COLORADO</b>		
Legal Description:											
Rig Name & Number / Phone Number: <b>Majors 42 / 303-353-5445</b>									Location: <b>LAND</b>		
myCem id# :			Job Criticality Status: <b>GREEN</b>			iFacts Request id #:					
<i>PPE, Safety Huddles, JSA's, HOC &amp; Near Miss Reporting, BBP Observations</i>											
Distance/Mileage(1 way)			<b>30 mile</b>			Distance/Mileage(1 way) Mtls:			<b>30 mile</b>		
Srvcs:						Rqstd Job Start Date/Time:			<b>04/07/2014</b>		
<b>Job Info / Well Data</b>											
Job Depth (MD) <b>ft</b>		Job Depth (TVD) <b>ft</b>		Well Fluid Type		Well Fluid Weight <b>lbm/gal</b>		Displacement Fluid		Displ Fluid Weight <b>lbm/gal</b>	
<b>819</b>								<b>Displacement</b>		<b>8.33</b>	
BHST <b>degF</b>		BHCT <b>degF</b>		Log Temp <b>degF</b>				Time Since Circ Stopped <b>HH:MM:SS</b>			
<b>Job Tubulars/Tools</b>											
Description	Size <b>in</b>	Weight <b>lbm/ft</b>	ID <b>in</b>	Thread	Grade	Top MD <b>ft</b>	Btm MD <b>ft</b>	Top TVD <b>ft</b>	Btm TVD <b>ft</b>	Shoe Jnt <b>ft</b>	% Excess
<b>13.5" Open Hole</b>			<b>13.5</b>			<b>0</b>	<b>819</b>				<b>0</b>
<b>9.625" Surface Casing</b>	<b>9.625</b>	<b>36</b>	<b>8.921</b>		<b>J-55</b>	<b>0</b>	<b>819</b>			<b>42</b>	
<b>Materials</b>											
Stage/Plug #: <b>1</b>											
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density <b>lbm/gal</b>	Yield <b>ft3/ sack</b>	Water Req <b>Gal/sack</b>	Rate <b>bbbl/min</b>	Total Mix Fluid <b>Gal/sack</b>	Surface Bat Mixing Time	

1		Mud Flush III (Powder)		12	bbl	8.4					
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/ sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr	
	Lead Cement	SWIFTCEM (TM) SYSTEM	364	sack	14.2	1.54	7.64	6	7.64		
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/ sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time	
	Displacement		78	bbl	8.33						

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**1.3 Job Overview**

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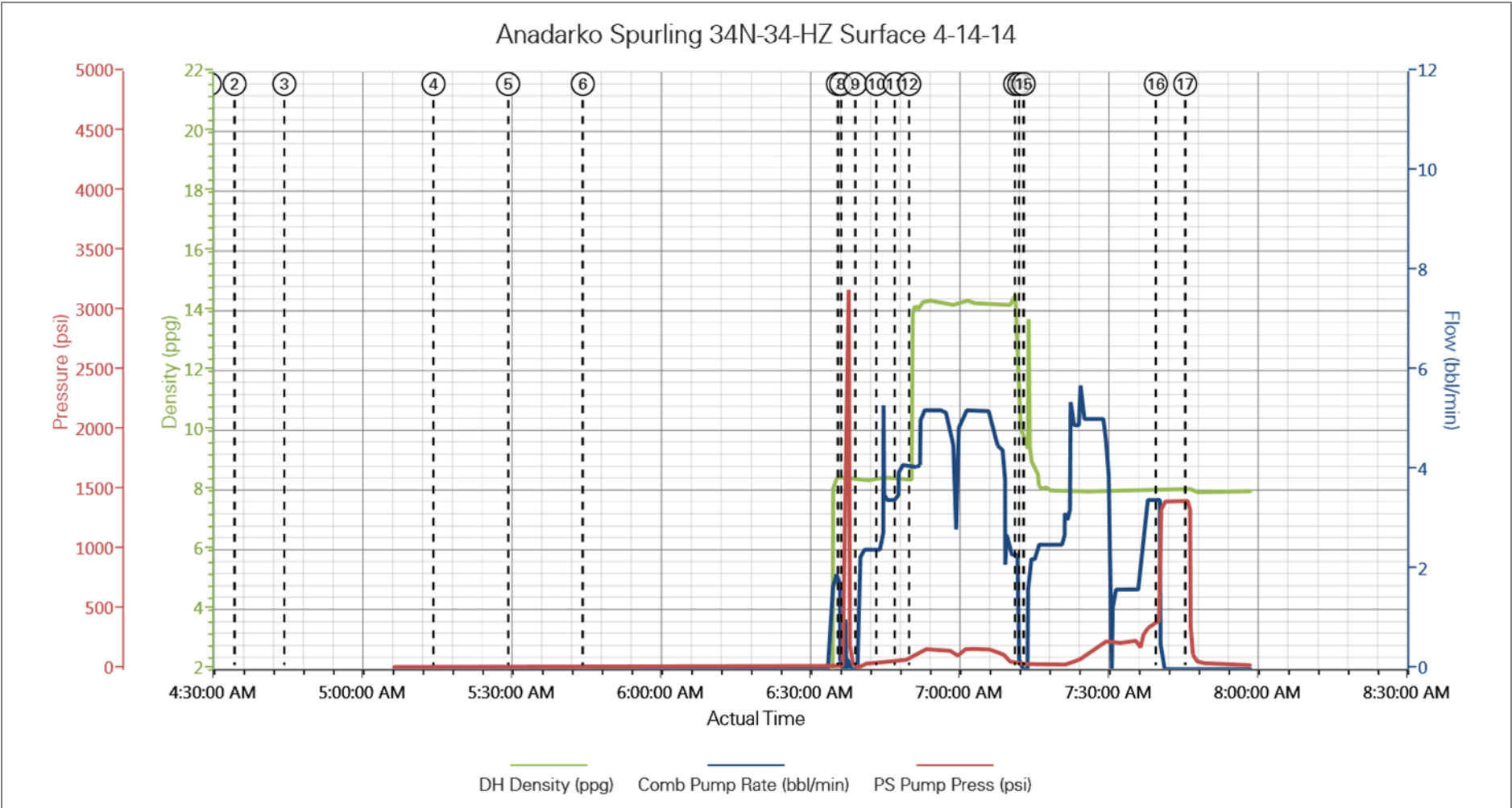
		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	
4	Time circulated before job	HH:MM	
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	N
8	Rig pressure 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	78
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

**1.4 Job Event Log**

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comment
Event	1	Arrive At Loc	Safety Meeting - Pre Job	4/14/2014	04:30:00	USER				Arrived 30mins early and rig is at bottom circulating
Event	2	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	4/14/2014	04:35:00	USER				JSA on rigging up bulk trucks and iron to rig
Event	3	Rig-Up Equipment	Safety Meeting - Pre Job	4/14/2014	04:45:00	USER				Rig up bulk truck and iron to rig
Event	4	Rig-Up Completed	Rig-Up Completed	4/14/2014	05:15:00	USER	0.04	0.00	18.00	Rig up complete
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/14/2014	05:30:00	USER	0.05	0.00	17.00	JSA with Company Man, Rig hands, Third party, and HES on pump sheduale
Event	6	Other	Wait on Pump truck to finish regen	4/14/2014	05:45:00	USER	0.07	0.00	17.00	Waiting for truck to finish Regening
Event	7	Start Job	Start Job	4/14/2014	06:36:16	COM5	8.36	0.00	27.00	
Event	8	Test Lines	Test Lines	4/14/2014	06:36:55	COM5	8.30	1.00	24.00	3000psi Pressure Test Lines
Event	9	Pump Spacer 1	Pump Spacer 1	4/14/2014	06:39:46	COM5	8.40	0.10	-3.00	10bbls H2O Spacer
Event	10	Pump Spacer 2	Pump Spacer 2	4/14/2014	06:44:02	COM5	8.38	2.40	50.00	12bbls Mud Flush Spacer
Event	11	Pump Spacer 1	Pump Spacer 1	4/14/2014	06:47:43	COM5	8.30	4.00	67.00	10bbls H2O Spacer
Event	12	Pump Lead Cement	Pump Lead Cement	4/14/2014	06:50:37	COM5	14.34	4.00	104.00	364sks Swiftcem 14.2ppg, 1.54yield, 7.64gal/sk Mixed with rig water and # verify 3x's by Pressurized mud scales
Event	13	Shutdown	Shutdown	4/14/2014	07:11:54	COM5	12.43	0.00	53.00	
Event	14	Drop Top Plug	Drop Top Plug	4/14/2014	07:12:43	COM5	9.73	0.00	39.00	Pre-Loaded
Event	15	Pump Displacement	Pump Displacement	4/14/2014	07:13:38	COM5	9.45	0.00	43.00	78bbls H2O displacment
Event	16	Bump Plug	Bump Plug	4/14/2014	07:40:13	COM5	7.90	3.40	413.00	Slowed down last 10bbls to 3bb/min to bump. Plug landed at
Event	17	Other	Other	4/14/2014	07:46:06	COM5	7.99	0.00	1409.00	Floats Held

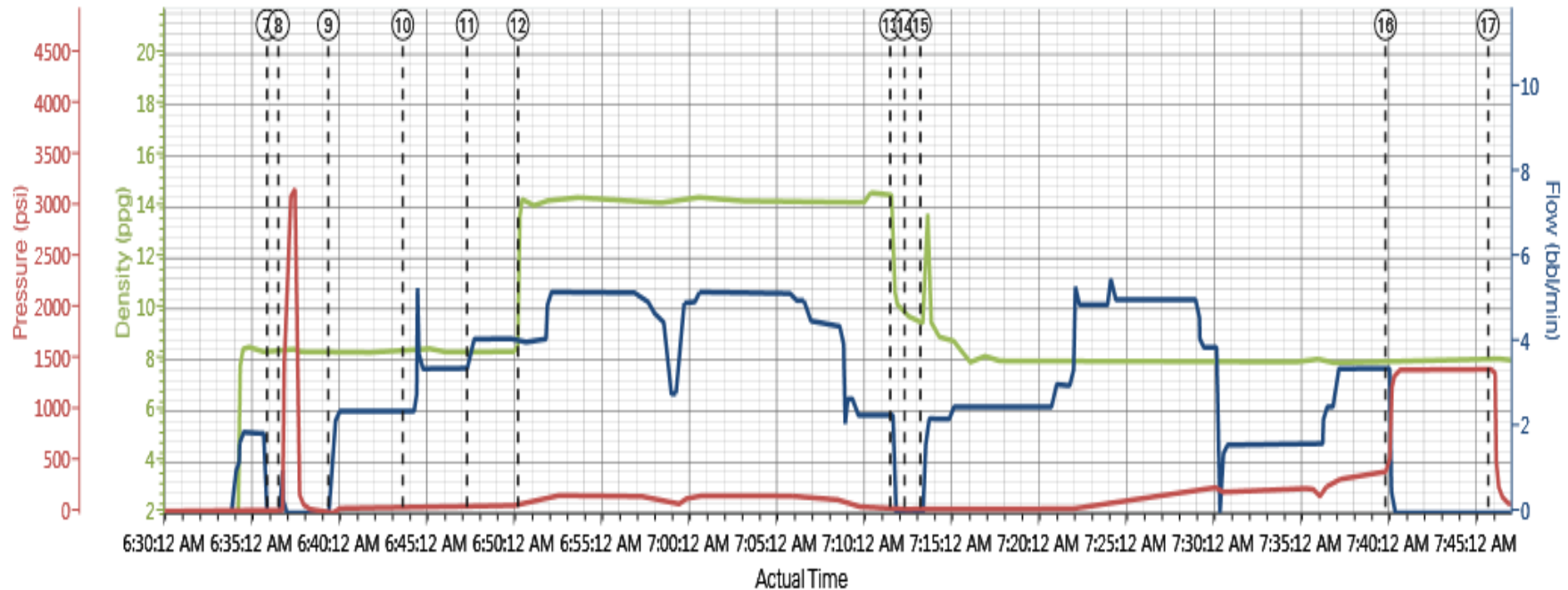
2.0 Custom Graphs

2.1 Custom Graph





# Anadarko Spurling 34N-34-HZ Surface 4-14-14



DH Density (ppg) Comb Pump Rate (bbl/min) PS Pump Press (psi)

- |   |  |  |                       |                             |                          |
|---|--|--|-----------------------|-----------------------------|--------------------------|
| ① Safety Meeting - Pre Job n/a;n/a;n/a    | ③ Safety Meeting - Pre Job n/a;n/a;n/a | ⑤ Safety Meeting - Pre Job 0.05;0;17           | ⑦ Start Job 8.36;0;27 | ⑨ Pump Spacer 1 8.4;0.1;-3  | ⑪ Pump Spacer 1 8.3;4;67 |
| ② Safety Meeting - Pre Rig-Up n/a;n/a;n/a | ④ Rig-Up Completed 0.04;0;18           | ⑥ Wait on Pump truck to finish regen 0.07;0;17 | ⑧ Test Lines 8.3;1;24 | ⑩ Pump Spacer 2 8.38;2.4;50 | ⑫ Pump Lead Cement 14.1  |

### 3.0 Appendix

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