HALLIBURTON

iCem® Service

GREAT WESTERN OIL & GAS LLC

For:
Date: Wednesday, August 27, 2014

Schmunk EF 31-361HN Surface

Great Western

Sincerely,

Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Schmunk EF 31-361HN** 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	8/31/2014	0400	MST
On Location	8/31/2014	0000	MST
Job Started	8/31/2014	1131	MST
Job Completed	8/31/2014	1324	MST
Departed Location	8/31/2014	1400	MST

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 346459	**Ship To #:** 3353943	**Quote #:**	**Sales Order #:** 0901631821
Customer: GREAT WESTERN OIL & GAS LLC - eBUS		**Customer Rep:**	
Well Name: SCHMUNK -EF-	**Well #:** 31-361 HN		**API/UWI #:** 05-123-38932-00
Field: WATTENBERG	**City (SAP):** EATON	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NW NE-31-7N-65W-526FNL-1854FEL			
Contractor: Craigs		**Rig/Platform Name/Num:** Craigs 7	
Job BOM: 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\H117930		**Srvc Supervisor:** Justin Wheeler	

Job

Formation Name					
Formation Depth (MD)	Top		Bottom		
Form Type			BHST		
Job depth MD	1065ft		Job Depth TVD		
Water Depth			Wk Ht Above Floor	3'	
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	LTC	J-55	0	1055	0	1065
Open Hole Section			13.5				0	1070	0	1070

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					Bottom Plug			
Float Collar	9.625	1		1011'	SSR plug set			
Insert Float	9.625	1			Plug Container			
Stage Tool	9.625	1			Centralizers			

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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Fresh Water Spacer	Mud Flush III	10	bbl	8.4			6	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	SwiftCem B2	SWIFTCEM (TM) SYSTEM	450	sack	14.2	1.54		6	7.64

HALLIBURTON *Cementing Job Summary*

7.64 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Displacement	Displacement	78.2	bbl	8.33			6	

Cement Left In Pipe	**Amount**	45 ft	**Reason**	Shoe Joint
Comment	23 bbls Cement to Surface			

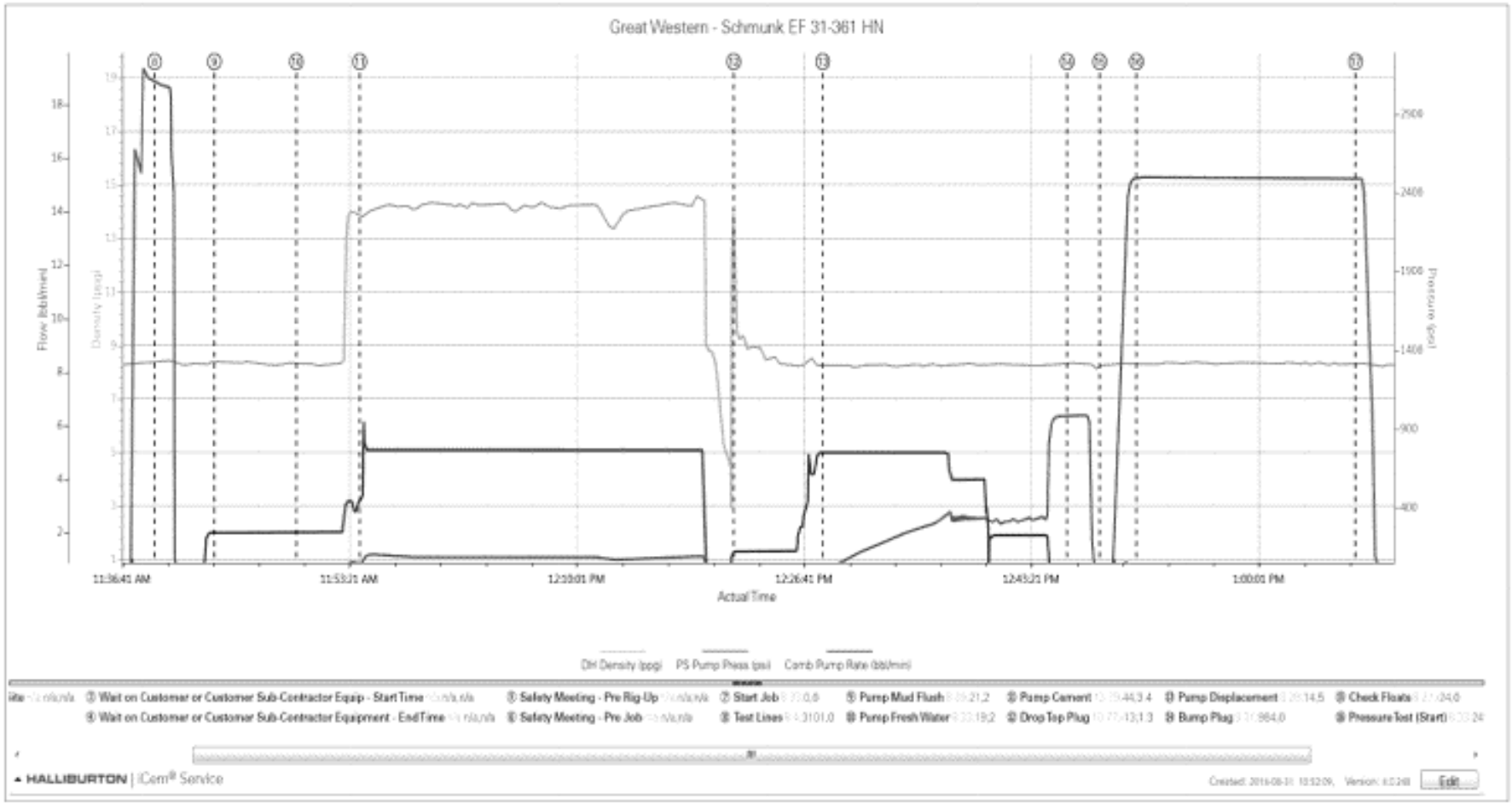
1.3 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	60
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	9.0
4	Time circulated before job	HH:MM	
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	5
7	Pipe movement during hole circulation	Y/N	No
8	Rig pressure while circulating	Psi	
9	Time from end mud circulation to start of job	HH:MM	00:10
10	Pipe movement during cementing	Y/N	No
11	Calculated displacement	Bbls	78.2
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	no
14	Annular flow after job	Y/N	no
15	Length of rat hole	Ft	15
16	Units of gas detected while circulating	Units	0
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)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comment
Event	1	Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	8/31/2014	03:30:00	USER				Journey Management Meeting With HES Crew Prior to Departing Yard.
Event	2	Arrive At Loc	Arrive At Loc	8/31/2014	04:30:00	USER				Arrive on Location @ 0430, Requested on Location @ 0400. Arrived Late Due to Drivers Lack of DOT Hours.
Event	3	Wait on Customer or Customer Sub-Contractor Equip - Start Time	Wait on Customer or Customer Sub-Contractor Equip - Start Time	8/31/2014	04:30:10	USER				Rig Approx. 100' From TD When HES Arrives on Location
Event	4	Wait on Customer or Customer Sub-Contractor Equipment - End Time	Wait on Customer or Customer Sub-Contractor Equipment - End Time	8/31/2014	10:45:00	USER				Rig on Bottom With Casing
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	8/31/2014	10:45:01	USER				Pre-Rig Up Meeting with HES Crew
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/31/2014	10:45:02	USER				Safety Meeting With HES Crew, and all 3rd Party Employees. Prior to Starting Job
Event	7	Start Job	Start Job	8/31/2014	11:31:34	COM7	8.33	0.00	0.00	Water Provided By Rig, Tested ok for Mixing Cement
Event	8	Test Lines	Test Lines	8/31/2014	11:39:14	COM7	8.41	3101.00	0.00	Pressure Test Lines to 3000 PSI, No visible Leaks
Event	9	Pump Spacer 1	Pump Mud Flush	8/31/2014	11:43:36	COM7	8.39	22.00	2.00	Pump 10 bbls Mud Flush
Event	10	Pump Spacer	Pump Fresh Water	8/31/2014	11:49:36	USER	8.33	19.00	2.00	Pump 10 bbls Fresh Water
Event	11	Pump Lead Cement	Pump Cement	8/31/2014	11:54:18	COM7	13.79	43.00	3.40	Mix and Pump 123.4 bbls (450 sks) Cement @ 14.2 lb/gal (Density Verified By Pressurized Scales)
Event	12	Drop Top Plug	Drop Top Plug	8/31/2014	12:21:39	USER	10.77	-13.00	1.30	Shut-Down, Drop Top Plug

Event	13	Pump Displacement	Pump Displacement	8/31/2014	12:28:12	COM7	8.28	14.00	5.00	Pump 78.2 bbls Fresh Water Displacement (Wash-Up on Top of Plug)
Event	14	Bump Plug	Bump Plug	8/31/2014	12:46:07	COM7	8.31	984.00	0.00	Bump Plug @ 350 PSI Final Pump Pressure, Take Pressure to 980 PSI, Monitor for 2 minutes.
Event	15	Other	Check Floats	8/31/2014	12:48:30	COM7	8.27	-24.00	0.00	Check Floats, Floats Holding, Returned 1/2 bbl back to Tanks
Event	16	Pressure Test	Pressure Test (Start)	8/31/2014	12:51:12	USER	8.32	2497.00	0.00	Start Casing Test (2497 PSI)
Event	17	Pressure Test	Pressure Test (End)	8/31/2014	13:07:14	USER	8.32	2494.00	0.00	End Casing Test (2494 PSI)
Event	18	End Job	End Job	8/31/2014	13:24:15	COM7	0.01	1.00	0.00	Returned 23 bbls Cement to Surface


Great Western - Schmunk EF 31-361 HN
Flow (bbl/min)
Density (ppg)
Pressure (psi)
11:36:41 AM
11:53:21 AM
12:10:01 PM
12:26:41 PM
12:43:21 PM
1:00:01 PM
Actual Time
DH Density (ppg)
PS Pump Press (psi)
Comb Pump Rate (bbl/min)
③ Wait on Customer or Customer Sub-Contractor Equip - Start Time
④ Wait on Customer or Customer Sub-Contractor Equipment - End Time
⑥ Safety Meeting - Pre Rig-Up
⑥ Safety Meeting - Pre Job
⑦ Start Job
⑧ Test Lines
⑨ Pump Mud Flush
⑩ Pump Fresh Water
⑪ Pump Cement
⑫ Drop Top Plug
⑬ Pump Displacement
⑭ Bump Plug
⑮ Check Floats
⑯ Pressure Test (Start)
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