

# HALLIBURTON

iCem<sup>®</sup> Service

## **GREAT WESTERN OIL & GAS LLC**

**For:**

Date: Wednesday, August 27, 2014

**Spaur Brothers EH 31-339HN Surface**

Great Western

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 **Spaur Brothers EH 31-339HN** 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**

	<b>Date</b>	<b>Time</b>	<b>Time Zone</b>
<b>On Location</b>	8/24/2014	1200	MST
<b>Job Started</b>	8/24/2014	1346	MST
<b>Job Completed</b>	8/24/2014	1519	MST
<b>Departed Location</b>	8/24/2014	1600	MST

## 1.2 Cementing Job Summary

**HALLIBURTON**

## Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 346459	Ship To #: <del>327463</del> 327463	Quote #:	Sales Order #: 0901611525							
Customer: GREAT WESTERN OIL & GAS LLC - eBUS		Customer Rep: Great Western Rep								
Well Name: SPAUR BROTHERS -EH-	Well #: 31-339 <del>485</del> HW	API/UWI #: 05-123-38747-00								
Field: WATTENBERG	City (SAP): GALETON	County/Parish: WELD	State: COLORADO							
Legal Description: SE SE-31-7N-63W-322FSL-210FEL										
Contractor:		Rig/Platform Name/Num: Craig 7								
Job BOM: 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB21661		Srv Supervisor: Nathan McBride								
<b>Job</b>										
<b>Formation Name</b>										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	1060ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor								
Perforation Depth (MD)	From	To								
<b>Well Data</b>										
Description	New / Used	Size in	ID in	Weight lbf/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		9.625	8.921	36	STC	J-55	0	1044	0	1044
Open Hole Section			13.5				0	1060	0	1060
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625			1044	Top Plug	9.625		HES		
Float Shoe	9.625				Bottom Plug	9.625		HES		
Float Collar	9.625				SSR plug set	9.625		HES		
Insert Float	9.625				Plug Container	9.625		HES		
Stage Tool	9.625				Centralizers	9.625		HES		
<b>Miscellaneous Materials</b>										
Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc				
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty				
<b>Fluid Data</b>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbf/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water Spacer	Mud Flush III	10	bbl	8.4			6		
Stage/Plug #: 2										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbf/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	SwiftCem B2	SWIFTCEM (TM) SYSTEM	490	sack	14.2	1.54		6	7.64	

last updated on 8/24/2014 12:53:09 PM

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*Cementing Job Summary*

7.64 Gal		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/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	77.7	bbl	8.33			6	
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint	
Comment NO Red Dye Used									

**1.3 Job Overview**

		<b>Units</b>	<b>Description</b>
<b>1</b>	Surface temperature at time of job	°F	70
<b>2</b>	Mud type (OBM, WBM, SBM, Water, Brine)	-	Water
<b>3</b>	Actual mud density	lb/gal	8.6
<b>4</b>	Time circulated before job	HH:MM	
<b>5</b>	Mud volume circulated	Bbls	
<b>6</b>	Rate at which well was circulated	Bpm	
<b>7</b>	Pipe movement during hole circulation	Y/N	No
<b>8</b>	Rig pressure while circulating	Psi	
<b>9</b>	Time from end mud circulation to start of job	HH:MM	
<b>10</b>	Pipe movement during cementing	Y/N	No
<b>11</b>	Calculated displacement	Bbls	77.7
<b>12</b>	Job displaced by	Rig/HES	HES
<b>13</b>	Annular before job)?	Y/N	no
<b>14</b>	Annular flow after job	Y/N	no
<b>15</b>	Length of rat hole	Ft	
<b>16</b>	Units of gas detected while circulating	Units	
<b>17</b>	Was lost circulation experienced at any time ?	Y/N	N

1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comment
Event	1	Other	Arrive at Location	8/24/2014	12:00:00	USER				Requested on Location 1200. Rig Running last of Casing
Event	2	Other	Assessment of Location	8/24/2014	12:05:00	USER				Hazard Hunt identify muster area
Event	3	Other	Pre Rig Up Safety Meeting	8/24/2014	12:10:00	USER				Discuss Fluid source and rig up lay out
Event	4	Other	Rig Up Equipment	8/24/2014	12:14:00	USER				
Event	5	Other	Casing on Bottom	8/24/2014	12:15:00	USER				
Event	6	Other	Circulate Well	8/24/2014	12:20:00	USER				
Event	7	Other	Rig Up Completed	8/24/2014	13:00:00	USER				
Event	8	Other	Pre Job Safety Meeting	8/24/2014	13:15:00	USER	0.00	7.69	64.00	With Customer and 3rd Parties involved in job
Event	9	Start Job	Start Job	8/24/2014	13:46:31	COM6	0.00	7.64	58.00	
Event	10	Test Lines	Test Lines	8/24/2014	13:50:23	COM6	0.00	7.71	3783.00	3784psi
Event	11	Pump Spacer 1	Mud Flush	8/24/2014	13:53:14	COM6	2.50	7.62	67.00	10bbbls Mud Flush
Event	12	Pump Spacer 2	Fresh Water	8/24/2014	13:55:48	COM6	4.60	8.30	118.00	10bbbls
Event	13	Pump Cement	Pump Cement	8/24/2014	13:59:07	COM6	3.30	13.91	109.00	134.4bbbls 490sks @ 14.2ppg
Event	14	Pump Displacement	Drop Top Plug	8/24/2014	14:27:51	COM6	0.00	-0.01	58.00	
Event	15	Pump Displacement	Pump Displacement	8/24/2014	14:31:56	COM6	1.00	8.45	52.00	77.7bbbls BioCide Displacement
Event	16	Other	Cement to Surface	8/24/2014	14:44:11	USER	1.80	8.28	323.00	45bbbls Displaced 33bbbls to Pit
Event	17	Other	Bump Plug	8/24/2014	14:55:50	USER	2.00	8.35	446.00	920psi final over pressure
Event	18	Other	Check Floats	8/24/2014	14:59:10	USER	0.00	8.31	68.00	Floats Good 1bbl Back
Event	19	Other	Test Casing	8/24/2014	15:02:15	USER	0.00	8.35	2480.00	2480psi Start Pressure
Event	20	End Job	End Job	8/24/2014	15:19:49	COM6	0.00	8.32	57.00	

2.0 Appendix

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