

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Tuesday, April 25, 2017

### **Stromberger #8 Production**

Job Date: Sunday, April 09, 2017

Sincerely,

**Julia Nichols**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Stromberger 8** cement **Production** 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.

**Approximately 50 barrels of cement were returned to surface.**

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 [Ft. Lupton]**

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## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3711301	Quote #:	Sales Order #: 0903957298							
Customer: EXTRACTION OIL & GAS		Customer Rep: Todd Stephens								
Well Name: STROMBERGER	Well #: 8	API/UWI #: 05-123-42557-00								
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO							
Legal Description: SE NE-22-8N-87W-2058FNL-150FEL										
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Vaughn Oteri								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	16782ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor								
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			0	1575		1575
Casing		5.5	4.778	20			0	16769	0	6900
Open Hole Section			8.5				1575	16782	0	6900
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5				Top Plug	5.5	1	KLX		
Float Shoe	5.5			16769	Bottom Plug	5.5				
Float Collar	5.5			16764	SSR plug set	5.5				
Insert Float	5.5				Plug Container	5.5	1	HES		
Stage Tool	5.5				Centralizers	5.5				
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		4		
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	ElastiCem Lead	ELASTICEM (TM) SYSTEM	1225	sack	13.2	1.57		8	7.53	

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*Cementing Job Summary*

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	ElastiCem Tail	ELASTICEM (TM) SYSTEM	1450	sack	13.2	1.57		8	7.49
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
4	Displacement	Displacement	370	bbl	8.34			8	
Cement Left In Pipe		Amount	4 ft		Reason			Shoe Joint	
Comment 50bbl of cement back to surface									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	4/9/2017	13:00:00	USER				Call out From ARC hub
Event	2	Arrive At Loc	Arrive At Loc	4/9/2017	17:00:00	USER				Arrived on location met with company rep to discuss job process and concerns
Event	3	Other	Other	4/9/2017	17:01:01	USER				TD-16782 TP-16769 FC-16764 Surf-1575 Mud9.2ppg Casing 5.5 20# OH-8.5
Event	4	Start Job	Start Job	4/10/2017	02:55:21	COM4	0.00	8.41	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	4/10/2017	03:32:25	COM4	4579.00	8.57	0.00	Pressure tested pumps and lines with fresh water 4742psi
Event	6	Pump Spacer 1	Pump Spacer 1	4/10/2017	03:35:49	COM4	243.00	11.67	3.10	Mixed 50bbl of 11.5ppg Tuned spacer III at 4.0bpm
Event	7	Pump Cement	Pump Cement	4/10/2017	03:48:18	COM4	593.00	13.20	8.20	Mixed 2675sks or 747bbl of 13.2ppg Y-1.57 G/sk-7.48 ElastiCem at 8.0bpm
Event	8	Other	Other	4/10/2017	04:46:49	COM4	2.00	19.20	0.00	Shut down due to 1502 Iron leaking
Event	9	Shutdown	Shutdown	4/10/2017	05:26:36	COM4	67.00	4.48	0.00	
Event	10	Drop Top Plug	Drop Top Plug	4/10/2017	05:26:51	COM4	32.00	0.43	0.00	KLX tool hand released plug witnessed by company rep and HES supervisor
Event	11	Clean Lines	Clean Lines	4/10/2017	05:26:55	COM4	28.00	0.39	0.00	Washed pumps and lines with fresh water
Event	12	Pump Displacement	Pump Displacement	4/10/2017	05:34:52	COM4	3.00	7.49	0.00	Pumped 370bbl of fresh water to displace cement
Event	13	Other	Other	4/10/2017	06:21:37	USER	2152.00	8.52	1.40	Shut down due to lost power in pass deck engine
Event	14	Other	Other	4/10/2017	06:26:15	USER	2813.00	8.54	4.60	Regained power in pass engine
Event	15	Pressure Up Well	Pressure Up Well	4/10/2017	06:34:17	COM4	3118.00	8.54	0.00	Pressure up well to blow disc and pumped 5bbl for wet shoe
Event	16	Other	Other	4/10/2017	06:37:47	COM4	2006.00	8.51	0.00	Released pressure back to pump truck to check floats 2.5bbl back

## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events





3.2 Custom Results – Job Chart without Events

