

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Date: Wednesday, June 12, 2019

### **Livingston S19-25-11C Surface**

Job Date: Tuesday, June 11, 2019

Sincerely,  
**Bryce Hinsch**

## Legal Notice

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### Disclaimer:

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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 **Livingston S19-25-11C** 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.

**Approximately 22 bbls 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 Fort Lupton**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3883601		<b>Quote #:</b>		<b>Sales Order #:</b> 0905754724					
<b>Customer:</b> EXTRACTION OIL & GAS -						<b>Customer Rep:</b> Justin Humphries					
<b>Well Name:</b> LIVINGSTON				<b>Well #:</b> S19-25-11C		<b>API/UWI #:</b> 05-014-20749-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> BROOMFIELD		<b>County/Parish:</b> BROOMFIELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> NW SE-7-1S-68W-2331FSL-1348FEL											
<b>Contractor:</b>				<b>Rig/Platform Name/Num:</b> CARTEL 15							
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Nicholas Cummins							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>	80ft		<b>Bottom</b>	1598ft					
<b>Form Type</b>					<b>BHST</b>						
<b>Job depth MD</b>		1598ft			<b>Job Depth TVD</b>						
<b>Water Depth</b>					<b>Wk Ht Above Floor</b>		4ft				
<b>Perforation Depth (MD)</b>		<b>From</b>			<b>To</b>						
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Open Hole Section			13.5				0	1598		0	
Casing		9.625	8.921	36			0	1596		0	
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	9.625	1		1596		Top Plug	9.625	1	HES		
Float Shoe	9.625					Bottom Plug	9.625				
Float Collar	9.625	1		1553		SSR plug set	9.625				
Insert Float	9.625					Plug Container	9.625		HES		
Stage Tool	9.625					Centralizers	9.625				
<b>Fluid Data</b>											
<b>Stage/Plug #:</b> 1											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	Red Dye Spacer	Red Dye Spacer			10	bbl	8.33				

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	SwiftCem	SWIFTCEM (TM) SYSTEM	525	sack	13.5	1.74	9.2	8	4830
9.20 Gal		<b>FRESH WATER</b>							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Fresh Water	Fresh Water	120	bbl	8.33				
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		<400 ppm		Mix Water Temperature:		54°F
Cement Temperature:		54 °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		54 °F
Plug Bumped?		Yes	Bump Pressure:		517 psi		Floats Held?		Yes
Cement Returns:		22 bbl	Returns Density:		13.2 lb/gal		Returns Temperature:		
<b>Comment</b> 10 bbl Red Dye 163 bbls Cement 120 bbls Displacement Bump 517 pressured up to 1,200 psi Floats Held .5 bbls back Estimated 22 bbls of cement 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)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	6/11/2019	06:30:00	USER					The crew was called out on 6/11/19 at 0630. The customer requested HES on location at 1100 on 6/11/19.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/11/2019	10:15:00	USER					The crew held a pre journey safety meeting discussing the route and potential hazards while driving The supervisor called in a journey. The crew departed service center.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	6/11/2019	11:15:00	USER					The crew arrived on location safely. The rig was still running casing. The supervisor met with the Company man and received numbers. TD 1,598', TP 1,598 9 5/8" 36# J-55, FC 1,553', PC 80' 15. 1/2" ID, OH 13 1/2", Mud 8.33 ppg.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/11/2019	11:20:00	USER					Crew discussed all potential hazards on location.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/11/2019	11:25:00	USER					Crew held a safety meeting discussing the rig up procedure. Also all potential hazards associated with rigging up all HES equipment and lines.

Event	6	Rig-Up Equipment	Rig-Up Equipment	6/11/2019	11:35:00	USER					The crew rigged up all HES equipment and lines.
Event	7	Rig-Up Completed	Rig-Up Completed	6/11/2019	11:55:00	USER	67.00	8.27	0.00	0.00	Rig up completed, no one got hurt.
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/11/2019	13:10:00	USER	0.00	8.34	0.00	0.00	The crew and all personal involved with cement job discussed all potential hazards associated with job. Followed by the job procedure to ensure everyone understood the plan of action
Event	9	Start Job	Start Job	6/11/2019	13:16:53	COM1	-7.00	8.36	0.00	0.00	Started recording data from Elite 11512092. Filled lines with 3 bbls of water at 2 bpm, pressure was at 27 psi.
Event	10	Test Lines	Test Lines	6/11/2019	13:26:48	COM1	2453.00	8.36	0.00	3.00	Pressure tested all HES lines to 2,500 psi. The pressure test passed.
Event	11	Pump Spacer 1	Pump Spacer 1	6/11/2019	13:29:12	COM1	-4.00	8.32	0.00	0.00	Pumped 10 bbls of Red Dye Fresh Water Spacer.
Event	12	Pump Cement	Pump Cement	6/11/2019	13:34:33	COM1	20.00	8.31	2.50	13.70	Pumped 163 bbls (525 sks) of Lead cement at 8 bpm, pressure was at 270 psi. 13.2 ppg 1.74 yield 9.2 gal/sk. Used pressurized scales to verify density.
Event	13	Drop Top Plug	Drop Top Plug	6/11/2019	14:04:22	COM1	7.00	12.36	1.40	91.40	Company man verified plug left container.
Event	14	Pump Displacement	Pump Displacement	6/11/2019	14:04:41	COM1	5.00	9.33	1.40	91.80	Pumped the calculated displacement of 120 bbls.
Event	15	Bump Plug	Bump Plug	6/11/2019	14:25:46	COM1	1087.00	8.32	0.00	117.30	Bumped plug, final circulating pressure was 517 psi. Pressured up 500 psi over then kicked out. Pressure rose to 1,200 psi.

Event	16	Other	Checked Floats	6/11/2019	14:27:19	COM1	1149.00	8.33	0.00	117.30	Bled pressure back to truck. Got .5 bbls back, Floats held.
Event	17	End Job	End Job	6/11/2019	14:28:19	COM1	-13.00	8.30	0.00	0.00	Cement job complete. Stopped recording data. Estimated 22 bbls of cement to surface.
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/11/2019	14:30:00	USER	-9.00	8.30	0.00	0.00	Crew held a safety meeting discussing the rig down procedure. Also all potential hazards associated with rigging down all HES equipment and lines.
Event	19	Rig-Down Equipment	Rig-Down Equipment	6/11/2019	14:45:00	USER	-9.00	4.65	2.50	33.10	The crew rigged down all HES equipment and lines.
Event	20	Rig-Down Completed	Rig-Down Completed	6/11/2019	15:10:00	USER					Rig down completed no one got hurt.
Event	21	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/11/2019	15:40:00	USER					The crew held a pre journey safety meeting discussing the route and potential hazards while driving The supervisor called in a journey.
Event	22	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/11/2019	15:45:00	USER					Nick Cummins and crew would like to thank you for your business, and choosing Halliburton Cement! Please feel free to call if you have any questions.

## 3.0 Attachments

### 3.1 Extraction Livingston S19-25-11C Surface Chart

