

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Ft. Lupton District, co

### **For: Extraction Rep**

Date: Thursday, June 06, 2019

### **Extraction, SO# 905754236, myCem ID# 6859, Livingston S19-25 -4N**

co, Extraction, SO# 905754236, myCem ID# 685

Case 1

Job Date: Thursday, June 06, 2019

Sincerely,

**Michael Herbig**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Job Summary

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Halliburton appreciates the opportunity to perform the cementing services for this cementing services 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.

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3883699		<b>Quote #:</b>		<b>Sales Order #:</b> 0905754236					
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Extraction Rep							
<b>Well Name:</b> LIVINGSTON			<b>Well #:</b> S19-25-4N		<b>API/UWI #:</b> 05-014-20756-00						
<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-2332FSL-1474FEL											
<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> Michael Herbig							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>							
<b>Form Type</b>				<b>BHST</b>							
<b>Job depth MD</b>		1626ft		<b>Job Depth TVD</b>							
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>							
<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	1628		0	
Casing		9.625	8.921	36			0	1626		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					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>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			0	bbl	8.33				

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	SWIFTCEM (TM) SYSTEM	570	sack	13.5	1.74		5	9.2
9.20 Gal		<b>FRESH WATER</b>							
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	Fresh Water	Fresh Water	0	bbl	8.33				
<b>Cement Left In Pipe</b>		<b>Amount</b>	ft		<b>Reason</b>			Shoe Joint	
Mix Water:		pH ##	Mix Water Chloride:## ppm			Mix Water Temperature:## °F °C			
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C				
Plug Bumped?		Yes/No	Bump Pressure:#### psi MPa			Floats Held?Yes/No			
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C				
<b>Comment</b>									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	6/6/2019	06:00:00	USER					Crew notified at 06:00
Event	2	Event	Pre-Convoy safety meeting	6/6/2019	08:00:00	USER					All personnel present. Discuss driving hazards
Event	3	Crew Leave Yard	Crew Leave Yard	6/6/2019	08:15:00	USER					One 660, and One frue leave yard for location.
Event	4	Arrive At Loc	Arrive At Loc	6/6/2019	10:00:00	USER					Rig running Dp when crew arrived.
Event	5	Assessment Of Location Safety Meeting	assessment of location	6/6/2019	10:15:00	USER					FS 1628, FC 1585, CSG 9.625, 36#, 1533. OH 13.5 MUD 8.3 WATERTEST temp 60 sulfates<200 chlorides 0 ph 7
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig up Safety Meeting	6/6/2019	10:45:00	USER					All personnel present. JSA signed.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/6/2019	11:00:00	USER					Rig up pump and lines.
Event	8	Start Job	Start Job	6/6/2019	14:01:09	COM4	0.00	8.32	1.00	0.00	Start HES pumping unit.
Event	9	Test Lines	Test Lines	6/6/2019	14:06:31	USER	0.00	8.16	12.00	3.00	Test lines 3500psi
Event	10	Pump Spacer	Pump Spacer	6/6/2019	14:17:35	USER	0.80	8.24	8.00	0.10	Pump 10bbls red dye spacer at 3.5bpm 100psi
Event	11	Pump Lead Cement	Pump Lead Cement	6/6/2019	14:21:52	USER	3.50	8.37	214.00	10.20	Pumped 176bbls lead cement at 7bpm 280psi at 13.5ppg, 1.74yld, 9.2gal/sk.

											Weight verified using pressurized mud scale.
Event	12	Slow Rate	Slow Rate	6/6/2019	14:28:27	USER	7.00	12.41	149.00	30.90	Slow rate due to delivery issues on cement.
Event	13	Check Weight	Check Weight	6/6/2019	14:40:15	COM4	6.50	13.54	252.00	94.00	Check weight. Weight verified using pressurized mud scale.
Event	14	Shutdown	Shutdown, End cement	6/6/2019	14:54:50	USER	1.70	11.34	116.00	188.70	Shutdown. End cement.
Event	15	Drop Top Plug	Drop Top Plug	6/6/2019	14:57:01	USER	0.00	0.59	11.00	0.00	Drop top plug, witnessed by company man.
Event	16	Pump Displacement	Pump Displacement	6/6/2019	14:59:42	USER	0.80	0.59	12.00	0.10	Pump displacement 7bpm 400psi
Event	17	Slow Rate	Slow Rate	6/6/2019	15:14:44	USER	6.90	8.28	711.00	88.40	Slow rate prior to bump.
Event	18	Bump Plug	Bump Plug	6/6/2019	15:24:17	USER	3.10	8.30	490.00	121.20	Bump plug 123bbbls away. 620psi to 1180psi
Event	19	Check Floats	Check Floats	6/6/2019	15:26:17	USER	0.00	8.33	1192.00	0.00	Check floats. 1/2bbl returned. Rig received 30bbbls cement to surface.
Event	20	End Job	End Job	6/6/2019	15:26:58	COM4	0.00	8.32	7.00	0.00	End HES pumping unit.
Event	21	Pre-Rig Down Safety Meeting	Rig Down Lines	6/6/2019	15:45:00	USER	9.90	8.48	129.00	67.60	All personnel present. JSA signed.
Event	22	Rig-Down Equipment	Rig-Down Equipment	6/6/2019	16:00:00	USER					Rig down pump and lines.
Event	23	Event	Pre-Convoy safety meeting	6/6/2019	17:30:00	USER					All personnel present. Discuss driving hazards
Event	24	Depart Location	Depart Location	6/6/2019	17:35:00	USER					Crew leave location.



3.0 Attachments

3.1 Case 1-Custom Results.png

