

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Ft. Lupton District, co

Date: Tuesday, June 18, 2019

Livingston S20-25-3N Surface

Job Date: Friday, June 14, 2019

Sincerely,

Bryce Hinsch

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Livingston S20-25-3N** 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 17 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

Sold To #: 369404		Ship To #: 3904773		Quote #:		Sales Order #: 0905753784				
Customer: EXTRACTION OIL & GAS -				Customer Rep: Extraction Rep						
Well Name: LIVINGSTON			Well #: S20-25-3N			API/UWI #: 05-014-20798-00				
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD			State: COLORADO			
Legal Description: NE SE-7-1S-68W-2330FSL-1240FEL										
Contractor:				Rig/Platform Name/Num: CARTEL 15						
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srcv Supervisor: Michael Herbig						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST					
Job depth MD		1623ft			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
Open Hole Section			13.5				0	1630		0
Casing		9.625	8.921	36			0	1623		0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1623		Top Plug	9.625		HES	
Float Shoe	9.625					Bottom Plug	9.625		HES	
Float Collar	9.625			1590		SSR plug set	9.625		HES	
Insert Float	9.625					Plug Container	9.625		HES	
Stage Tool	9.625					Centralizers	9.625		HES	
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Red Dye Spacer	Red Dye Spacer	10	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	525	sack	13.5	1.74		5	9.2
9.20 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	Fresh Water	Fresh Water	120	bbl	8.33				
Cement Left In Pipe									
Amount		ft			Reason			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				
Comment									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Check Floats	Call Out	6/13/2019	19:00:00	USER					Crew notified at 19:00
Event	2	Event	Pre-Convoy safety meeting	6/13/2019	20:00:00	USER					All personnel present. Discuss driving hazards.
Event	3	Crew Leave Yard	Crew Leave Yard	6/13/2019	20:30:00	USER					Crew leave yard
Event	4	Arrive At Loc	Arrive At Loc	6/13/2019	21:30:00	USER					Rig Tripping out DP when crew arrived.
Event	5	Assessment Of Location Safety Meeting	assessment of location	6/13/2019	21:45:00	USER					FS 1630, FC 1590, OH 13.5, CSG 9.625 36# MUD 8.3
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig up Safety Meeting	6/13/2019	21:45:00	USER					All personnel present. JSA signed.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/13/2019	22:00:00	USER					Rig up pump and lines.
Event	8	Start Job	Start Job	6/14/2019	04:01:32	COM4	0.00	8.37	0.00	0.00	Start HES pumping unit
Event	9	Test Lines	Test Lines	6/14/2019	04:04:41	COM4	0.00	8.33	9.00	2.00	Test lines 3500psi
Event	10	Pump Spacer 1	Pump Spacer 1	6/14/2019	04:12:27	COM4	0.00	8.34	2.00	2.00	Pump 10bbls red dye 3bpm 80 psi
Event	11	Pump Cement	Pump Cement	6/14/2019	04:15:56	COM4	3.40	8.32	90.00	8.20	Pump 165bbls cement at 8bpm 300psi at 13.5bpm 1.74yld, 9.2gal/sk. Weight verified using pressurized mud scale.
Event	12	Shutdown	Shutdown, End cement	6/14/2019	04:39:52	USER	0.00	13.56	139.00	173.70	Shutdown, End cement.
Event	13	Drop Plug	Drop Plug	6/14/2019	04:41:55	USER	0.00	0.28	-1.00	173.70	Drop top plug, witnessed by company man.

Event	14	Pump Displacement	Pump Displacement	6/14/2019	04:46:48	USER	2.80	3.05	6.00	0.30	Pump displacement 8bpm 400psi
Event	15	Bump Plug	Bump Plug	6/14/2019	05:04:31	COM4	0.00	8.29	932.00	119.40	Bump plug 120bbbls away 550 to 1150psi
Event	16	Check Floats	Check Floats	6/14/2019	05:08:42	USER	0.00	8.31	1048.00	0.00	Check floats. 1/2bbl returned. rig received 17bbbls cement to surface.
Event	17	End Job	End Job	6/14/2019	05:09:11	COM4	0.00	8.28	29.00	0.00	End HES pumping unit.
Event	18	Pre-Rig Down Safety Meeting	Rig Down Lines	6/14/2019	05:30:00	USER					All personnel present. JSA signed.
Event	19	Rig-Down Equipment	Rig-Down Equipment	6/14/2019	05:45:00	USER					Rig down pump and lines.
Event	20	Event	Pre-Convoy safety meeting	6/14/2019	07:00:00	USER					All personnel present. Discuss driving hazards.
Event	21	Depart Location	Depart Location	6/14/2019	07:05:00	USER					Crew leave location.

3.0 Attachments

3.1 Extraction Livingston S20-25-3N Surface Chart

