

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Ft. Lupton District, co

Date: Wednesday, June 12, 2019

Livingston S19-25-7N Surface

Job Date: Saturday, June 08, 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 S19-25-7N** 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 18 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 #: 3883700		Quote #:		Sales Order #: 0905753781	
Customer: EXTRACTION OIL & GAS -				Customer Rep: Extraction Rep			
Well Name: LIVINGSTON			Well #: S19-25-7N		API/UWI #: 05-014-20751-00		
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO	
Legal Description: NW SE-7-1S-68W-2332FSL-1420FEL							
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	1624ft		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	1626		0
Casing		9.625	8.921	36			0	1624		0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			1624		Top Plug	9.625		HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625			1583		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 ft3/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 ft ³ /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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Fresh Water	Fresh Water	0	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/m ³ XXXX			Disp. Temperature: ## °F °C				
Plug Bumped? Yes/No		Bump Pressure: ##### psi MPa			Floats Held? Yes/No				
Cement Returns: ## bbl m ³		Returns Density: ## lb/gal kg/m ³			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	6/8/2019	11:00:00	USER					Crew notified at 11:00
Event	2	Event	Pre-Convoy safety meeting	6/8/2019	12:30:00	USER					All personnel present. Discuss driving hazards
Event	3	Crew Leave Yard	Crew Leave Yard	6/8/2019	14:00:00	USER					Crew leave yard for location.
Event	4	Arrive At Loc	Arrive At Loc	6/8/2019	15:30:00	USER					Rig tripping out DP when crew arrived.
Event	5	Assessment Of Location Safety Meeting	assessment of location	6/8/2019	15:35:00	USER					FS 1621, FC 1583, CSG 9.625 36# 1531, OH 13.5, MUD 8.3
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig up Safety Meeting	6/8/2019	15:45:00	USER					All personnel present. JSA signed.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/8/2019	16:00:00	USER					Rig up pump and lines.
Event	8	Start Job	Start Job	6/8/2019	20:40:40	COM4	0.00	0.11	-2.00	0.00	Start HES pumping unit.
Event	9	Test Lines	Test Lines	6/8/2019	20:43:54	USER	0.00	8.37	15.00	3.00	Test lines 3500psi
Event	10	Pump Spacer	Pump Spacer	6/8/2019	20:51:49	USER	0.80	8.37	1.00	3.20	Pump 10bbbls red dye at 3bpm 80psi
Event	11	Pump Cement	Pump Cement	6/8/2019	20:54:43	USER	3.90	8.37	102.00	10.90	Pump 178bbbls cement at 7bpm 350psi at 13.5ppg, 1.74yld, 9.2gal/sk. Weight verified using pressurized mud scale.
Event	12	Check Weight	Check Weight	6/8/2019	21:01:15	COM4	7.00	13.60	306.00	44.60	Check weight. Weight verified using pressurized mud scale.

Event	13	Shutdown	Shutdown, End cement	6/8/2019	21:21:49	USER	2.90	8.36	102.00	182.10	Shutdown, End cement
Event	14	Drop Top Plug	Drop Top Plug	6/8/2019	21:23:52	USER	0.00	0.31	-6.00	0.00	Drop to plug, witnessed by company man.
Event	15	Pump Displacement	Pump Displacement	6/8/2019	21:26:00	USER	3.60	0.38	-3.00	0.20	Pump displacement 7bpm 380psi
Event	16	Slow Rate	Slow Rate	6/8/2019	21:40:08	USER	7.00	8.39	561.00	97.20	Slow rate prior to bump.
Event	17	Bump Plug	Bump Plug	6/8/2019	21:46:17	USER	3.90	8.40	517.00	121.30	Bump plug 120bbbls away 550 to 1080psi
Event	18	Check Floats	Check Floats	6/8/2019	21:48:01	USER	0.00	8.43	198.00	121.90	Check floats. 1/2bbl back. Rig received 18bbbls cement to surface.
Event	19	End Job	End Job	6/8/2019	21:48:35	COM4	0.00	8.39	5.00	0.00	End HES pumping unit.
Event	20	Rig-Down Equipment	Rig-Down Equipment	6/8/2019	22:00:00	USER					Rig down pump and lines.
Event	21	Pre-Rig Down Safety Meeting	Rig Down Lines	6/8/2019	22:30:00	USER					All personnel present. JSA signed.
Event	22	Event	Pre-Convoy safety meeting	6/8/2019	23:30:00	USER					All personnel present. Discuss driving hazards.
Event	23	Depart Location	Depart Location	6/8/2019	23:45:00	USER					Crew leave location.

3.0 Attachments

3.1 Extraction Livingston S19-25-7N Surface Chart

