

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Ft. Lupton District, co

Date: Wednesday, June 12, 2019

Livingston S19-25-6N 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 S19-25-6N** 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 20 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 #: 3883776		Quote #:		Sales Order #: 0905754399					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Extraction Rep							
Well Name: LIVINGSTON			Well #: S19-25-6N		API/UWI #: 05-014-20747-00						
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO					
Legal Description: NW SE-7-1S-68W-2332FSL-1438FEL											
Contractor:				Rig/Platform Name/Num: CARTEL 15							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Michael Herbig							
Job											
Formation Name											
Formation Depth (MD)		Top				Bottom					
Form Type				BHST							
Job depth MD		1617ft		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	1619		0	
Casing		9.625	8.921	36			0	1617		0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			1617		Top Plug	9.625		HES		
Float Shoe	9.625					Bottom Plug	9.625		HES		
Float Collar	9.625			1575		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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	SwiftCem	SWIFTCM (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	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/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 (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Check Floats	Call Out	6/7/2019	17:00:00	USER					Crew notified at 17:00
Event	2	Event	Pre-Convoy safety meeting	6/7/2019	20:00:00	USER					All personnel present. Discuss driving hazards
Event	3	Crew Leave Yard	Crew Leave Yard	6/7/2019	20:15:00	USER					One elite, and one 660 leave yard for location.
Event	4	Arrive At Loc	Arrive At Loc	6/7/2019	21:30:00	USER					Rig Tripping out DP when crew arrived.
Event	5	Assessment Of Location Safety Meeting	assessment of location	6/7/2019	21:45:00	USER					FS 1619, FC 1575, CSG 9.625 36# 1524, OH 13.5, MUD 8.3
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig up Safety Meeting	6/7/2019	22:00:00	USER					All personnel present. JSA signed.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/7/2019	22:15:00	USER					Rig up pump and lines.
Event	8	Start Job	Start Job	6/8/2019	01:15:28	COM4	0.00	8.42	-4.00	0.00	Start HES pumping unit.
Event	9	Test Lines	Test Lines	6/8/2019	01:18:43	USER	0.80	8.41	15.00	3.00	Test lines 3500psi
Event	10	Pump Spacer	Pump Spacer	6/8/2019	01:26:21	USER	0.80	8.39	1.00	0.00	Pump 10bbls red dye spacer at 3.5bpm 100psi
Event	11	Pump Lead Cement	Pump Lead Cement	6/8/2019	01:28:43	USER	3.50	8.39	91.00	0.10	Pumped 171bbls cement 7bpm 320psi at 13.5ppg, 1.74yld, 9.2gal/sk. Weight verified using pressurized mud scale.
Event	12	Check Weight	Check Weight	6/8/2019	01:40:51	COM4	7.00	13.53	303.00	80.40	Check weight. Weight verified using pressurized mud scale.

Event	13	Shutdown	Shutdown, End cement	6/8/2019	01:54:10	USER	0.00	1.72	76.00	172.90	Shutdown, End cement.
Event	14	Drop Top Plug	Drop Top Plug	6/8/2019	01:56:03	USER	0.00	0.05	2.00	0.00	Drop top plug, witnessed by company man.
Event	15	Pump Displacement	Pump Displacement	6/8/2019	01:57:49	USER	0.00	0.03	2.00	0.00	Pump displacement 7bpm 200psi
Event	16	Slow Rate	Slow Rate	6/8/2019	02:12:36	USER	7.00	8.11	565.00	96.70	Slow rate prior to bump.
Event	17	Bump Plug	Bump Plug	6/8/2019	02:20:27	USER	3.00	8.12	519.00	120.50	Bump plug 121bbbls away. 560psi to 1080psi
Event	18	Check Floats	Check Floats	6/8/2019	02:21:56	USER	0.00	8.15	1089.00	0.00	Check floats. 1/2bbl returned. Rig received 20bbbls cement to surface.
Event	19	End Job	End Job	6/8/2019	02:22:26	COM4	0.00	8.12	21.00	0.00	
Event	20	Pre-Rig Down Safety Meeting	Rig Down Lines	6/8/2019	02:30:00	USER	0.00	8.13	1.00	0.00	All personnel present. JSA signed.
Event	21	Rig-Down Equipment	Rig-Down Equipment	6/8/2019	02:45:00	USER					Rig down pump and lines.
Event	22	Event	Pre-Convoy safety meeting	6/8/2019	04:00:00	USER					All personnel present. Discuss driving hazards.
Event	23	Depart Location	Depart Location	6/8/2019	04:05:00	USER					Crew leave location.

3.0 Attachments

3.1 Extraction Livingston S19-25-6N Surface Chart

