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HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Ft. Lupton District, co

Date: Friday, July 05, 2019

Livingston S19-25-8C Surface

Job Date: Sunday, June 09, 2019

Sincerely,
Tyler Hill

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 S19-25-8C** 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3883647		Quote #:		Sales Order #: 0905754398					
Customer: EXTRACTION OIL & GAS -					Customer Rep: Extraction Rep						
Well Name: LIVINGSTON			Well #: S19-25-8C			API/UWI #: 05-014-20754-00					
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD			State: COLORADO				
Legal Description: NW SE-7-1S-68W-2331FSL-1402FEL											
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		1620ft			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	1622		0	
Casing		9.625	8.921	36			0	1620		0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			1620		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		
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 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	119	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:	18 bbl		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>	Comments
Event	1	Check Floats	Call Out	6/9/2019	06:00:00	USER				Crew notified at 06:00
Event	2	Event	Pre-Convoy safety meeting	6/9/2019	07:30:00	USER				All personnel present. Discuss driving hazards
Event	3	Crew Leave Yard	Crew Leave Yard	6/9/2019	08:00:00	USER				Crew leave yard.
Event	4	Arrive At Loc	Arrive At Loc	6/9/2019	09:30:00	USER				Rig tripping DP when crew arrived.
Event	5	Assessment Of Location Safety Meeting	assessment of location	6/9/2019	09:45:00	USER				
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig up Safety Meeting	6/9/2019	10:00:00	USER				All personnel present. JSA signed.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/9/2019	10:15:00	USER				Rig up pump and lines.
Event	8	Start Job	Start Job	6/9/2019	16:11:37	COM4	0.00	8.37	-5.00	Start HES pumping unit
Event	9	Test Lines	Test Lines	6/9/2019	16:14:29	USER	0.00	8.28	38.00	Test lines 3500psi
Event	10	Pump Spacer	Pump Spacer	6/9/2019	16:20:58	USER	1.90	8.32	30.00	Pump 10bbls red dye spacer at 3.5bpm 80psi
Event	11	Pump Cement	Pump Cement	6/9/2019	16:23:06	USER	4.30	8.29	119.00	Pumped 173bbls cement at 7bpm 300psi at 13.5ppg, 1.74yld, 9.20gal/sk. Weight verified using pressurized mud scale.
Event	12	Check Weight	Check Weight	6/9/2019	16:30:59	COM4	7.00	13.52	274.00	Check weight. Weight verified using pressurized mud scale.
Event	13	Shutdown	Shutdown, End cement	6/9/2019	16:49:05	USER	0.00	18.04	15.00	Shutdown, End cement

Event	14	Drop Top Plug	Drop Top Plug	6/9/2019	16:50:33	USER	0.00	-0.27	4.00	Drop top plug, Witnessed by company man.
Event	15	Pump Displacement	Pump Displacement	6/9/2019	16:52:16	USER	0.80	-0.31	4.00	Pump displacement 7bpm 200psi
Event	16	Slow Rate	Slow Rate	6/9/2019	17:06:42	USER	4.40	7.70	520.00	Slow rate 3bpm prior to bump.
Event	17	Bump Plug	Bump Plug	6/9/2019	17:14:25	USER	3.10	7.71	496.00	Bump plug 1119bbbls away. 520psi to 1080psi
Event	18	Check Floats	Check Floats	6/9/2019	17:16:14	USER	0.00	7.74	1105.00	Check floats. 1/2bbl back. Rig returned 18bbbls cement to surface.
Event	19	End Job	End Job	6/9/2019	17:17:07	COM4	0.00	7.71	1.00	
Event	20	Pre-Rig Down Safety Meeting	Rig Down Lines	6/9/2019	18:45:00	USER				All personnel present. JSA signed.
Event	21	Rig-Down Equipment	Rig-Down Equipment	6/9/2019	19:00:00	USER				Rig down pump and lines.
Event	22	Event	Pre-Convoy safety meeting	6/9/2019	20:00:00	USER				All personnel present. Discuss driving hazards.
Event	23	Depart Location	Depart Location	6/9/2019	21:00:00	USER				Crew leave location.

3.0 Attachments

3.1 Livingston S19-25-8C Surface.png

