

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Thursday, November 09, 2017

### **Launer 12 Surface**

Job Date: Thursday, November 02, 2017

Sincerely,

**Bryce Hinsch**

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Launder 12** 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 33 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 #: 3818089		Quote #:		Sales Order #: 0904415214				
Customer: EXTRACTION OIL & GAS -				Customer Rep: Sean McIntyre						
Well Name: LAUNER			Well #: 12		API/UWI #: 05-123-45178-00					
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-26-7N-67W-653FSL-443FEL										
Contractor:				Rig/Platform Name/Num: Cartel 88						
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Steve Cardos						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		1543ft		Job Depth TVD		1553				
Water Depth				Wk Ht Above Floor		3'				
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
Casing	0	9.625	8.921	36	8 RD	J-55	0	1543	0	1543
Open Hole Section			13.5				0	1553	0	1553
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe						Top Plug	9.625	1	HES	
Float Shoe	9.625	1	HES	1543		Bottom Plug				
Float Collar	9.625	1	HES	1503		SSR plug set				
Insert Float						Plug Container	9.625	1	HES	
Stage Tool						Centralizers				
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			4	420	

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	550	sack	13.5	1.74	9.2	8	5040	
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	116	bbl	8.33			8	4872	
Cement Left In Pipe		Amount	40 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			<300ppM		Mix Water Temperature:		40 °F
Cement Temperature:			Plug Displaced by:			8.3 lb		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:			405psi		Floats Held?		Yes
Cement Returns:		33 bbl	Returns Density:					Returns Temperature:		
Comment Plug bumped at calculated displacement volume @ 405 psi: Shutdown at 905 psi: Floats held received .5 bbl back to truck: Cement returned to surface at 83 bbl total of 33 bbls to surface.										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	11/2/2017	04:00:00	USER				CREW CALLED OUT AT 04:00 11/2/2017, REQUESTED ON LOCATION 8:00 11/2/2017. CREW PICKED UP CEMENT, TOP PLUG, RED DYE, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 11562570/11764054, BULK 660: 11592293/11764052, PUMP 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/2/2017	06:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Location	Crew Leave Location	11/2/2017	06:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	11/2/2017	08:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" J-55 @ 1543', 40' SHOE JOINT, 13.5" OPEN HOLE, 8.4 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/2/2017	08:15:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.

Event	6	Rig-Up Equipment	Rig-Up Equipment	11/2/2017	08:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Safety Meeting	Safety Meeting	11/2/2017	14:00:00	USER	8.43	0.00	8.00	MEETING WITH HALLIBURTON PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	11/2/2017	14:05:00	COM5	8.44	0.00	3.00	START RECORDING JOB DATA.
Event	9	Pressure Test	Pressure Test	11/2/2017	14:18:00	USER	8.41	0.00	1782.00	PRESSURE TESTED IRON TO 2625 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1128 PSI, 5TH GEAR STALL OUT @1935 PSI.
Event	10	Pump Water	Pump Fresh Water Spacer	11/2/2017	14:24:00	USER	8.45	4.00	128.00	PUMP 10 BBLS FRESH WATER SPACER.
Event	11	Pump Water	Pump Dyed Fresh Water	11/2/2017	14:27:54	USER	8.43	1.00	130.00	PUMP 10 BBLS OF RED DYED FRESH WATER SPACER.
Event	12	Pump Cement	Pump 13.5 Lb SwiftCem Cement	11/2/2017	14:32:54	USER	13.30	2.20	189.00	PUMP 550 SKS OF SWIFTCEM @ 13.5 LB/GAL, 1.74 YIELD, 9.2 GAL/SK, 170 BBLS, TOL @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	11/2/2017	15:00:03	USER	13.61	0.00	52.00	SHUTDOWN TO DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	11/2/2017	15:00:53	USER	13.59	0.00	39.00	PLUG LEFT CONTAINER.
Event	15	Pump Displacement	Pump Displacement	11/2/2017	15:01:59	USER	9.38	3.10	82.00	BEGIN CALCULATED DISPLACEMENT OF 116 BBLS WITH FRESH WATER.
Event	16	Cement Returns to Surface	Cement Returns to Surface	11/2/2017	15:15:07	USER	8.37	8.00	515.00	CEMENT TO SURFACE @ 83 BBLS INTO DISPLACEMENT,



										TOTAL AMOUNT OF 33 BBLs LEAD TO SURFACE.
Event	17	Bump Plug	Bump Plug	11/2/2017	15:24:14	USER	8.40	0.00	728.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 500 PSI OVER FINAL CIRCULATING PRESSURE OF 405 PSI.
Event	18	Check Floats	Check Floats	11/2/2017	15:25:58	USER	8.33	0.00	71.00	RELEASED PRESSURE, FLOATS HELD, 0.5 BBL BACK.
Event	19	End Job	End Job	11/2/2017	15:26:00	USER	8.33	0.00	64.00	STOP RECORDING JOB DATA.
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/2/2017	15:30:00	USER	8.38	9.80	322.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	21	Job Complete	Job Complete	11/2/2017	15:37:04	USER	8.36	3.00	41.00	STOP RECORDING JOB DATA.
Event	22	Rig-Down Completed	Rig-Down Completed	11/2/2017	16:30:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/2/2017	18:00:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Crew Leave Location	Crew Leave Location	11/2/2017	18:30:00	USER				THANK YOU FOR USING HALLIBURTON - STEVE CARDOS AND CREW.

3.0 Attachments

3.1 Extraction Launder 12 Surface Job Chart

