

# HALLIBURTON

iCem<sup>®</sup> Service

## EXTRACTION OIL & GAS-EBUS

**GP CODY FED 20E-15-1**

Job Date: Sunday, February 09, 2020

Sincerely,

**Andrew McIntosh**

## Legal Notice

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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 **GP Cody Fed 20E-15-1** cement **Production** 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 50 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 #: 3987169		Quote #:		Sales Order #: 0906300597					
Customer: EXTRACTION OIL & GAS-EBUS				Customer Rep: Danny Herrera							
Well Name: GP CODY FED			Well #: 20E-15-1		API/UWI #: 05-123-50286-00						
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO					
Legal Description: NE NE-20-5N-65W-670FNL-1305FEL											
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 901							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA/H171328				Srv Supervisor: James Bunnell							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		14055ft		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	
Casing		9.625	8.921	36			0	1625		1625	
Casing		5.5	4.892	17			0	14055		6909	
Open Hole Section			8.5				1625	14062	1625	6909	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			14053		Top Plug	5.5		HES		
Float Shoe	5.5					Bottom Plug	5.5		HES		
Float Collar	5.5					SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5		HES		
Stage Tool	5.5					Centralizers	5.5		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	Tuned Prime Cement Spacer Base - RKS/SE	TUNED PRIME CEMENT SPACER SYS			50	bbl	12.5	2.73			

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	Cap	ELASTICEM (TM) SYSTEM	572	sack	13.2	1.59	7.79	8	4455		
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	GasStop B1	GASSTOP (TM) SYSTEM	615	sack	13.2	1.56	7.61	8	4686		
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		
4	ElastiCem	ELASTICEM (TM) SYSTEM	1090	sack	13.2	1.56	7.62	8	8305		
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		
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			8			
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		
6	Displacement	Displacement	304	bbl	8.33			8			
Cement Left In Pipe		Amount	48 ft		Reason			Shoe Joint			
Mix Water:		pH 7	Mix Water Chloride:			250 ppm		Mix Water Temperature:		70 °F °C	
Cement Temperature:		°F °C		Plug Displaced by:			8.33 lb/gal kg/m3 XXXX		Disp. Temperature:		58°F °C
Plug Bumped?		Yes		Bump Pressure:			3000 psi MPa		Floats Held?		Yes
Cement Returns:		50 bbl m3		Returns Density:			## lb/gal kg/m3		Returns Temperature:		## °F °C
<b>Comment</b> Pumped 50bbls tuned spacer followed by 162bbls of cap cement 170bbls latex, 302bbls of tail cement displaced 20bbls MMCR water followed by 304bbls fresh water bumped plug @3000psi checked floats 4bbls back floats held.											

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	2/8/2020	08:30:00	USER					CREW CALLED OUT AT 2030, REQUESTED ON LOCATION 0230. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. PUMP 11189145.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/8/2020	23:00:00	USER					CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	2/9/2020	00:00:00	USER					With all equipment and materials.
Event	4	Other	Other	2/9/2020	00:30:00	USER					SURFACE CASING- 9.625" 36 LB/FT @ 1625', 5.5" CASING: 17 LB/FT TOTAL 14055', 8.5" HOLE 1625-14062, 48' SHOE TRAC, TVD- 6909'. PUMP FRESH WATER DISPLACEMENT WITH MMCR FIRST 20 BBLs. Water tested good PH 7 Chlorides less than 400
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/9/2020	00:31:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	6	Rig-Up Completed	Rig-Up Completed	2/9/2020	01:35:00	USER					CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON

											AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/9/2020	08:30:00	USER	12.00	8.81	0.00	13.00	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS
Event	8	Start Job	Start Job	2/9/2020	08:58:28	COM4	17.00	8.72	0.00	13.00	START RECORDING DATA.
Event	9	Test Lines	Test Lines	2/9/2020	09:50:14	COM4	340.00	8.98	0.00	2.00	TESTED TO 5500PSI
Event	10	Pump Spacer 1	Pump Spacer 1	2/9/2020	09:56:01	COM4	34.00	11.95	0.00	2.20	50BBLS 12.5PPG 2.73YD 16.57GL/SK VERIFIED WITH PRESSURIZED SCALES.
Event	11	Pump Cap Cement	Pump Cap Cement	2/9/2020	10:06:02	COM4	634.00	12.45	6.10	45.80	572SKS 162BBLS 13.5PPG 1.59YD 7.8GL/SK VERIFIED WITH PRESSURIZED SCALES. 50BBLS TO SURFACE.
Event	12	Check Weight	Check Weight	2/9/2020	10:08:39	COM4	676.00	13.13	6.00	15.80	VERIFIED WITH PRESSURIZED SCALES.
Event	13	Pump Lead Cement	Pump Lead Cement	2/9/2020	10:30:13	COM4	677.00	13.16	7.90	182.50	615SKS 170BBLS 13.5PPG 1.55YD 7.62GL/SK VERIFIED WITH PRESSURIZED SCALES. TOC 2510'
Event	14	Pump Tail Cement	Pump Tail Cement	2/9/2020	10:52:40	COM4	577.00	13.17	6.40	0.10	1090SKS 302BBLS 13.5PPG 1.56YD 7.63GL/SK VERIFIED WITH PRESSURIZED SCALES. TOC 6676'
Event	15	Check Weight	Check Weight	2/9/2020	10:53:39	COM4	723.00	13.04	8.50	8.20	VERIFIED WITH PRESSURIZED SCALES.
Event	16	Shutdown	Shutdown	2/9/2020	11:34:24	COM4	52.00	14.15	0.00	322.20	
Event	17	Drop Top Plug	Drop Top Plug	2/9/2020	11:43:35	COM4	19.00	0.97	0.00	341.60	
Event	18	Pump Displacement	Pump Displacement	2/9/2020	11:43:39	COM4	17.00	0.20	0.00	341.60	324BBLS FRESH WATER MMCR IN THE FIRST 20BBL



Event	19	Bump Plug	Bump Plug	2/9/2020	12:30:49	COM4	3006.00	8.32	0.00	333.60	500PSI OVER FINAL CIRCULATING PSI OF 2503PSI CHECK FLOATS 4BBLs BACK FLOATS HELD.
Event	20	End Job	End Job	2/9/2020	12:36:08	COM4					STOP RECORDING DATA.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/9/2020	12:40:00	USER	27.00	8.26	10.90	2.60	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	2/9/2020	13:45:00	USER					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/9/2020	14:00:00	USER					CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Other	Other	2/9/2020	14:10:00	USER					Thank you from Halliburton and crew.

## 3.0 Attachments

### 3.1 Case 1-Custom Results.png



