

HALLIBURTON

iCem[®] 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

1.1 Executive Summary

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		Srvc 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
3	GasStop B1	GASSTOP (TM) SYSTEM	615	sack	13.2	1.56	7.61	8	4686
4	ElastiCem	ELASTICEM (TM) SYSTEM	1090	sack	13.2	1.56	7.62	8	8305
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			8	
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				
Comment Pumped 50bbbls tuned spacer followed by 162bbbls of cap cement 170bbbls latex, 302bbbls of tail cement displaced 20bbbls MMCR water followed by 304bbbls fresh water bumped plug @3000psi checked floats 4bbbls 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 <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	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

Event	ID	Description	Activity	Date	Time	User	Volume	Rate	Pressure	Flow	Notes
											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



