

HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS-EBUS

Ft. Lupton District, Colorado

Date: Wednesday, February 12, 2020

GP Cody Fed 20E-15-2 Production

Sincerely,

MITCHELL CAMPER AND CREW

Legal Notice

Disclaimer:

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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-15-2** 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 45 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 #: 3987116		Quote #:		Sales Order #: 0906306409					
Customer: EXTRACTION OIL & GAS-EBUS				Customer Rep: Manny							
Well Name: GP CODY FED			Well #: 20E-15-2			API/UWI #: 05-123-50285-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO					
Legal Description: NE NE-20-5N-65W-682FNL-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: Mitchell Camper							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		14189ft		Job Depth TVD		6950					
Water Depth				Wk Ht Above Floor		4					
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			0	1625		1625	
Casing	0	5.5	4.892	17			0	14189	0	6950	
Open Hole Section			8.5				1625	14211		6950	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
						Top Plug	5.5	1	CITDL		
Float Shoe	5.5	1	CITDL	14191		Bottom Plug	5.5	1	CITDL		
Float Collar	5.5	1	CITDL	14139							
						Plug Container	5.5	1	HES		
Fluid Data											
Stage/Plug #: 1											
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
1	Tuned Prime Cement Spacer Base - RKS/SE	TUNED PRIME CEMENT SPACER SYS			50	bbl	12.5	2.73	16.57	8.0	1703
5 lbm/bbl		SEM-94P, 35 LB SACK - (1023987)									
42 gal/bbl		FRESH WATER									
205.4570 lbm/bbl		BARITE, BULK (100003681)									

5 lbm/bbl		SEM-93P, 35 LB SACK - (1023977)							
1 lbm/bbl		FE-2, 2000 LB BAG - (1005549)							
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	565	sack	13.2	1.59	7.79	8	4401
0.42 %		SCR-100, 1200 LB BAG - (1126328)							
7.79 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	GasStop B1	GASSTOP (TM) SYSTEM	615	sack	13.2	1.56	7.61	8	4680
0.30 %		SCR-100, 1200 LB BAG - (1126328)							
5.11 Gal		FRESH WATER							
0.25 lbm		POLY-E-FLAKE (101216940)							
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	1108	sack	13.2	1.56	7.62	8	8422
7.62 Gal		FRESH WATER							
0.25 lbm		POLY-E-FLAKE (101216940)							
0.60 %		HR-5, 50 LB SK (100005050)							
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	
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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	308	bbl	8.33			8	
Cement Left In Pipe		Amount	52 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride: <300ppm			Mix Water Temperature:		60°F	
Cement Temperature:			Plug Displaced by: 8.33 lb/gal FW			Disp. Temperature:		58°F	
Plug Bumped?		Yes	Bump Pressure: 2890psi			Floats Held?		Yes	
Cement Returns:		45 bbl	Returns Density:			Returns Temperature:		78°F	

Comment

PLUG BUMPED @ CALCULATED DISPLACEMENT,45BBLS OF CEMENT BACK TO SURFACE FINAL CIRCULATING PRESSURE OF 2890PSI, FLOATS HELD 4.0 BBLS BACK.

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	2/11/2020	17:00:00	USER					CREW CALLED OUT AT 17:30 2/11/2020, REQUESTED ON LOCATION 23:00 2/11/2020. CREW PICKED UP CEMENT, CHEMICALS (50 GAL D-AIR, 10 GAL MMCR), 100 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON,CO. BULK 660: 11670365/10867521, SOFT SIDE: 12051673/11255351, PUMP ELITE: 1155761/11368474.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/11/2020	20:20:00	USER					DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	2/11/2020	20:30:00	USER					STARTED JOURNEY MANAGEMENT.

Event	4	Arrive At Loc	Arrive At Loc	2/11/2020	21:30:00	USER						END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1625', CASING: 5.5" 17# @ 14191', 52' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 6950', 10 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig- Up	2/11/2020	21:40:00	USER						HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	2/11/2020	21:50:00	USER						CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Safety Meeting - Pre Job	Pre-Convoy Safety Meeting	2/12/2020	02:00:00	USER	3.00	0.02	0.00	0.00		MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	2/12/2020	02:43:48	COM6	-6.00	8.34	0.00	0.00		START RECORDING

Event	9	Test Lines	Test Lines	2/12/2020	02:45:27	COM6	151.00	8.29	0.00	1.70	KICKOUTS SET @ 500 PSI, KICKED OUT @ 650PSI, 5TH GEAR STALL OUT @ 1650 PSI. PRESSURE TESTED IRON TO 4700 PSI
Event	10	Drop Bottom Plug	Drop Bottom Plug	2/12/2020	02:48:03	COM6	97.00	8.26	0.00	1.70	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	11	Pump Spacer 1	Pump Spacer 1	2/12/2020	02:48:08	COM6	97.00	8.25	0.00	1.70	PUMP 50 BBLS OF TUNED PRIME SPACER @ 12.5 LB/GAL, ADDED 5 GAL D- AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Cap Cement	Pump Cap Cement	2/12/2020	02:56:20	COM6	273.00	12.91	5.00	0.00	PUMP 565 SKS OF CAP ELASTICEM @ 13.2 LB/GAL, 1.59 YIELD, 7.79 GAL/SK, 160 BBLS, CALCULATED TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Lead Cement	Pump Lead Cement	2/12/2020	03:16:53	COM6	585.00	13.17	8.50	0.10	PUMP 615 SKS OF LEAD GASSTOP @ 13.2 LB/GAL, 1.56 YIELD, 5.11 GAL/SK, 171 BBLS, CALCULATED TOC @ 2471', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Pump Tail Cement	Pump Tail Cement	2/12/2020	03:39:29	COM6	673.00	13.18	8.40	0.10	PUMP 1108 SKS OF TAIL ELASTICEM @ 13.2 LB/GAL, 1.56 YIELD, 7.62 GAL/SK, 308 BBLS, CALCULATED TOC @ 6662', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	15	Shutdown	Shutdown	2/12/2020	04:21:36	COM6	93.00	13.70	0.00	333.80	SHUTDOWN TO DROP TOP PLUG AND CLEAN PUMPS AND LINES.
Event	16	Drop Top Plug	Drop Top Plug	2/12/2020	04:34:04	COM6	-2.00	-0.64	0.00	354.00	TOP PLUG WAS LOADED INTO MANIFOLD FOLLOWED BY TWO WIPER PLUGS, VERIFIED BY COMPANY MAN
Event	17	Pump Displacement	Pump Displacement	2/12/2020	04:34:32	COM6	-4.00	-0.53	0.00	0.00	BEGIN CALCULATED DISPLACEMENT 328BBL FRESH WATER. 10 GAL MMCR IN FIRST 20 BBL
Event	18	Bump Plug	Bump Plug	2/12/2020	05:12:15	COM6	2846.00	7.48	4.00	341.90	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 2770 PSI. 45BBL OF CEMENT TO SURFACE.
Event	19	Check Floats	Check Floats	2/12/2020	05:13:44	USER	3294.00	7.49	0.00	344.00	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, 4.0 BBL BACK.
Event	20	End Job	End Job	2/12/2020	05:15:00	COM6	-2.00	7.45	0.00	0.00	STOP RECORDING
Event	21	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	2/12/2020	05:20:00	USER	-12.00	7.43	6.10	0.60	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	2/12/2020	06:30:00	USER					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/12/2020	06:40:00	USER					DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

Event	24	Crew Leave Location	Crew Leave Location	2/12/2020	07:00:00	USER
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THANK YOU FOR USING
HALLIBURTON - MITCHELL
CAMPER AND CREW.

3.0 Attachments

3.1 Extraction Production Gp Cody Fed 20E-15-2 -Custom Results.png

