

HALLIBURTON

iCem[®] Service

GREAT WESTERN OPERATING CO LLC-EBUS

GUS LD 34-379HN

Production Casing

Job Date: Friday, February 25, 2022

Sincerely,

KYLE BATH

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 Gus LD 34-379HN production casing. 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.

The job was completed per design utilizing two pumps for mixing and pumping cement and two pumps for displacing the cement. Average cement density was 13.42 ppg with an average rate of 12.08 bbl/min. Displacement averaged 9.96 bbl/min and landed the plug on target at 468 bbl. of displacement. Pressure to land the plug was 3,017 psi at 5.0 bbl/min and was brought up to 3,490 psi. Pressure was bled off and we received 4.2 bbl. back to the truck. 79 bbl. of spacer was returned to surface leaving 71 bbl. of spacer in the hole and a calculated TOC of 1,482 ft. vs. a pre-job calculated TOC of 1477 ft.

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 #: 346459		Ship To #: 9042985		Quote #:		Sales Order #: 0907698819				
Customer: GREAT WESTERN OPERATING CO LLC-EBUS				Customer Rep: Great Western Rep						
Well Name: GUS LD			Well #: 34-379HN			API/UWI #: 05-001-10489-00				
Field: WATTENBERG		City (SAP): HENDERSON		County/Parish: ADAMS		State: COLORADO				
Contractor: PRECISION DRLG				Rig/Platform Name/Num: PRECISION 460						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307				Srvc Supervisor: Kyle Bath						
Job										
Job depth MD		21115ft			Job Depth TVD		7756ft			
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		J-55	0	2045	0	2043
Casing		5.5	4.778	20		HCP110	0	21115	0	7756
Open Hole Section			8.5				2045	21115	2043	7756
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5	1	Citadel	21115		Top Plug	5.5	1	Well Boss	
Float Collar	5.5	1	Citadel	21109		Bottom Plug	5.5	1	Well Boss	
Toe Sleeve	5.5	1	Well Boss	20939		Centralizers	5.5	148	Scepter	
148 Centralizers: 1973.55, 2016.42, 2059.98, 2102.79, 2146.22, 2188.82, 2232.45, 2275.83, 2317.92, 2360.43, 2403.48, 2446.07, 2488.46, 2532.07, 2574.69, 2618.06, 2661.65, 2704.11, 2747.55, 2791.04, 2834.56, 2878.01, 2921.66, 2965.32, 3009.04, 3052.53, 3095.89, 3135.82, 3179.43, 3222.77, 3265.72, 3309.08, 3351.52, 3394.98, 3438.48, 3481.87, 3524.49, 3567.92, 3610.77, 3654.24, 3697.77, 3740.3, 3783.77, 3827.37, 3870.97, 3914.58, 3958.19, 4000.74, 4044.23, 4087.56, 4130.94, 4174.4, 4217.99, 4261.58, 4305.11, 4348.58, 4392.15, 4434.96, 4477.58, 4521.19, 4564.5, 4608.1, 4650.69, 4694.27, 4736.17, 4779.77, 4823.4, 4867.03, 4910.61, 4953.99, 4997.61, 5041.21, 5084.57, 5126.36, 5169.96, 5212.97, 5255.31, 5298.48, 5341.72, 5385.35, 5427.85, 5471.21, 5513.81, 5557.12, 5600.08, 5643.4, 5686.99, 5730.61, 5774.44, 5818.04, 5861.02, 5904.23, 5947.62, 5991.23, 6034.39, 6077.7, 6120.67, 6163.99, 6206.98, 6250.34, 6293.64, 6336.91, 6380.37, 6423.93, 6467.26, 6509.19, 6552.58, 6595.96, 6639.01, 6682.32, 6726.05, 6769.35, 6812.73, 6856.32, 6898.7, 6942.08, 6985.43, 7026.87, 7069.38, 7112.76, 7155.87, 7198.14, 7241.7, 7285.19, 7328.58, 7371.82, 7415.26, 7458.62, 7502, 7543.86, 7597.9, 7641.27, 7683.45, 7726.92, 7768.17, 7811.63, 7855.2, 7898.65, 7942, 7984.69, 8028.26, 8081.98, 8124.09, 8167.11, 8210.72, 8251.67, 8295.12, 8366.18										

Fluid Data										
Stage #: 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	Spacer	Diesel	40	bbl	7.4				0	
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	Spacer	GWOG Spacer	110	bbl	11.1					
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	
3	Spacer	Fresh Water	40	bbl	8.33				1680	
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	Cement	ElastiCem™	2355	sack	13.5	1.92	8.91	12	20983	
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	Displacement	Fresh Water with MMCR	20	bbl	8.33				830	
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	Treated KCl Water	428	bbl	8.5				17786	
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	
7	Displacement	Fresh Water	20	bbl	8.33				840	
Cement Left In Pipe										
Amount		6 ft			Reason			Shoe Joint		
Mix Water:		pH 7		Mix Water Chloride:		0 ppm		Mix Water Temperature:		65 °F
Plug Bumped?		Yes		Plug Displaced by:		8.5 lb/gal Treated Water		Disp. Temperature:		65 °F
Cement Returns:		0 bbl.		Bump Pressure:		3017 psi		Floats Held?		Yes

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	2/25/2022	07:30:00	CREW CALLED OUT, REQUESTED ON LOCATION 13:00
2	Depart Yard Safety Meeting	2/25/2022	12:45:00	PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	2/25/2022	13:00:00	CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	2/25/2022	13:40:00	ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 21115, TP 21115, SJ 6, CSG 5.5 20#, PREV CSG 9 5/8 36#, HOLE 8.5, MUD 10.1, TVD 7756, 148 CENTALIZERS, WATER TEST, TEMP 65, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	2/25/2022	13:50:00	SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	2/25/2022	14:00:00	PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	2/25/2022	17:30:00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Drop Bottom Plug	2/25/2022	18:15:02	LAUNCH BOTTOM PLUG
9	Start Job	2/25/2022	18:15:13	START RECORDING DATA
10	Test Lines	2/25/2022	18:18:28	TEST LINES TO 7500 PSI
11	Pump Cement	2/25/2022	18:25:03	MIX AND PUMP 2355 SKS 805 BBLS CEMENT 13.5 PPG, 1.92 FT3/SK, 8.91 GAL/SK 12 BPM 1900 PSI, CALCULATED TOC 1477
12	Shutdown	2/25/2022	19:18:03	SHUTDOWN, WASH PUMPS AND LINES ON TRUCK 1
13	Shutdown	2/25/2022	19:38:05	SHUTDOWN, WASH PUMPS AND LINES ON TRUCK 2

14	Drop Top Plug	2/25/2022	19:43:52	LAUNCH TOP PLUG
15	Pump Displacement	2/25/2022	19:43:54	PUMP 468 BBLS TREATED WATER DISPLACEMENT 12 BPM 3500 PSI, FIRST 20 BBLS W/MMCR, RECIEVED 9 BBLS INTERFACE AND 79 BBLS SPACER TO SURFACE
16	Bump Plug	2/25/2022	20:30:52	BUMPED PLUG AT 3017 PSI TOOK TO 3490 PSI
17	Check Floats	2/25/2022	20:35:21	FLOATS HELD TOOK 4.2 BBLS BACK
18	End Job	2/25/2022	20:37:00	STOP RECORDING DATA
19	Safety Meeting - Pre Rig-Down	2/25/2022	20:40:00	PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
20	Depart Location Safety Meeting	2/25/2022	22:00:00	PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
21	Crew Leave Location	2/25/2022	22:30:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Job Chart

