

HALLIBURTON

iCem[®] Service

MALLARD EXPLORATION LLC

For: Hans Cary and Todd Stephens

Date: Monday, January 10, 2022

Green Teal Fed 34-27-3HN

Green Teal Fed 34-27-3HN

Job Date: Tuesday, January 11, 2022

Sincerely,

Nick Roles 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 **Green Teal Fed 34-27-3HN 5.5" 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 40bbbls 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

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Customer: MALLARD EXPLORATION LLC
 Job: Green Teal Fed 34-27-3HN 5.5" Production
 Case: Green Teal Fed 34-27-3HN | SO#: 907609516

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	1/10/20	09:00:00	USER					Called out by service coordinator for OI time of 1600.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/10/20	12:00:00	USER					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	1/10/20	12:15:00	USER					Depart from service center or other job site.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	1/10/20	14:00:00	USER					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.

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(V. 6.0.286.0)

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Event 5 Pre-Rig Up Safety Meeting Pre-Rig Up Safety Meeting 1/10/20 22 16:30:00 0 USER
 Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.

Event 6 Rig-Up Equipment Rig-Up Equipment 1/10/20 22 16:45:00 0 USER
 Begin rig up with crew.

Event 7 Rig-Up Completed Rig-Up Completed 1/10/20 22 17:30:00 0 USER
 Complete rig up for job to nearest point before red zone.

Event 8 Other Other 1/10/20 22 18:00:00 0 USER
 Mix water test results- PH-7, Chlo-0, Temp- 65F.

Event 9 Safety Meeting - Pre Job Safety Meeting - Pre Job 1/10/20 22 19:00:00 0 USER
 Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.

Event 10 Start Job Start Job 1/10/20 22 19:36:54 4 COM10
 TD-16618', OH-8.5", TP-16599', FC-16585', 5.5" 20#, TVD-6378', SURF-1699' 9.625" 36#, MUD 9.9#

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Event 11	Drop Bottom Plug	Drop Bottom Plug	1/10/20 22	19:37:2 5	COM10	8.15	2.90	269.00	0.80	Dropped by company man, witnessed by HES supervisor
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Event 12	Test Lines	Test Lines	1/10/20 22	19:38:0 6	COM10	8.27	0.00	336.00	2.20	Pumped 5bbls fresh water to fill lines at 4bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1800psi, proceeded to bring pressure to 4500psi, held well and no leaks.
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Event 13	Pump Spacer 1	Pump Spacer 1	1/10/20 22	19:40:4 2	COM10	8.21	0.00	44.00	0.00	Pumped 50bbls of 11.5# 3.81y 24.1g/s Tuned Prime Spacer with 10g D-air at 6bpm 447psi.
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Event 14	Check Weight	Check Weight	1/10/20 22	19:42:4 2	COM10	11.40	3.70	459.00	5.60	Weight verified with pressurized mud scales.
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Event 15	Pump Cement	Pump Cement	1/10/20 22	19:48:4 3	COM10	12.16	7.00	695.00	44.10	Pumped 2625sks or 748bbls of 13.2# 1.6y 7.65g/s Elasticem at 9bpm 560psi.
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Event 16	Check Weight	Check Weight	1/10/20 22	19:50:2 4	COM10	13.09	5.80	600.00	11.60	Weight verified with pressurized mud scales.
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Event 17	Check Weight	Check Weight	1/10/20 22	19:53:00	COM10	13.29	7.70	798.00	30.60	Weight verified with pressurized mud scales.
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Event 18	Check Weight	Check Weight	1/10/20 22	20:04:43	COM10	13.03	8.00	424.00	131.10	Weight verified with pressurized mud scales.
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Event 19	Check Weight	Check Weight	1/10/20 22	20:09:12	COM10	13.30	5.90	250.00	162.50	Weight verified with pressurized mud scales.
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Event 20	Bump Plug	Bump Plug	1/10/20 22	20:30:08	USER	13.14	8.90	920.00	345.60	Bumped bottom plug
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Event 21	Check Weight	Check Weight	1/10/20 22	20:53:11	COM10	13.14	9.00	517.00	552.50	Weight verified with pressurized mud scales.
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Event 22	Shutdown	Shutdown	1/10/20 22	21:20:30	COM10	13.29	0.00	63.00	773.90	Shutdown, washed lines with 10bbls fresh water through flowline to pits.
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Event 23	Drop Top Plug	Drop Top Plug	1/10/20 22	21:27:52	COM10	8.29	0.00	-63.00	14.60	Dropped by company man, witnessed by HES supervisor
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Event 24	Pump Displacement	Pump Displacement	1/10/20 22	21:27:54	COM10	8.30	0.00	-58.00	14.60	Pumped 368fresh water at 8bpm. First 20bbls fresh water with 10gal MMCR
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Event 25	Bump Plug	Bump Plug	1/10/20 22	22:11:0 8	COM10	8.36	0.00	3294.00	368.60	Slowed down at 350bbls away to 4bpm, final circulating pressure-2800psi. Bump pressure- 3300psi.
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Event 26	Other	Other	1/10/20 22	22:11:5 4	COM10	8.36	0.00	3313.00	368.60	Released pressure and got 4bbls back. Floats held.
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Event 27	End Job	End Job	1/10/20 22	22:12:5 7	COM10	8.31	0.00	-41.00	368.60	Got 40bbls Cement to surface.
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Event 28	Rig Down Lines	Rig Down Lines	1/10/20 22	22:15:0 0	USER	8.29	0.00	-53.00	0.00	Begin rig down
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Event 29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/10/20 22	22:30:0 0	USER	0.32	0.00	-73.00	33.50	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
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Event 30	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/10/20 22	23:15:0 0	USER					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
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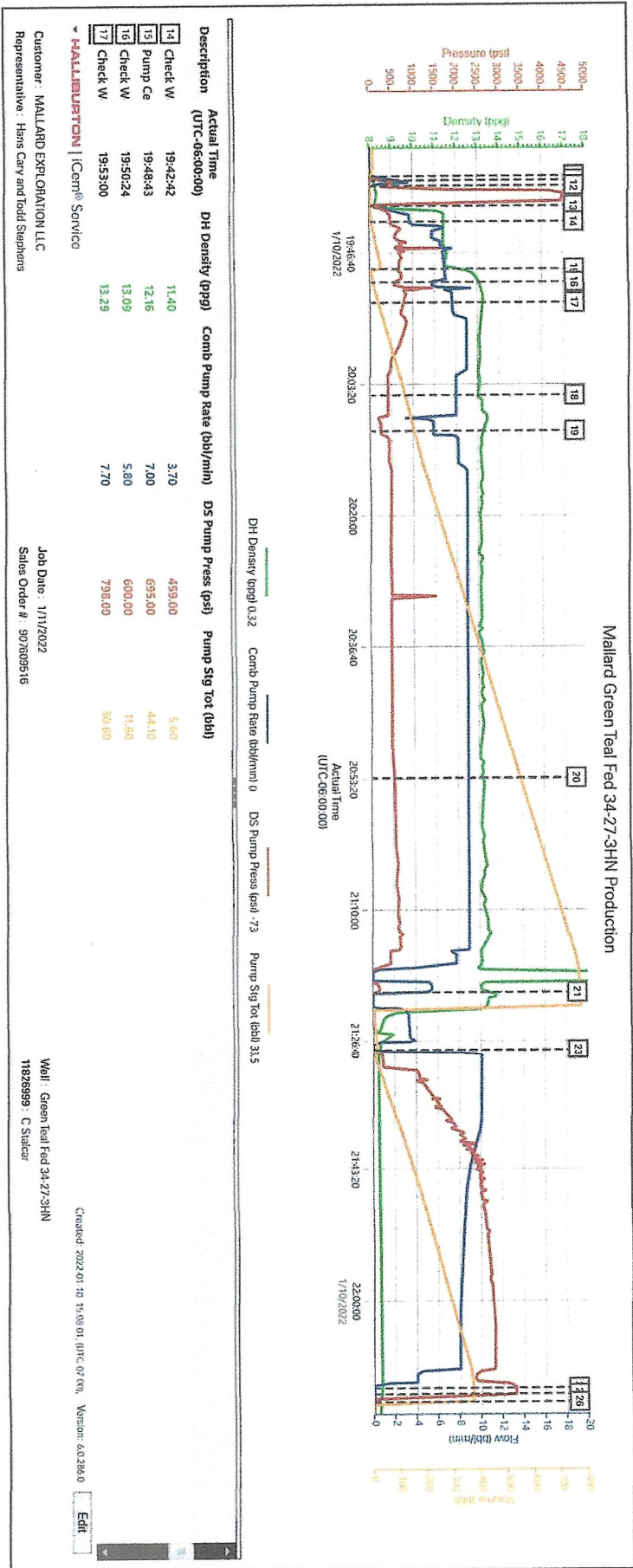
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Event 31 Rig-Down Completed 1/10/20 23:15:00 USER
 Rig down complete with no injuries, spills or damage to equipment.

Event	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	1/10/20 22	23:30:00	USER	Depart location, if applicable journey will be submitted.
Event 32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	1/10/20 22	23:30:00	USER	Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Green Teal Fed 34-27-3HN-Custom Results.png



Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 380921	Ship To #: 3849375	Quote #:	Sales Order #: 0907609516
Customer: MALLARD EXPLORATION LLC-EBUS		Customer Rep: Hans Cary and Todd Stephens	
Well Name: GREEN TEAL FED	Well #: 34-27-3HN	API/UWI #: 05-123-46172-00	
Field: WILDCAT	City (SAP): BRIGGSDALE	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-34-8N-60W-500FSL-1722FWL			
Contractor: AKITA DRLG		Rig/Platform Name/Num: AKITA 522	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srv Supervisor: Nicholas Roles	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	16599ft		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	LTC	J-55	0	1699		1699
Casing		5.5	4.778	20	BTC	P-110	0	16599		6378
Open Hole Section			8.5				1699	16618	1699	6378

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	INNOVEX
Float Shoe	5.5			16599	Bottom Plug	5.5	1	INNOVEX
Float Collar	5.5			16585	SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5	1	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 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	11.5	3.81		6	
	1 lbm/bbl								FE-2, 2000 LB BAG - (1005549)
	147.4040 lbm/bbl								BARITE, BULK (100003681)
	35.5180 gal/bbl								FRESH WATER
	0.10 gal/bbl								D-AIR 3000L, 5 GAL PAIL (101007444)
	4 lbm/bbl								SEM-93P, 35 LB SACK - (1023977)
	4 lbm/bbl								SEM-94P, 35 LB SACK - (1023987)

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	ElastiCem	SBM CEM ELASTICEM™ SYS	2625	sack	13.2	1.6		9	7.65
0.35 %		SCR-100, 1200 LB BAG - (1126328)							
7.65 Gal		FRESH WATER							
0.1250 lbm		POLY-E-FLAKE (101216940)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	MMCR Displacement	MMCR Displacement	40	bbl	8.33			10	
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 ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	328	bbl	8.33			10	
Cement Left In Pipe	Amount	14 ft			Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride: >3000 ppm			Mix Water Temperature: 65 °F °C				
Cement Temperature:	## °F °C	Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 65 °F °C				
Plug Bumped?	Yes	Bump Pressure: 3300 psi MPa			Floats Held? Yes				
Cement Returns:	40 bbl m3	Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
Comment Got 40bbls Cement to surface.									