

HALLIBURTON

iCem[®] Service

VERDAD RESOURCES LLC-EBUS

County Line 3130-04H Production

Job Date: Monday, February 07, 2022

Sincerely,

Meghan Van Zyl

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 **County Line 3130-04H** 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 39 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

Sold To #: 380688		Ship To #: 9048929		Quote #:		Sales Order #: 0907666518				
Customer: VERDAD RESOURCES LLC-EBUS						Customer Rep: Tobin Williams				
Well Name: COUNTY LINE				Well #: 3130-04H		API/UWI #: 05-123-51164-00				
Field: WATTENBERG		City (SAP): LOCHBUIE		County/Parish: WELD			State: COLORADO			
Legal Description: SW SE-31-1N-65W-340FSL-1730FEL										
Contractor: PRECISION DRLG					Rig/Platform Name/Num: PRECISION 464					
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066					Srvc Supervisor: Brandon Parker					
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type						BHST				
Job depth MD		17586ft		Job Depth TVD		7301				
Water Depth				Wk Ht Above Floor		5				
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	2414	0	2414
Casing		5.5	4.67	23			0	17549.86	0	7301
Open Hole Section			8.5				2414	17549.86	2414	7301
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	HES	
Float Shoe	5.5	1	hes	17549.86		Bottom Plug	5.5	1	HES	
Float Collar	5.5	1	hes	17500.98		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5	191	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	TUNED PRIME CEMENT SPACER SYS	100	bbl	11.5	3.94		7.5	24.70	
Fluid Data										
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	ElastiCem	ELASTICEM (TM) SYSTEM	349	1225sack	13.2	1.6		9	7.66	

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
3	NeoCem	NeoCem TM	424.5	1180sack	13.2	2.02		9	9.71
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
4	MMCR Displacement	MMCR Displacement	20	bbl	8.34			10	
0.20 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/min	Total Mix Fluid Gal
5	Displacement		368.5	bbl	8.34			10	
Cement Left In Pipe		Amount	48.88 ft		Reason			Shoe Joint	
Mix Water:		pH 6	Mix Water Chloride:		0 ppm		Mix Water Temperature:		65f
Cement Temperature:		55f	Plug Displaced by:		Treated FW		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		3100-3600		Floats Held?		Yes
Cement Returns:		45bbls	Returns Density:		13.2		Returns Temperature:		
Comment									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	Call Out	2/7/2022	02:00:00					crew called out to 5.5" Production casing on location time 10:30
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/7/2022	08:50:00					meeting with crew to discuss safety/hazards associated with traveling
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/7/2022	09:00:00					cementer left yard, crew was on location
4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/7/2022	09:25:00					met with Tobin Williams with Verdad and went over job numbers, water sources, iron placement. temp 65, ph 6, chlo 0,
5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	2/7/2022	09:30:00					hazard hunt, check location, cmt and water volumes td 17586, tp 17549.86, sj 48.88, fc 17500.98, sp 2414, oh 8.5", tvd 7301, land 7339, cnt 191, sp 9.625 36#, production casing 5.5" 20#, wf 10.1, hes Fe, top and bottom plug utilized
6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	2/7/2022	09:45:00					meeting with hes personnel to discuss safety/hazards associated with rigging up
7	Rig-Up Equipment	Rig-Up Equipment	2/7/2022	09:50:00					
8	Casing on Bottom	Casing on Bottom	2/7/2022	10:24:00					rig landed casing

9	Circulate Well	Circulate Well	2/7/2022	10:30:00					rig circulated from 1230 to 1435. pumped at 12bpm psi 600
10	Other	Down Time	2/7/2022	12:30:00					hes had equipment issues on 6999, driver deck motor fuel filters. dispatched mechanics, changed fuel filters out. down time 1230-1430
11	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/7/2022	12:45:00					meeting with all personnel on location to discuss safety/hazards associated with job, also covered job procedures. all personnel signed jsa
12	Break Circulation	KO Mud Pumps	2/7/2022	14:35:00					ko rig pumps, rig hes iron
13	Start Job	Start Job	2/7/2022	14:43:23	8.34	0.00	22.00	0.00	start recording real time data
14	Pump Water	Fill Lines FW	2/7/2022	14:43:59	8.37	0.00	4.00	0.00	pumped 2bbbls at 2bpm top psi 150
15	Test Lines	Test Lines	2/7/2022	14:46:29	8.29	0.00	1809.00	2.30	test eko, 5th gear stall and high test 5500. psi held at 1psi/3sec
16	Pump Spacer 1	Pump Tuned Spacer	2/7/2022	14:53:49	8.35	0.00	3.00	0.00	pumped 100bbbls of tuned prime, 11.5ppg, 3.94 yield, 24.7gal/sk pumped at 7.5bpm and average psi was 400. weight confirmed using pressurized mud scales. calculated all 100bbbls of spacer to surface
17	Other	Other	2/7/2022	15:02:31	12.21	2.90	100.00	62.10	fighting spacer. d-air pump stopped shipping d-air
18	Drop Bottom Plug	Drop Bottom Plug	2/7/2022	15:08:15	11.36	3.60	48.00	91.90	HES supervisor dropped bottom plug
19	Pump Lead Cement	Pump Lead Cement	2/7/2022	15:09:31	12.29	7.40	114.00	0.10	pumped 349bbbls of lead cmt, 1225sks, 13.2ppg, 1.6 yield, 7.66 gal/sk pumped at 9bpm and average psi was 450. weight confirmed using pressurized mud scales. calculated 39bbbls of lead cmt to surface well
20	Slow Rate	Slow Rate	2/7/2022	15:48:12	13.25	9.30	379.00	339.70	slow rate on silo swap. slowed from 9bpm to 6bpm raised rpms on hpu

21	Pump Tail Cement	Pump Tail Cement	2/7/2022	15:49:40	13.22	6.30	221.00	0.10	pumped 424.5bbls of tail cmt, 1180sk, 13.2ppg, 2.02 yield, 9.71 gal/sk pumped at 9bpm average psi 900. weight confirmed using pressurized mud scales. calculated top of tail at 7172ft.
22	Shutdown	Shutdown	2/7/2022	16:38:57	13.28	0.00	52.00	440.00	
23	Clean Lines	Clean Lines	2/7/2022	16:43:21	13.24	0.00	-25.00	0.00	shut in well, opened wash line to 4sided tank below rig driller side. pumped 20bbls of fw
24	Drop Top Plug	Drop Top Plug	2/7/2022	16:51:01	8.66	0.00	-29.00	21.80	hes supervisor dropped top plug, witnessed by Mr. Tobin Williams and Driller
25	Pump Displacement	Pump Treated FW Displacement	2/7/2022	16:51:28	8.67	0.00	-27.00	21.80	hes fc set at 17500.98ft X .0222= 388.5 calculated displacement volume. first 40bbls MMCR, Mc Mx820-6 and 3lbs BE-3S spread throughout total displacement
26	Slow Rate	Slow Rate	2/7/2022	17:44:19	8.46	4.20	3063.00	374.40	slow rate to 4bpm
27	Bump Plug	Bump Plug	2/7/2022	17:49:29	8.48	0.00	3624.00	388.80	bumped plug at calculated volume of 388.5bbls, 3100psi ko pumps at 3600, psi climbed to 3700 and held solid
28	Check Floats	Check Floats	2/7/2022	17:54:42	8.41	0.00	3433.00	0.00	hes floats held 4.5bbls back to the trk
29	End Job	End Job	2/7/2022	17:56:29	8.43	0.00	-26.00	0.00	
30	Spacer Returns to Surface	Spacer Returns to Surface	2/7/2022	17:58:00					100bbls of tuned prime spacer to surface
31	Cement Returns to Surface	Cement Returns to Surface	2/7/2022	17:59:00					45bbls of lead cmt to surface
32	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/7/2022	18:00:00					meeting to discuss safety/hazards associated with rigging down

33	Rig-Down Equipment	Rig-Down Equipment	2/7/2022	18:05:00	
34	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/7/2022	19:10:00	meeting with hes personnel to discuss safety/hazards associated with traveling to location
35	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/7/2022	19:15:00	
36	Other	Other	2/7/2022	19:16:00	Thank You for Choosing Halliburton Cement. Parker and Crew. (970)397-4969

3.0 Attachments

3.1 Real Time iCem Job Chart

