

# HALLIBURTON

iCem® Service

**BISON OIL & GAS II LLC-EBUS**

Ft. Lupton District, COLORADO

**Grotheer 5-61 11B-2-1 Production**

Job Date: Wednesday, August 10, 2022

Sincerely,

**Meghan Van Zyl**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Grotheer 5-61 11B-2-1** 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 25 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**

<b>Sold To #:</b> 324725	<b>Ship To #:</b> 9132205	<b>Quote #:</b>	<b>Sales Order #:</b> 0908037741
<b>Customer:</b> BISON OIL & GAS II LLC-EBUS		<b>Customer Rep:</b> Josh Kliesen	
<b>Well Name:</b> GROTHEER 5-61		<b>Well #:</b> 11B-2-1	<b>API/UWI #:</b>
<b>Field:</b>	<b>City (SAP):</b> ROGGEN	<b>County/Parish:</b> Weld	<b>State:</b> COLORADO
<b>Legal Description:</b>			
<b>Contractor:</b> PATTERSON-UTI ENERGY		<b>Rig/Platform Name/Num:</b> PATTERSON 345	
<b>Job BOM:</b> 7523 7523			
<b>Well Type:</b> OIL & GAS WELL			
<b>Sales Person:</b> HALAMERICA\HB47954		<b>Srvc Supervisor:</b> Kyle Bath	

**Job**

<b>Formation Name</b>	
<b>Formation Depth (MD)</b>	<b>Top</b> <input type="text"/> <b>Bottom</b> <input type="text"/>
<b>Form Type</b>	<b>BHST</b>
<b>Job depth MD</b>	16400ft <b>Job Depth TVD</b> <input type="text"/>
<b>Water Depth</b>	<b>Wk Ht Above Floor</b> <input type="text"/>
<b>Perforation Depth (MD)</b>	<b>From</b> <input type="text"/> <b>To</b> <input type="text"/>

**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	1977	0	1977
Casing		5.5	4.892	17			0	16386	0	6197
Open Hole Section			8.5				1977	16400	1977	6197

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			16389	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**

<b>Stage/Plug #: 1</b>									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.74	23.65		1775

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	ElastiCem Cap Cement	SBM CEM ELASTICEM™ SYS	460	sack	13	1.66	8.3	8	3818
3	IsoBond Lead Cement	SBM CEM FDP-C1371 SYS	630	sack	13	1.55	7.22	8	4548
4	ElastiCem Tail Cement	SBM CEM ELASTICEM™ SYS	1510	sack	13.2	1.59	7.78	8	11747
5	MMCR Displacement	MMCR Displacement	380	bbl	8.33			9.33	15960
<b>Comment</b> 901bbbls mix water total used.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq No.	Activity	Date	Time	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	8/9/2022	18:00:00					CREW CALLED OUT, REQUESTED ON LOCATION @ 00:00
2	Depart Yard Safety Meeting	8/9/2022	20:45:00					PRE JOURNEY SAFETY MEETING WITH ALL HES PERSONNEL, DISCUSS ROUTE AND HAZARDS ASSOCIATED WITH THE JOURNEY
3	Crew Leave Yard	8/9/2022	21:00:00					ALL HES EMPLOYEES IN ROUTE TO LOCATION
4	Arrive at Location from Service Center	8/9/2022	23:00:00					CREW ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 16400, TP 16386, SJ 5, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1977, HOLE 8.5, MUD 9.2, TVD 6197, 250 CENTRALIZERS, WATER TEST, TEMP 65, PH 7, CHLORIDES 0
5	Assessment Of Location Safety Meeting	8/9/2022	23:15:00					ASSESSMENT OF LOCATION SAFETY MEETING WITH ALL HES EE'S TO DISCUSS SITE SPECIFIC HAZARDS
6	Safety Meeting - Pre Rig-Up	8/9/2022	23:30:00					PRE RIG UP SAFETY MEETING WITH ALL HES EE'S TO DISCUSS HAZARDS BEFORE RIGGING UP
7	Safety Meeting - Pre Job	8/10/2022	02:45:00	8.27	0.00	16.33	22.56	PRE JOB SAFETY MEETING WITH ALL HES EE'S, RIG HANDS AND CO REP TO DISCUSS HAZARDS DURING JOB
8	Start Job	8/10/2022	03:26:49	7.71	0.00	16.30	0.00	START RECORDING DATA
9	Drop Bottom Plug	8/10/2022	03:26:59	7.94	0.00	17.08	0.00	LAUNCH BOTTOM PLUG

10	Test Lines	8/10/2022	03:28:49	8.13	0.00	106.92	1.18	TEST LINES TO 5640 PSI
11	Pump Spacer 1	8/10/2022	03:39:03	8.31	2.11	233.81	0.04	PUMP 50 BBLS TUNED PRIME SPACER 11.5 PPG, 7 BPM 450 PSI
12	Pump Cap Cement	8/10/2022	03:46:10	11.93	6.64	288.49	0.11	MIX AND PUMP 460 SKS 135.9 BBLS CAP CEMENT 13 PPG, 1.66 FT3/SK, 8.3 GAL/SK, 9 BPM 450 PSI, CALCULATED TOCC SURFACE
13	Pump Lead Cement	8/10/2022	04:02:49	12.94	8.99	453.90	0.07	MIX AND PUMP 630 SKS 173.9 BBLS LEAD CEMENT 13 PPG, 1.55 FT3/SK, 7.22 GAL/SK, 9 BPM 600 PSI, CALCULATED TOLC 1696
14	Pump Tail Cement	8/10/2022	04:21:18	13.09	9.02	485.94	0.08	MIX AND PUMP 1510 SKS 427.6 BBLS TAIL CEMENT 13 PPG, 1.59 FT3/SK, 7.78 GAL/SK, 9 BPM 500 PSI, CALCULATED TOTC 5909
15	Shutdown	8/10/2022	05:15:55	-0.11	0.00	59.34	403.57	SHUTDOWN, WASH PUMPS AND LINES TO TANK
16	Drop Top Plug	8/10/2022	05:26:46	7.49	0.00	22.78	19.53	LAUNCH TOP PLUG
17	Pump Displacement	8/10/2022	05:26:51	7.49	0.00	22.69	0.00	PUMP 380 BBLS FRESH WATER DISPLACEMENT, FIRST 40 BBLS W/MMCR, 10 BPM 2950 PSI, RECEIVED 50 BBLS TUNED PRIME SPACER AND 25 BBLS CEMENT TO SURFACE
18	Bump Plug	8/10/2022	06:07:43	8.65	0.00	2794.55	375.77	BUMP PLUG AT 2330 PSI TOOK TO 2800 PSI
19	Check Floats	8/10/2022	06:10:34	8.60	0.00	1543.55	375.77	CHECK FLOATS, FLOATS HELD TOOK 4.5 BBLS BACK
20	End Job	8/10/2022	06:11:39	8.66	0.00	21.75	0.00	STOP RECORDING DATA, USED 888 BBLS FRESH WATER FOR JOB

21	Safety Meeting - Pre Rig-Down	8/10/2022	06:14:00	PRE RIG DOWN SAFETY MEETING WITH ALL HES EE'S TO DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN
22	Depart Location Safety Meeting	8/10/2022	07:00:00	PRE DEPARTURE SAFETY MEETING WITH ALL HES EE'S TO DISCUSS ROUTES AND HAZARDS ASSOCIATED WITH THE JOURNEY
23	Crew Leave Location	8/10/2022	07:30:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW.

3.0 Attachments

3.1 Real Time iCem Job Chart

