

HALLIBURTON

iCem[®] Service

NOBLE ENERGY INC-EBUS

Ft. Lupton District, Colorado

BISHOP A06-740 Surface

Weld County

BISHOP A06-740 9.625 SURFACE

Job Date: Monday, February 05, 2024

Sincerely,

Chris Yeung

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 Bishop A06-740 - Surface. 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 17 bbls of cement were returned to surface. Turned over to rig during displacement, due to pump truck power issue during displacement.

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 Rockies Cement Team

1.2 Job Overview

Job Details	
API #:	05-123-52063
City, County:	Eaton, Weld County
SO#:	909128379

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	2/5/2024	10:00
Called Out Time:	2/5/2024	4:00
Arrived On Location:	2/5/2024	8:30
Job Started:	2/5/2024	13:02
Job Completed:	2/5/2024	14:56
Departed Location:	2/5/2024	16:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	45
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	WBM
3	Mud density	ppg	8.7
4	Casing set depth (shoe)	ft	2063
5	TVD	ft	2073
6	Float collar depth	ft	2016
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	80
9	Pre-job mud circulation time	hh:mm	00:30

10	Pre-job mud circulation rate	bpm	8
11	Pre-job mud circulation volume	bbls	200
12	Mud circulation pressure at start of cement	psi	100
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	155
16	Job displaced by	Rig/HES	Both
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	30/17
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	Unknown
20	Number of Centralizers	-	
21	Number of bottom plugs	-	
22	Number of trucks used preparing/during job	-	3
23	Add hours? If Yes, put #	Y/N and hours	N
24	NPT? If Yes, put #	Y/N and hours	N

1.3 Water Field Test

	Recorded Value	Unit	Acceptable Limit	Potential Problems if Values Exceed the Limit
pH	7		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	65	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	200	ppm	3000 ppm	Can shorten thickening time

1.4 Actual Pump Schedule

	Density (ppg)	Volume (bbls)	Yield (ft ³ /sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	8.33	30				
Lead Cement	13.5	188	1.79	9.52	590	5616
Tail Cement	14.8	25	1.4	6.7	102	683
Top Plug						
Displacement Fluid	8.33	155				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	2/5/2024	04:00:00	Crew called out at 0400 on 2/5/2024 for a requested-on location time of 1000 on 2/5/2024.
2	Pre-Convoy Safety Meeting	2/5/2024	07:15:00	Discuss route and any hazards.
3	Crew Leave Shop	2/5/2024	07:30:00	Crew leave yard @7:30
4	Arrive At Loc	2/5/2024	08:30:00	Crew arrived on location at 0830 hrs. Meet with costumer TD 2073', 13.5 OH, TP 2063' 9.625' 36#, FC 2016', TVD 2073', P/C 80' 16' 55#, WBM WEIGHT 8.7 PPG.
5	Safety Meeting - Pre Rig-Up	2/5/2024	11:00:00	Discuss hazards around rig up area.
6	Rig-Up Completed	2/5/2024	11:55:00	Rig up completed.
7	Safety Meeting - Pre Job	2/5/2024	12:30:00	Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
8	Start Job	2/5/2024	13:02:12	Start recording data.
9	Test Lines	2/5/2024	13:03:25	Pressure tested HES lines to 4000 psi.
10	Pump Spacer 1	2/5/2024	13:06:26	Pumped 30 bbls of green dye spacer.
11	Pump Lead Cement	2/5/2024	13:18:01	Pumped 188 bbls of Swiftcem Lead @6bpm pressure was 160 psi. TOLC= 0' 17 bbls to surface.
12	Check Weight	2/5/2024	13:20:39	Weight verified by mud scales.
13	Pump Tail Cement	2/5/2024	13:46:40	Pumped 25 bbls of Varicem Tail cement @6bpm with 200 psi.

14	Check Weight	2/5/2024	13:49:14	Weight verified by mud scales.
15	Drop Top Plug	2/5/2024	13:58:15	top plug verified by DSR.
16	Pump Displacement	2/5/2024	13:58:21	Pumped 155 bls of freshwater displacement.
17	Other	2/5/2024	14:01:53	Shutdown to rig losing power.
18	Shutdown	2/5/2024	14:43:25	Elite pressure gauges quit reading/ turned over to rig to complete displacement.
19	End Job	2/5/2024	14:56:57	Stop recording data.
20	Safety Meeting - Pre Rig-Down	2/5/2024	15:00:00	Discuss blow down and any new hazards that could have come up during job.
21	Rig-Down Completed	2/5/2024	15:00:00	Rig down completed.

3.0 Attachments

3.1 BISHOP A06-740 9.625 SURFACE-Custom Results.png

