

HALLIBURTON

iCem[®] Service

NOBLE ENERGY INC-EBUS

Date: Tuesday, July 31, 2018

Hurley H26-724 Production

Job Date: Tuesday, July 10, 2018

Sincerely,

Adam McKay

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3877734		Quote #:		Sales Order #: 0904980241					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Gary Stapleton							
Well Name: HURLEY			Well #: H26-724		API/UWI #: 05-123-46769-00						
Field: WATTENBERG		City (SAP): KEENESBURG		County/Parish: WELD		State: COLORADO					
Legal Description: SE NE-26-3N-65W-2233FNL-997FEL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB70026					Srcv Supervisor: Luke Kosakewich						
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST		230 degF					
Job depth MD		16182ft		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			0	1943	0	1943	
Casing		5.5	4.778	20			0	16165	0	6997	
Open Hole Section			8.5				2478	7260	2478	6997	
Open Hole Section			8.5				7260	16182	6997	6997	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe						Top Plug	5.5	1	HES		
Float Shoe	5.5			16165		Bottom Plug	5.5	2	HES		
Float Collar	5.5			16117		SSR plug set					
Insert Float						Plug Container					
Stage Tool						Centralizers					
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	120	bbl	11.5	3.78		5		
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.68		8	8.04	
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	512	sack	13.2	1.68		8	8.06	
4	NeoCem NT1	NeoCem TM	1003	sack	13.2	2.04		8	9.75	
5	Displacement	Fresh water W MMCR in the first 20 bbls. and Biocide throughout the rest	357.5	bbl	8.33			8		
Cement Left In Pipe										
Amount		48 ft	Reason				Shoe Joint			
Mix Water: pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 75 °F					
Plug Bumped? Yes		Bump Pressure: 2,500 psi MPa			Floats Held? Yes					
Comment There were full returns throughout the job. Bumped the plug 500 psi. over 1,700 psi. at 3 bpm. final pressure was 2,200 psi. Held pressure for a minute. Bled off pressure to check floats. Floats held. Got 4.5 bbls. of fluid back to the truck. Circulated 5 bbls. of spacer to surface. Estimated TOT: 7,260', TOL 3,505', and TOC 2,478'.										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	Comments
Event	1	Call Out	Call Out	7/9/2018	23:30:00	USER				Crew was called out at 23:30 for an on location time of 05:30.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/10/2018	03:45:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	7/10/2018	04:00:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/10/2018	04:45:00	USER				Crew performed a site assessment, safety meeting and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics. The rig was running casing.
Event	5	Comment	Comment	7/10/2018	04:55:00	USER				Well bore: MD: 16,182', TP: 5.5" 20# set at 16,165.3', FC: 16,117.3', TVD: 6,997.4', SC: 9.625" 36# set at 1,943.9'. OH: 8.5". Mud # 10 ppg. Water test: PH: 7, Chlorides: 0, Temp: 75 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/10/2018	05:05:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	7/10/2018	05:10:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	7/10/2018	06:00:00	USER				Halliburton cement crew held a pre cement job safety meeting and JSA with third party personnel and rig crew.
Event	9	Start Job	Start Job	7/10/2018	09:17:42	COM5				Pumped 3 bbls. of fresh water to fill lines.
Event	10	Test Lines	Test Lines	7/10/2018	09:35:49	COM5	4718.00	0.00	8.36	Pressure tested lines to 4,900 psi. with a 500 psi. electronic kick out test.
Event	11	Drop Bottom Plug	Drop Bottom Plug	7/10/2018	09:42:00	USER				Loaded and dropped the top plug which was witnessed by the customer.
Event	12	Pump Spacer 1	Pump Spacer 1	7/10/2018	09:42:45	COM5	88.00	3.00	11.48	Pumped 120 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg., Yield: 3.78 ft3/sks, 23.5 gal/sks. Density was verified by pressurized scales.

Event	13	Drop Bottom Plug	Drop Bottom Plug	7/10/2018	10:16:11	COM5				Loaded and dropped the top plug which was witnessed by the customer.
Event	14	Pump Cap Cement	Pump Cap Cement	7/10/2018	10:19:26	COM5	540.00	8.10	13.51	Pumped 42 bbls. (140 sks.) of Elasticem W/O Super CBL mixed at 13.2 ppg., Yield: 1.68 ft3/sks, 8.04 gal/sks. Density was verified by pressurized scales.
Event	15	Pump Lead Cement	Pump Lead Cement	7/10/2018	10:25:38	USER	550.00	8.10	13.37	Pumped 153 bbls. (512 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.68 ft3/sks, 8.06 gal/sks. Density was verified by pressurized scales.
Event	16	Check Weight	Check Weight	7/10/2018	10:50:31	COM5	500.00	8.10	12.93	Cement weighed up at 13.2 ppg. Density was verified by pressurized scales.
Event	17	Pump Tail Cement	Pump Tail Cement	7/10/2018	10:50:46	COM5	547.00	8.10	13.10	Pumped 364 bbls. (1003 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft3/sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	18	Shutdown	Shutdown	7/10/2018	11:37:48	COM5				Washed and blew down pumps and lines until clean.
Event	19	Drop Top Plug	Drop Top Plug	7/10/2018	11:53:11	COM5				Loaded and dropped the top plug which was witnessed by the customer.
Event	20	Pump Displacement	Pump Displacement	7/10/2018	11:53:22	COM5	361.00	10.00	7.99	Pumped 357.5 bbls. of fresh water with MMCR in the first 20 bbls. and biocide through the rest.
Event	21	Bump Plug	Bump Plug	7/10/2018	12:33:16	COM5	1820.00	3.00	7.97	Bumped the plug 500 psi. over 1,700 psi. at 3 bpm. final pressure was 2,200 psi. Held pressure for a minute.
Event	22	Other	Other	7/10/2018	12:36:42	COM5				Bled off pressure to check floats. Floats held. Got 4.5 bbls. of fluid back to the truck. Circulated 5 bbls. of spacer to surface. Estimated TOT: 7,260', TOL 3,505', and TOC 2,478'.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/10/2018	12:45:00	USER				Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	24	Rig-Down Equipment	Rig-Down Equipment	7/10/2018	12:50:00	USER				Rigged down all lines, hoses and equipment.
Event	25	Safety Meeting - Departing Location	Safety Meeting - Departing Location	7/10/2018	15:00:00	USER				Held a pre journey safety meeting with the crew.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/10/2018	15:30:00	USER				Started journey management with dispatch and left location.

3.0 Attachments

3.1 Noble, SO# 904980241, Hurley H26-724, H&P 517.png

