

# HALLIBURTON

iCem<sup>®</sup> Service

## **NOBLE ENERGY INC-EBUS**

Date: Tuesday, July 31, 2018

### **Hurley H26-736 Production**

Job Date: Thursday, July 19, 2018

Sincerely,

Adam McKay

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3877172		<b>Quote #:</b>		<b>Sales Order #:</b> 0904999377	
<b>Customer:</b> NOBLE ENERGY INC-EBUS				<b>Customer Rep:</b> John Drahota			
<b>Well Name:</b> HURLEY			<b>Well #:</b> H26-736			<b>API/UWI #:</b> 05-123-46763-00	
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> KEENESBURG		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO	
<b>Legal Description:</b> SE NE-26-3N-65W-2234FNL-1019FEL							
<b>Contractor:</b> H & P DRLG				<b>Rig/Platform Name/Num:</b> H & P 517			
<b>Job BOM:</b> 7523 7523							
<b>Well Type:</b> HORIZONTAL OIL							
<b>Sales Person:</b> HALAMERICA\HB70026				<b>Srv Supervisor:</b> Luke Kosakewich			
<b>Job</b>							

<b>Formation Name</b>			
<b>Formation Depth (MD)</b>	<b>Top</b>		<b>Bottom</b>
<b>Form Type</b>		<b>BHST</b>	230 degF
<b>Job depth MD</b>	16075ft	<b>Job Depth TVD</b>	7053ft
<b>Water Depth</b>		<b>Wk Ht Above Floor</b>	
<b>Perforation Depth (MD)</b>	<b>From</b>		<b>To</b>

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	1940	0	1940
Casing		5.5	4.778	20			0	16064	0	7053
Open Hole Section			8.5				2493	7319	2493	7053
Open Hole Section			8.5				7319	16075	7053	7053

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			16064		Bottom Plug	5.5	2	HES
Float Collar	5.5			16016		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	

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
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.68		6	8.04
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	518	sack	13.2	1.68		8	8.06
4	NeoCem NT1	NeoCem TM	985	sack	13.2	2.04		8	9.75
5	Displacement	Displacement	355.2	bbl	8.33			10	
<b>Cement Left In Pipe</b>									
<b>Amount</b>		45 ft			<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water: pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 79 °F				
Plug Bumped? Yes		Bump Pressure: 2,300 psi			Floats Held? Yes				
<b>Comment</b> There were full returns throughout the job. Bumped the plug 500 psi. over 2,200 psi. at 3 bpm and held for 5 minutes. Finale pressure was 2,800 psi. Got 5 bbls. of spacer to surface. Bled off pressure to check floats. Floats held. Got 4.5 bbls. back to the truck. Estimated TOT is 7,319', TOL 3,520', TOC 2,493', TOS 0'.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	7/19/2018	06:00:00	USER				Crew was called out at 06:00 for an on location time of 12:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/19/2018	10:45:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	7/19/2018	11:00:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/19/2018	11:30:00	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	Other	Other	7/19/2018	11:35:00	USER				Well bore: MD: 16,073', TP: 5.5" 20# set at 16,064', FC: 16,016', TVD: 7,053', SC: 9.625" 36# set at 1,940'. OH: 8.5". Mud # 9.9 ppg. Water test: PH: 7, Chlorides: 0, Temp: 79 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/19/2018	11:40:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	7/19/2018	11:45:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	7/19/2018	15:40:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	9	Start Job	Start Job	7/19/2018	16:46:05	COM5				Pumped 4 bbls. of fresh water at 3 bpm. to fill lines and establish circulation.
Event	10	Test Lines	Test Lines	7/19/2018	16:50:30	COM5	4476.00		8.08	Pressure tested lines to 4,700 psi. with a 500 psi. electronic kick out test.
Event	11	Test Lines	Test Lines	7/19/2018	16:57:26	USER	3241.00		8.03	Pressure tested lbop to 2,800 psi. with a 500 psi. electronic kick out test.
Event	12	Drop Bottom Plug	Drop Bottom Plug	7/19/2018	16:58:00	USER				Halliburton loaded and dropped the bottom plug which, was witnessed by the customer.
Event	13	Pump Spacer 1	Pump Spacer 1	7/19/2018	16:59:11	COM5	410.00	3.80	11.29	Pumped 120 bbls. of Tuned Spacer III with surfactants mixed at

11.5 ppg., Yield: 3.78 ft<sup>3</sup>/sks, 23.5gal/sks. Density was verified by pressurized scales.

Event	14	Drop Bottom Plug	Drop Bottom Plug	7/19/2018	17:27:50	COM5				Halliburton loaded and dropped the bottom plug which, was witnessed by the customer.
Event	15	Pump Lead Cement	Pump Lead Cement	7/19/2018	17:35:56	COM5	548.00	7.90	13.47	Pumped 42 bbls. (140 sks.) of Elasticem W/O Super CBL mixed at 13.2 ppg., Yield: 1.68 ft <sup>3</sup> /sks, 8.04 gal/sks. Density was verified by pressurized scales.
Event	16	Check Weight	Check Weight	7/19/2018	17:38:26	COM5	603.00	7.90	13.08	Cement weighed up at 13.2 ppg. Density was verified by pressurized scales.
Event	17	Pump Lead Cement	Pump Lead Cement	7/19/2018	17:41:36	COM5	554.00	7.80	13.10	Pumped 155 bbls. (518 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.68 ft <sup>3</sup> /sks, 8.06 gal/sks. Density was verified by pressurized scales.
Event	18	Pump Tail Cement	Pump Tail Cement	7/19/2018	18:04:14	COM5	561.00	8.00	13.25	Pumped 358 bbls. (985 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft <sup>3</sup> /sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	19	Shutdown	Shutdown	7/19/2018	18:50:17	COM5				Shutdown and washed pumps and lines until clean.
Event	20	Drop Top Plug	Drop Top Plug	7/19/2018	19:05:33	COM5				Loaded and I dropped the top plug, which was witnessed by the customer.
Event	21	Pump Displacement	Pump Displacement	7/19/2018	19:05:38	COM5	401.00	10.00	8.21	Pumped 355 bbls. of fresh water with MMCR in the first 20 bbls. Biocide was added throughout the rest of displacement.
Event	22	Bump Plug	Bump Plug	7/19/2018	19:44:51	COM5	2032.00	4.40	8.30	Bumped the plug 500 psi. over 2,200 psi. at 3 bpm. Finale pressure was 2,800 psi. We held pressure for 5 minutes. Pressure held. Circulated 5 bbls. of spacer to surface. Estimated TOT is 7,319', TOL 3,520', TOC 2,493', TOS 0'.
Event	23	Other	Other	7/19/2018	19:51:15	COM5				Bled off pressure to check floats. Floats held. Got 4.5 bbls. of fluid back to the truck.
Event	24	End Job	End Job	7/19/2018	20:01:50	COM5				Washed and blew down all pumps and lines until clean and dry.
Event	25	Rig-Down Equipment	Rig-Down Equipment	7/19/2018	20:10:00	USER				Rigged down all lines, hoses and equipment.
Event	26	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/19/2018	20:10:00	USER				Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	27	Safety Meeting - Departing Location	Safety Meeting - Departing Location	7/19/2018	21:45:00	USER				Held a pre journey safety meeting with the crew.

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Event	28	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/19/2018	22:00:00	USER	Started journey management with dispatch and left location.
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3.0 Attachments

3.1 Case 1-Custom Results.png

