

HALLIBURTON

iCem[®] Service

NOBLE ENERGY INC-EBUS

United States of America, COLORADO

Date: Monday, July 02, 2018

Hurley H26-712 Production

Job Date: Saturday, June 30, 2018

Sincerely,

Luke Kosakewich

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3877980		Quote #:		Sales Order #: 0904949125	
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Chris Ewing			
Well Name: HURLEY			Well #: H26-712		API/UWI #: 05-123-46770-00		
Field: WATTENBERG		City (SAP): KEENESBURG		County/Parish: WELD		State: COLORADO	
Legal Description: SE NE-26-3N-65W-2233FNL-952FEL							
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517			
Job BOM: 7523 7523							
Well Type: HORIZONTAL OIL							
Sales Person: HALAMERICA\HB70026				Srv Supervisor: Luke Kosakewich			
Job							

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type		BHST	230 degF
Job depth MD	16267ft	Job Depth TVD	7320ft
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	1936	0	1936
Casing		5.5	4.778	20			0	16256	0	7320
Open Hole Section			8.5				2550	7357	2550	7320
Open Hole Section			8.5				7357	16267	7320	7320

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	1		16256		Bottom Plug	5.5	2	HES
Float Collar	5.5	1		16213		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	3.73		5	

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
2	ElastiCem	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		6	7.53
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	541	sack	13.2	1.6		8	7.69
4	NeoCem NT1	NeoCem TM	1002	sack	13.2	2.04		8	9.75
5	Displacement	Fresh Watet W MMCR In the first 20 bbls. And Biocide throughout	359.6	bbl	8.33			10	
Cement Left In Pipe									
Amount		45 ft			Reason			Shoe Joint	
Mix Water:		pH 7		Mix Water Chloride:		0 ppm		Mix Water Temperature: 68 °F	
Plug Bumped?		Yes		Bump Pressure:		1900 psi		Floats Held? Yes	
<p>Comment There were full returns throughout the job. Bumped the plug 500 psi. over 1,900 psi. at 4 bpm and held for 5 minutes. Finale pressure was 2,500 psi. Got no spacer or cement to surface. Bled off pressure to check floats. Floats held. Got 4.5 bbls. back to the truck. Estimated TOT 7,357', TOL 3,578', TOC 2,550', TOS 0'.</p>									

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>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	6/30/2018	00:30:00	USER				Crew was called out at 00:30 for an on location time of 06:30.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	6/30/2018	06:30:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	6/30/2018	06:42:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/30/2018	07:15:00	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 3,000' from being on bottom.
Event	5	Other	Other	6/30/2018	07:30:00	USER				Well bore: MD: 16,267', TP: 5.5" 20# set at 16,256', FC: 16,213', TVD: 7,320', SC: 9.625" 36# set at 1,936', OH: 8.5", Mud # 9.6 ppg. Water test: PH: 7, Chlorides: 0, Temp: 68 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/30/2018	07:45:00	USER				The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	6/30/2018	12:00:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	6/30/2018	13:00:00	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	6/30/2018	13:47:40	COM6				Pumped 3 bbls. to fill lines and establish circulation.
Event	10	Test Lines	Test Lines	6/30/2018	13:52:09	COM6	54.00	8.38	0.00	Pressure tested lines to 4,500 psi. with a 500 psi. electronic kick out test. The pressure test failed. Pressure was bleeding off 8 psi. for every second. Shutdown and bled off pressure. Had to trouble shoot where we were bleeding off pressure. Pressure was bleeding off on the 2" valve on the rig floor. We replaced the 2" valve on the rig floor. Retested the lines and pressure held.
Event	11	Other	Other	6/30/2018	14:28:46	USER				Lost prime on 6 X 5 due to some surfactant getting into the mixing system. Started NTP. Had to wait for some D Air to get delivered to

location to resolve problem.

Event	12	Other	Other	6/30/2018	15:56:17	USER				D Air was delivered to location. We put some D Air into the 6 x 5 and the problem was resolved. Resumed weighing up spacer.
Event	13	Other	Other	6/30/2018	16:00:34	USER				Halliburton was weighed up and ready to pump the cement job.
Event	14	Start Job	Start Job	6/30/2018	16:19:08	USER				Pumped 2 bbls. of fresh water to fill lines.
Event	15	Test Lines	Test Lines	6/30/2018	16:19:37	USER	4184.00	10.05		Pressure tested lines to 4,500 psi. with a 500 psi. EKO test.
Event	16	Drop Bottom Plug	Drop Bottom Plug	6/30/2018	16:23:51	COM6				Loaded and dropped the bottom plug which was witnessed by the customer.
Event	17	Pump Spacer 1	Pump Spacer 1	6/30/2018	16:24:00	COM6	291.00	11.65	4.00	Pumped 120 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg., Yield: 3.73 ft3/sks, 23.3gal/sks. Density was verified by pressurized scales.
Event	18	Drop Bottom Plug	Drop Bottom Plug	6/30/2018	16:54:55	COM6				Loaded and dropped the bottom plug which was witnessed by the customer.
Event	19	Pump Cement	Pump Cement	6/30/2018	17:02:41	COM6	181.00	13.83	3.90	Pumped 42 bbls. (150 sks.) of Elasticem W/O Super CBL mixed at 13.2 ppg., Yield: 1.57 ft3/sks, 7.53 gal/sks. Density was verified by pressurized scales.
Event	20	Pump Lead Cement	Pump Lead Cement	6/30/2018	17:15:09	COM6	183.00	13.55	4.20	Pumped 154 bbls. (541 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.6 ft3/sks, 7.69 gal/sks. Density was verified by pressurized scales.
Event	21	Pump Tail Cement	Pump Tail Cement	6/30/2018	17:34:16	COM6	526.00	13.31	7.30	Pumped 364 bbls. (1002 sks.) of NeoCem mixed at 13.2 ppg., Yield: 2.04 ft3/sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	22	Shutdown	Shutdown	6/30/2018	18:27:41	COM6				Washed pumps and lines until clean.
Event	23	Drop Top Plug	Drop Top Plug	6/30/2018	18:44:46	COM6				Loaded and dropped the top plug which was witnessed by the customer.
Event	24	Pump Displacement	Pump Displacement	6/30/2018	18:44:49	COM6	371.00	7.85	10.00	Pumped 359.6 bbls. of fresh water with MMCR in the first 20 bbls. Biocide was added throughout the rest of displacement.
Event	25	Bump Plug	Bump Plug	6/30/2018	19:22:03	COM6	1830.00	7.82	4.10	Bumped the plug 500 psi. over 1,900 psi. at 4 bpm. Finale pressure was 2,500 psi. Held pressure for 5 minutes. Pressure held. There was no spacer or cement to surface. Estimated TOT is 7,357', TOL 3,578', TOC 2,550', TOS 0'.
Event	26	Check Floats	Check Floats	6/30/2018	19:30:04	USER				Bled off pressure to check floats and floats held. Got 4.5 bbls. back

to the truck.

Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/30/2018	19:45:00	USER	Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	28	End Job	End Job	6/30/2018	19:57:04	COM6	Washed and blew down pumps and lines until clean and dry.
Event	29	Rig-Down Equipment	Rig-Down Equipment	6/30/2018	20:00:00	USER	Rigged down all lines, hoses and equipment.
Event	30	Depart Location Safety Meeting	Depart Location Safety Meeting	6/30/2018	21:30:00	USER	Held a pre journey safety meeting with the crew.
Event	31	Depart Location	Depart Location	6/30/2018	22:00:00	USER	Started journey management with dispatch and left location.

3.0 Attachments

3.1 Noble, SO# 904949125, Hurley H26-712, H&P 517 .png

