

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3805799		Quote #:		Sales Order #: 0904271643					
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Charles Collver							
Well Name: WELLS RANCH			Well #: BB11-674			API/UWI #: 05-123-44966-00					
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO					
Legal Description: NW NW-11-5N-63W-765FNL-235FWL											
Contractor: Noble				Rig/Platform Name/Num: H&P 524							
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		17114ft			Job Depth TVD		6469ft				
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	1956	0	1956	
Casing	0	5.5	4.778	20		P-110	0	17110	1943	6469	
Open Hole Section			8.5				6497	17114	0	0	
Fluid Data											
Stage/Plug #: 1											
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	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III		50	bbl	11.5	3.78		4		
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	1.571		8	7.53	
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	
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM		486	sack	13.2	1.603		8	7.7	

HALLIBURTON

Cementing Job Summary

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	
4	NeoCem NT1	NeoCem TM	1233	sack	13.2	2.04		8	9.75	
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	
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			10		
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	
6	Displacement	Displacement	357	bbl	8.33			10		
Cement Left In Pipe		Amount	49ft		Reason			Shoe Joint		
Comment Full returns throughout the job. No spacer to surface. Estimated top of tail 6,156', top of lead 2,756', top of cap 1,761', top of spacer 91'. Floats held. Got 3.5 bbls. of fluid back the truck.										

2.0 Real-Time Job Summary

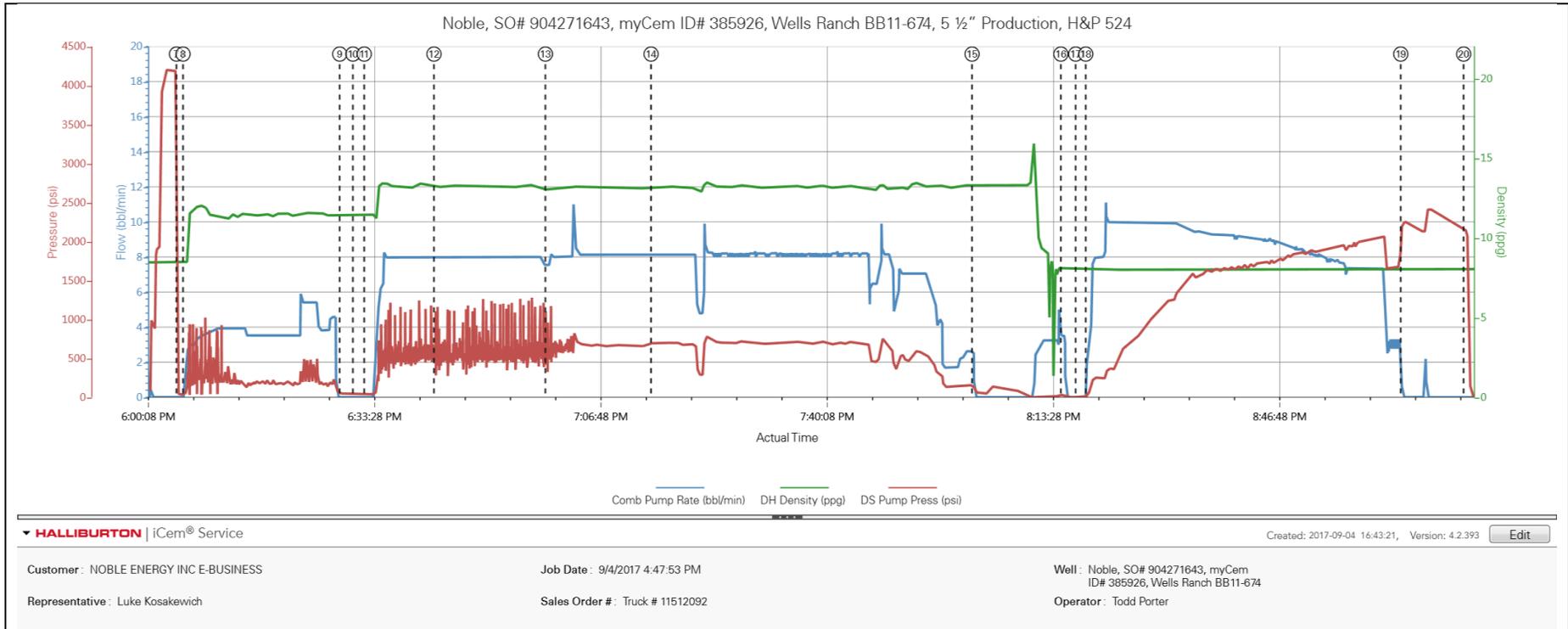
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	9/4/2017	16:47:53	USER				Crew was called out 08:00 for an on location time of 15:00.
Event	2	Depart Shop for Location	Depart Shop for Location	9/4/2017	16:59:34	USER				Crew left the yard for location.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	9/4/2017	17:00:02	USER				Performed a site assesment and hazard hunt. Checked in with the customer. Diccussed job procedures and well bore schematics to calculate the job.
Event	4	Other	Other	9/4/2017	17:01:39	USER				Well bore: MD: 17,114', TP:
Event	5	Start Job	Start Job	9/4/2017	17:47:00	COM4				Pumped 3 bbls. of fresh water to fill lines.
Event	6	Test Lines	Test Lines	9/4/2017	17:49:38	COM4		8.49	4212.00	Pressure tested lines to 4,300 with a 500 psi. electronic kick out test.
Event	7	Drop Bottom Plug	Drop Bottom Plug	9/4/2017	18:04:38	USER				Released the plug wittnesed by the customer.
Event	8	Pump Spacer 1	Pump Spacer 1	9/4/2017	18:05:36	COM4	3.70	11.33	402.00	Pumped 80 bbls. of Tuned Spacer III mixed at 11.5 ppg. Yeild 3.78 ft3/sack, 23.5 gal/sack.
Event	9	Shutdown	Shutdown	9/4/2017	18:28:41	COM4				
Event	10	Drop Bottom Plug	Drop Bottom Plug	9/4/2017	18:30:38	COM4				Realesed the bottom plug witnessed by the customer.
Event	11	Pump Lead Cement	Pump Lead Cement	9/4/2017	18:32:18	COM4	8.00	13.22	590.00	Pupmed 42 bbls. (150 sks) of Elasticem without Super CBL mixed at 13.2 ppg. Yeild 1.57 ft3/ sack, 7.53 gal/sack. Pumped 139 bbls. (486 sks.)of Elasticem with Super CBL mixed at 13.2 ppg. Yeild 1.603 ft3/sack, 7.7 gai/sack.
Event	12	Check Weight	Check weight	9/4/2017	18:42:34	COM4	8.00	13.21	504.00	Cement weight up at 13.2 ppg.
Event	13	Pump Tail Cement	Pump Tail Cement	9/4/2017	18:58:59	COM4	7.60	13.13	958.00	Pumped 448 bbls. (1233 sks) of Neocem mixed at 13.2 ppg. Yeild 2.04 ft3/sack, 9.75 gal/sack.
Event	14	Check Weight	Check weight	9/4/2017	19:14:33	COM4	8.20	13.21	664.00	Cement weight up at 13.2 ppg.
Event	15	Shutdown	Shutdown	9/4/2017	20:01:50	COM4	0.00	13.29	111.00	Rig blew down the iron to the wash up pit.

Event	16	Clean Lines	Clean Lines	9/4/2017	20:14:55	COM4				Washed pumps and lines until clean.
Event	17	Drop Top Plug	Drop Top Plug	9/4/2017	20:17:06	COM4				Dropped the top plug witnessed by the customer.
Event	18	Pump Displacement	Pump Displacement	9/4/2017	20:18:35	COM4	10.00	8.00	601.00	Pumped 377 bbls. of fresh water with MMCR in the first 20 bbls. and Algicide throughout the rest of displacement.
Event	19	Bump Plug	Bump Plug	9/4/2017	21:04:59	COM4	3.10	8.06	1673.00	Bumped the plug 500 psi. over 1,650 psi. at 2.8 bpm. Finale pressure 2,400 psi.
Event	20	Other	Other	9/4/2017	21:14:15	COM4				Bled off pressure to check floats. Floats held. Got 3.5 bbls. of fluid back to the truck.
Event	21	End Job	End Job	9/4/2017	21:17:24	COM4				Washed pumps and lines until clean. Rigged down all lines and equipment.

3.0 Attachments

3.1 Case 1-Custom Results.png



3.2 Case 1-Custom Results (1).png

