

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3768211		Quote #:		Sales Order #: 0903911416				
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Stetson Nielsen						
Well Name: WELLS RANCH STATE		Well #: AA33-750		API/UWI #: 05-123-43873-00						
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO				
Legal Description: SE SW-21-6N-63W-255FSL-2502FWL										
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB70026				Srv Supervisor: Vaughn Oteri						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST		215 degF				
Job depth MD		16362ft		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	1928	0	
Casing		5.5	4.778	20			0	16356	0	6616
Open Hole Section			8.5					16362		
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 w/ Chems	Tuned Spacer III	40	bbl	11.5	3.78		4		
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	
2	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.79		4		
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	
3	ElastiCem	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		8	7.53	
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	
4	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	551	sack	13.2	1.6		8	7.68	

iCem® Service

(v. 4.3.44)

Created: Tuesday, March 21, 2017

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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
5	NeoCem NT1	NeoCem TM	1113	sack	13.2	2.04		8	9.75
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
6	Displacement	Displacement	360	bbl	8.33			8	
Cement Left In Pipe		Amount	Reason				Shoe Joint		
Comment 20bbl of spacer back to surface									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	3/19/2017	12:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	3/19/2017	17:30:00	USER				Arrived on location met with company rep to discuss job process and concerns
Event	3	Other	Other	3/19/2017	17:30:10	USER				TD-16362 TP-16356 FC-16304 Surf-1928 Mud-9.2ppg Casing 5.5 20#
Event	4	Start Job	Start Job	3/20/2017	21:02:18	COM4				Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	3/20/2017	21:04:19	COM4	8.42	36.00		Pressure tested pumps and lines with fresh water 4930psi
Event	6	Drop Bottom Plug	Drop Bottom Plug	3/20/2017	21:12:12	COM4				Released plug witnessed by company rep
Event	7	Pump Spacer 1	Pump Spacer 1	3/20/2017	21:13:04	COM4	11.40	40.00	2.50	Mixed 80bbl of 11.5ppg Tuned spacer III 5.0bpm 133psi
Event	8	Drop Bottom Plug	Drop Bottom Plug	3/20/2017	21:42:04	COM4				Released plug witnessed by company rep
Event	9	Check Weight	Check weight	3/20/2017	21:43:26	COM4	13.20	51.00		Confrimed weight on scales of 13.2ppg
Event	10	Pump Lead Cement	Pump Lead Cement	3/20/2017	21:45:06	COM4	13.20	50.00	8.00	Mixed 701sks or 199bbl of 13.2ppg Y-1.6 G/sk-7.48 Elasticem at 8.0bpm 550psi
Event	11	Pump Cement	Pump Cement	3/20/2017	22:12:10	COM4	12.93	313.00	5.30	Mixed 1113sks or 404bbl of 13.2ppg Y-2.04 G/sk-9.75 Neocem at 8.0bpm 530psi
Event	12	Shutdown	Shutdown	3/20/2017	23:06:43	COM4				
Event	13	Clean Lines	Clean Lines	3/20/2017	23:06:46	COM4				Washed pumps and lines with fresh water
Event	14	Drop Top Plug	Drop Top Plug	3/20/2017	23:06:49	COM4				Released plug witnessed by company rep
Event	15	Pump Displacement	Pump Displacement	3/20/2017	23:17:05	COM4	8.42	408	9.70	Pump 360bbl of fresh water to displace cement
Event	16	Bump Plug	Bump Plug	3/20/2017	23:55:46	COM4	8.36	2873.00		Bumped plug 500psi over final pump pressure 2461/2940 psi
Event	17	Other	Other	3/20/2017	23:59:03	COM4				Released pressure back to pump truck to check floats- floats held

good 4.5bbl back

Event	18	End Job	End Job	3/20/2017	00:01:43	COM4	8.26	4.00	0.00	20bbl of spacer back to surface
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