

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3782493		Quote #:		Sales Order #: 0904145701				
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Woodie Beardsly						
Well Name: WELLS RANCH			Well #: AF07-645			API/UWI #: 05-123-44250-00				
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO				
Legal Description: SE NE-8-5N-62W-2388FNL-175FEL										
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		16015ft			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		J-55	0	1942	0	0
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	16015	0	6530
Open Hole Section			8.5				1942	6530	1942	6530
Open Hole Section			8.5				6530	16015	6530	6530
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 w/ Chems	Tuned Spacer III		80	bbl	11.5	3.84	23.8	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	1.57		6	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		513	sack	13.2	1.6		8	7.69

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	NeoCem NT1	NeoCem TM	1082	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/mi n	Total Mix Fluid Gal
5	Displacement	Displacement	353.7	bbl	8.33			10	
Cement Left In Pipe	Amount	50ft		Reason				Shoe Joint	
Comment Estimated top of spacer is 131'. Estimated top of lead cement is 1,801'. Estimated top of tail cement is 6,387'. Had full returns throughout the job. Got no spacer to surface.									

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)	DS Pump Press (psi)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	7/11/2017	04:30:00	USER				Crew was called out at 04:30 for an location time of 11:30.
Event	2	Safety Meeting - Departing Location	Safety Meeting - Departing Location	7/11/2017	09:30:00	USER				Held pre journey safety meeting and JSA.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/11/2017	09:45:00	USER				Started journey management with dispatch and the crew left the yard.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/11/2017	11:30:00	USER				Performed a site assessment and hazard hunt. Checked in with the customer. Discussed numbers needed to calculate the job and rig up. Rig was running casing. Surface Casing: 9.625" 36# set at 1,942' Production Casing 5.5" 20# set at 15,996' OH: 8.5" Mud#: 9.4 ppg. TD: 16,015'. FC:15,946'. TVD: 6,530' Water test: Temp: 73 Fahrenheit PH: 7.1 Chlorides: 60 ppm.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/11/2017	11:40:00	USER				Held pre rig up safety meeting and JSA.
Event	6	Rig-Up Equipment	Rig-Up Equipment	7/11/2017	11:50:00	USER				Spotted trucks in and rigged up all iron and hoses for the job.
Event	7	Safety Meeting	Safety Meeting	7/11/2017	14:30:00	USER				Held pre job safety meeting and JSA with all personnel on location.
Event	8	Start Job	Start Job	7/11/2017	15:12:06	COM4				Pumped 3 bbls. of fresh water to fill lines.
Event	9	Test Lines	Test Lines	7/11/2017	15:17:38	COM4		4245.00	8.28	Pressure tested lines to 4,400 psi. with a 500 psi. electronic kick out test.
Event	10	Drop Bottom Plug	Drop Bottom Plug	7/11/2017	15:25:21	COM4				Dropped the bottom plug directly into the casing witnessed by the customer.
Event	11	Pump Spacer 1	Pump Spacer 1	7/11/2017	15:30:00	COM4	1.70	158.00	11.53	Pumped 80 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg. Density was verified by pressurized scales.
Event	12	Drop Bottom Plug	Drop Bottom Plug	7/11/2017	15:56:16	COM4				Dropped the bottom plug directly into the casing witnessed

by the customer.

Event	13	Pump Lead Cement	Pump Lead Cement	7/11/2017	15:58:48	COM4	6.80	447.00	13.39	Pumped 42 bbls. (150 sks.) of Elasticem without CBL mixed at 13.2 ppg. Density was verified by pressurized scales.
Event	14	Other	Other	7/11/2017	16:07:31	USER	6.00	437.00	13.33	Pumped 146 bbls. (513 sks.) of Elasticem with CBL mixed at 13.2 ppg. Density was verified by pressurized scales.
Event	15	Pump Tail Cement	Pump Tail Cement	7/11/2017	16:26:51	COM4	8.00	685.00	13.28	Pumped 393 bbls. (1082 sks.) of Neocem mixed at 13.2 ppg. Density was verified by pressurized scales.
Event	16	Shutdown	Shutdown	7/11/2017	17:19:48	COM4				Blew the lines back to the wash up tank.
Event	17	Clean Lines	Clean Lines	7/11/2017	17:31:57	COM4				Washed pumps and lines until clean.
Event	18	Drop Top Plug	Drop Top Plug	7/11/2017	17:34:24	COM4				Dropped the top plug directly into the casing witnessed by the customer.
Event	19	Pump Displacement	Pump Displacement	7/11/2017	17:37:00	COM4	9.90	454.00	8.08	Pumped 353.7 bbls. of fresh water with MMCR in the first 20 bbls. and Algicide through out the rest of displacement.
Event	20	Bump Plug	Bump Plug	7/11/2017	18:20:31	COM4	2.40	1767.00	8.14	Bumped the plug at 1,800 psi. at 2.4 bbpm. Brought pressure up to 2,300 psi. Held for 5 minutes. Bled off pressure and checked floats. Floats held and got 4 bbls. back to the truck.
Event	21	End Job	End Job	7/11/2017	18:43:58	COM4				Washed pumps and lines until clean.
Event	22	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	7/11/2017	18:50:00	USER				Held pre rig down safety meeting and JSA.
Event	23	Rig-Down Equipment	Rig-Down Equipment	7/11/2017	19:00:00	USER				Rigged down all lines and hoses.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/11/2017	19:30:00	USER				Held a pre journey safety meeting and JSA.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/11/2017	19:45:00	USER				Started journey management with dispatch and left location.