

HALLIBURTON

*Cementing Job Summary**The Road to Excellence Starts with Safety*

Sold To #: 345242		Ship To #: 3805867		Quote #:		Sales Order #: 0904256132				
Customer: NOBLE ENERGY INC - EBUS				Customer Rep:						
Well Name: WELLS RANCH		Well #: BB11-650		API/UWI #: 05-123-44961-00						
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO				
Legal Description: NW SW-11-5N-63W-2207FSL-235FWL										
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: Bradley Hinkle						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		14074ft		Job Depth TVD		6625ft				
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	1921	0	1921
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	14074	0	6625
Open Hole Section			8.5				1912	14088	0	6625
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	Spacer	Tuned Spacer III		80	bbl	11.5	3.78			
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	1 st Lead	ELASTICEM		150	sack	13.2	1.57		6	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
3	2 nd Lead	ELASTICEM		519	sack	13.2	1.61		6	7.7

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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
4	Tail	NeoCem	850	sack	13.2	2.04		6	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
5	Displacement	Biocide Water	311	bbl	8.33			5	
Cement Left In Pipe		Amount	43 feet		Reason			Shoe Joint	
Mix Water:		pH 6.5	Mix Water Chloride:		0 ppm		Mix Water Temperature:		58 °F
Cement Temperature:		## °F °C	Plug Displaced by:		## lb/gal kg/m3 XXXX		Disp. Temperature:		## °F °C
Plug Bumped?		Yes	Bump Pressure:		1716 psi		Floats Held?		Yes
Spacer Returns:		5 bbl	Returns Density:		## lb/gal kg/m3		Returns Temperature:		## °F °C
Comment 5 bbls Tuned Spacer to surface. Estimated top of lead cement at 1565. Estimated top of tail cement at 6184.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	8/26/2017	19:00:00	USER				Crew called for an on location of 0100 ON 8/27/2017. Crew was Bradley Hinkle, Vitalijs Neverdasovs, Jim Krichmar, Howard Lancaster and Meghan Jacobs.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/26/2017	22:15:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	8/26/2017	23:30:00	USER				Sign in, perform a site assessment and pre rig-up safety meeting. Approximately 3000 feet of casing to run.
Event	4	Other	Job Numbers	8/26/2017	23:35:00	USER				TD: 14088. TP: 14074. FC: 14031. TVD: 6625. 5.5" 20# casing inside a 8.5" OH. 9.625" 36# surface casing set at 1921. Mud weight 9.2 ppg.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/27/2017	03:45:00	USER				Pre-job safety meeting with all personnel on location.
Event	6	Start Job	Start Job	8/27/2017	05:03:15	COM4				
Event	7	Test Lines	Test Lines	8/27/2017	05:09:37	USER	8.63		4917	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Drop Bottom Plug	Drop Bottom Plug	8/27/2017	05:28:55	USER				Bottom plug loaded into casing. Customer witnessed.
Event	9	Pump Spacer 1	Pump Spacer 1	8/27/2017	05:29:40	USER	11.51	4.10	217.00	Pump 80 bbls Tuned Spacer with surfactants added throughout. Density verified by pressurized scales.
Event	10	Drop Bottom Plug	Drop Bottom Plug	8/27/2017	05:51:54	COM4				Bottom plug dropped into casing. Witnessed by customer.
Event	11	Pump Lead Cement	Pump Lead Cement	8/27/2017	05:58:17	COM4	13.38	4.00	248.00	Pump 42 bbls (150 sacks) ElastiCem without Super-CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	12	Pump Lead Cement	Pump Lead Cement	8/27/2017	06:08:39	USER	12.99	5.50	327.00	Pump 149 bbls (519 sacks) ElastiCem with Super-CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	13	Comment	Comment	8/27/2017	06:10:00	USER				Pre-mix mixing erratically. Downhole density consistently read correct density as scales were taken throughout cement to verify accuracy.
Event	14	Check Weight	Check Weight	8/27/2017	06:22:08	COM4				Cement weighed at 13.2 ppg.

Event	15	Pump Tail Cement	Pump Tail Cement	8/27/2017	06:33:48	COM4	13.01	5.60	326.00	Pump 309 bbls (850 sacks) NeoCem mixed at 13.2 ppg. Density verified by pressurized scales.
Event	16	Shutdown	Shutdown	8/27/2017	07:29:16	COM4				
Event	17	Clean Lines	Clean Lines	8/27/2017	07:37:22	USER				Blow down lines and the wash pumps and lines until clean.
Event	18	Drop Top Plug	Drop Top Plug	8/27/2017	07:38:00	COM4				Top plug dropped into casing. Witnessed by customer.
Event	19	Pump Displacement	Pump Displacement	8/27/2017	07:46:45	COM4	8.32	6.00	204.00	Pump 311 bbls Biocide water (first 20 with retarder - MMCR). Good returns throughout. 5 bbls Tuned Spacer to surface. Estimated top of lead cement at 1565. Estimated top of tail cement at 6184.
Event	20	Bump Plug	Bump Plug	8/27/2017	08:55:09	COM4	8.29	3.20	1744.00	Bump plug at 1716 PSI and increased 500 PSI over. Held for 5 minutes.
Event	21	Check Floats	Check Floats	8/27/2017	09:01:23	USER				Floats held. 4 bbls back.
Event	22	End Job	End Job	8/27/2017	09:08:16	COM4				
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/27/2017	09:10:00	USER				Pre-rig down safety meeting.
Event	24	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/27/2017	10:15:00	USER				Pre-journey safety meeting.