

## HALLIBURTON

## Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3752111	Quote #:	Sales Order #: 0903591172							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: Stetson Nielson								
Well Name: RILEY	Well #: LD19-715	API/UWI #: 05-123-43478-00								
Field: WILDCAT	City (SAP): RAYMER	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-19-9N-58W-380FSL-1457FEL										
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 524								
Job BOM: 7523										
Well Type: DIRECTIONAL OIL										
Sales Person: HALAMERICA/HB61755		Srvc Supervisor: Bradley Hinkle								
<b>Job</b>										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST	230 degF							
Job depth MD	11006ft	Job Depth TVD	5930							
Water Depth		Wk Ht Above Floor								
Perforation Depth (MD)	From	To								
<b>Well Data</b>										
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	1930	0	0
Casing		5.5	4.778	20			0	11006	0	0
Open Hole Section			8.5				1930	11052	0	0
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5				Top Plug	5.5	1	HES		
Float Shoe	5.5	1	HES	11006	Bottom Plug	5.5	2	HES		
Float Collar	5.5	1	HES	10963	SSR plug set	5.5		HES		
Insert Float	5.5				Plug Container	5.5		HES		
Stage Tool	5.5				Centralizers	5.5		HES		
<b>Fluid Data</b>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.78		5		
	0.40 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)								
	35.10 gal/bbl	FRESH WATER								
	0.40 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
	147.42 lbm/bbl	BARITE, BULK (100003681)								

last updated on 10/19/2016 12:34:15 AM

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.79		5		
147.42 lbm/bbl			BARITE, BULK (100003681)							
35.90 gal/bbl			FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	Elasticem Lead w/o CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57	7.53	8		
0.35 %			SCR-100 (100003749)							
7.53 Gal			FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	ElastiCem Lead W/ CBL	ELASTICEM (TM) SYSTEM	500	sack	13.2	1.6	7.68	8		
7.68 Gal			FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
5	EconoCem Tail	ECONOCEM (TM) SYSTEM	668	sack	13.5	1.68	7.99	8		
7.99 Gal			FRESH WATER							
0.25 %			HR-5, 50 LB SK (100005050)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
6	Displacement	Fresh Water	242	bbl	8.33			9		
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint		
Mix Water:pH ##		Mix Water Chloride:## ppm			Mix Water Temperature:## °F °C					
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C					
Plug Bumped?Yes/No		Bump Pressure:#### psi MPa			Floats Held?Yes/No					
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C					
Comment										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	10/18/2016	05:00:00	USER	Call out for an on location time of 1100. Crew was Bradley Hinkle, Luke Kosakewich, Grant Amsberry, Spencer Torrey, William Mix and Martin Schmidt.
Event	2	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	10/18/2016	09:00:00	USER	Pre-journey safety meeting prior to departure.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	10/18/2016	10:50:00	USER	Perform a site assessment and pre rig-up safety meeting. Preparing to lift landing joint on to floor.
Event	4	Other	Other	10/18/2016	11:03:00	USER	Check-in with customer and get numbers. TD: 11052. TP: 11006. FC: 10963. 5.5" 20# casing inside of an 8.5" OH. Surface casing set at 1930. 9.625" 36# casing. Mud weight at 9.4 ppg.
Event	5	Other	Bin Loaded Incorrectly	10/18/2016	11:05:00	USER	Supervisor noticed bins were possibly loaded incorrectly with lead on top of tail. After consulting with the customer, the decision was made to re-blend second lead and tail to eliminate any possible contamination.
Event	6	Start Job	Start Job	10/19/2016	21:14:34	COM5	
Event	7	Test Lines	Test Lines	10/19/2016	21:19:06	COM5	Pressure test lines with a 500 PSI EKO test.
Event	8	Drop Bottom Plug	Drop Bottom Plug	10/19/2016	21:26:44	COM5	Bottom plug loaded directly into casing.
Event	9	Pump Spacer 1	Pump Spacer 1	10/19/2016	21:27:30	COM5	Pump 40 bbls Tuned Spacer mixed at 11.5 ppg with Surfactants added. Density verified by pressurized scales.
Event	10	Pump Spacer 2	Pump Spacer 2	10/19/2016	21:35:55	COM5	Pump 40 bbls Tuned Spacer mixed at 11.5 ppg. Density verified by pressurized scales.
Event	11	Drop Bottom Plug	Drop Bottom Plug	10/19/2016	21:46:48	COM5	Bottom plug loaded directly into casing.
Event	12	Pump Lead Cement	Pump Lead Cement	10/19/2016	21:47:45	COM5	Pump 42 bbls (150 sacks) ElastiCem without Super-CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	13	Pump Lead Cement	Pump Lead Cement	10/19/2016	21:54:20	COM5	Pump 142 bbls (500 sacks) ElastiCem with Super-CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	14	Check Weight	Check weight	10/19/2016	21:54:55	COM5	Cement weighed at 13.15 ppg.
Event	15	Check Weight	Check weight	10/19/2016	22:06:12	COM5	Cement weighed at 13.2 ppg.

Event	16	Pump Tail Cement	Pump Tail Cement	10/19/2016	22:11:48	COM5	Pump 200 bbls (668 sacks) EconoCem mixed with 13.5 ppg. Density verified using pressurized scales.
Event	17	Check Weight	Check weight	10/19/2016	22:12:49	COM5	Cement weighed at 13.5 ppg.
Event	18	Check Weight	Check weight	10/19/2016	22:15:24	COM5	Cement weighed at 13.5 ppg.
Event	19	Check Weight	Check weight	10/19/2016	22:34:53	COM5	Cement weighed at 13.5 ppg.
Event	20	Shutdown	Shutdown	10/19/2016	22:41:13	COM5	
Event	21	Other	Other	10/19/2016	22:41:15	USER	Rig blew down lines to wash up tank.
Event	22	Clean Lines	Clean Lines	10/19/2016	22:48:48	USER	Wash pumps and lines until clean.
Event	23	Drop Top Plug	Drop Top Plug	10/19/2016	22:52:03	COM5	Top plug loaded directly into casing.
Event	24	Pump Displacement	Pump Displacement	10/19/2016	22:52:14	COM5	Displace 242 bbls fresh water. Good returns throughout.
Event	25	Bump Plug	Bump Plug	10/19/2016	23:25:33	COM5	Bump at 1766 PSI and increased pressure to 2421 PSI . Held for 5 minutes.
Event	26	Check Floats	Check Floats	10/19/2016	23:31:50	USER	Floats held. 3 bbls back
Event	27	End Job	End Job	10/19/2016	23:45:00	USER	
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/19/2016	23:47:00	USER	Pre rig-down safety meeting with HES and H&P personnel.
Event	29	Other	Other	10/19/2016	00:03:40	USER	Blew down cement from contaminated bin. Each pot was blown into a separate truck for testing at the yard.
Event	30	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	10/19/2016	01:30:00	USER	Pre-journey safety meeting prior to departure.