

## HALLIBURTON

## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3630396		Quote #:		Sales Order #: 0903355651				
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Charles Culver						
Well Name: HESTON		Well #: LD06-630		API/UWI #: 05-123-40815-00						
Field: WILDCAT		City (SAP): RAYMER		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-5-9N-58W-952FSL-330FEL										
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HB61755				Srv Supervisor: Aaron Smith						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST		230 degF				
Job depth MD		16240ft		Job Depth TVD		5825				
Water Depth				Wk Ht Above Floor		3				
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	0	9.625	8.921	36			0	1913	0	1913
Casing	0	5.5	4.778	20			0	16228	0	5825
Open Hole Section			8.5				1913	16240	1913	5825
Tools and Accessories										
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	SSII	16228		Bottom Plug	5.5	2	HES	
Float Collar	5.5	1	SSII	16185		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5		HES	
Stage Tool	5.5					Centralizers	5.5		HES	
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 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.74				
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	

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2	11 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.75			
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	ExpandaCem w/o CBL	EXPANDACEM (TM) SYSTEM	150	sack	13.2	1.604		5	7.68
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	Expandacem	EXPANDACEM (TM) SYSTEM	486	sack	13.2	1.603			7.69
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	ECONOCEM (TM) SYSTEM	1445	sack	13.5	1.679			8
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	Displacement	358	bbl	8.33				
Cement Left In Pipe		Amount	43 ft		Reason			Shoe Joint	
Comment 5 bbls spacer to surface.									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Comments
Event	1	Call Out	Call Out	6/19/2016	04:00:00	USER				For on location @ 1000
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/19/2016	07:00:00	USER				Journey management meeting held prior to departure.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	6/19/2016	09:00:00	USER				With all equipment and material. Rig running casing.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/19/2016	09:30:00	USER				JSA to discuss the hazards of rig-up
Event	5	Rig-Up Equipment	Rig-Up Equipment	6/19/2016	09:35:00	USER				
Event	6	Rig-Up Completed	Rig-Up Completed	6/19/2016	10:15:00	USER				
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/19/2016	13:30:00	USER				With all essential personnel
Event	8	Start Job	Start Job	6/19/2016	13:55:13	COM5				With water supplied from frac tanks, water tested fine to mix cement (pH 7, temp 76F, Cl 0)
Event	9	Test Lines	Test Lines	6/19/2016	14:05:55	COM5	0.00	3584.00	8.41	Test IBOP @3500 psi,
Event	10	Test Lines	Test Lines	6/19/2016	14:09:15	COM5	0.00	5051.00	8.45	@5000 psi.
Event	11	Drop Bottom Plug	Drop Bottom Plug	6/19/2016	14:11:35	COM5				Hand dropped HWE bottom plug, verified by customer rep.
Event	12	Pump Spacer 1	Pump Spacer 1	6/19/2016	14:13:42	COM5	3.10	239.00	11.00	40 bbls tuned spacer @11 ppg. Added surfactants: 15 gal musol A, 15 gal dual spacer. Used 5 gal d-air to control air entrainment.
Event	13	Pump Spacer 2	Pump Spacer 2	6/19/2016	14:20:30	USER	5.00	383.00	10.91	40 bbls tuned spacer @ 11 ppg,
Event	14	Drop Bottom Plug	Drop Bottom Plug	6/19/2016	14:29:24	COM5				Hand dropped HWE bottom plug verified by customer rep.
Event	15	Pump Lead Cement	Pump Lead Cement	6/19/2016	14:35:50	COM5	4.10	409.00	13.33	150 sks (43 bbls) Elasticem @ 13.2 ppg. Weight was verified with pressurized scales.

Event	16	Pump Lead Cement	Pump Lead Cement	6/19/2016	14:41:48	COM5	8.10	684.00	13.21	486 SKS (138 bbls) Elasticem @ 13.2 ppg. Weight was verified with pressurized scales every pot swap.
Event	17	Pump Tail Cement	Pump Tail Cement	6/19/2016	15:03:23	COM5	8.00	639.00	13.35	1445 sks (432 bbls) Econocem @ 13.5 ppg. Weight was verified with pressurized scales every 50 bbls.
Event	18	Other	Other	6/19/2016	15:26:37	USER				Silo two's discharge valve was stuck. HES slowed rate to adjust weight.
Event	19	Shutdown	Shutdown	6/19/2016	15:53:32	COM5				Rig blew lines down.
Event	20	Drop Top Plug	Drop Top Plug	6/19/2016	16:06:27	COM5				Hand dropped HWE top plug in casing, verified by customer rep.
Event	21	Clean Lines	Clean Lines	6/19/2016	16:08:46	COM5				Wash pumps and lines to the tank.
Event	22	Pump Displacement	Pump Displacement	6/19/2016	16:17:58	COM5	10.00	388.00	8.43	358 bbls fresh water with aldecide.
Event	23	Spacer Returns to Surface	Spacer Returns to Surface	6/19/2016	16:51:05	USER				5 bbls of spacer total returned to surface. Calculated top of lead cement is 1774'.
Event	24	Bump Plug	Bump Plug	6/19/2016	16:54:43	USER	0.00	2375.00	8.10	@ 500 over. final circulating pressure 2056 psi
Event	25	Check Floats	Check Floats	6/19/2016	16:57:23	USER	0.00	586.00	8.08	4 bbls back, floats held.
Event	26	End Job	End Job	6/19/2016	17:00:00	USER				Thanks Aaron Smith and Crew
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/19/2016	17:05:00	USER				JSA to discuss the hazards of rig-up
Event	28	Rig-Down Equipment	Rig-Down Equipment	6/19/2016	17:10:00	USER				
Event	29	Rig-Down Completed	Rig-Down Completed	6/19/2016	17:45:00	USER				
Event	30	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/19/2016	18:00:00	USER				Journey management meeting held prior to departure. Journey called into dispatch