

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3730134	Quote #:	Sales Order #: 0903887308							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: Dave Nielson								
Well Name: HAZZARD FEDERAL	Well #: LC22-735	API/UWI #: 05-123-42980-00								
Field: WILDCAT	City (SAP): RAYMER	County/Parish: WELD	State: COLORADO							
Legal Description: NW NE-22-9N-59W-400FNL-1851FEL										
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 524								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB70026		Srv Supervisor: Nicholas Roles								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	10963ft	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	1929	0	1929
Casing		5.5	4.778	20			0	10960	0	6066
Open Hole Section			8.5				1929	10973	1929	6066
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			10960		Bottom Plug	5.5	2	HES	
Float Collar	5.5					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 ft ³ /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		6		
147.42 lbm/bbl		BARITE, BULK (100003681)								
35.10 gal/bbl		FRESH WATER								
0.40 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
0.40 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.50 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								

Last updated on 3/16/2017 12:44:50 PM

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iCem® Service

(v. 4.3.44)

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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		6	
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		6	7.54
7.54 Gal		FRESH WATER							
0.30 %		SCR-100 (100003749)							
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 W /CBL	ELASTICEM (TM) SYSTEM	458	sack	13.2	1.6		6	7.69
0.30 %		SCR-100 (100003749)							
7.69 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	NeoCem Tail	NeoCem TM	545	sack	13.2	2.04		6	9.75
0.05 %		FE-2 (100001615)							
9.75 Gal		FRESH WATER							
0.04 %		SCR-100 (100003749)							
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	242	bbl	8.33			6	
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint	
Comment 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)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	3/7/2017	23:30:00	USER				Crew call out for o/i at 0530
Event	2	Arrive at Location from Service Center	Arrive at Location from Service Center	3/7/2017	05:30:00	USER				Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment. Rig just landed on bottom and began to circulate. We waited on relief pump due to previous pump not performing well.
Event	3	Standby - Other - see comments	Other	3/7/2017	06:00:00	USER				Water Test- PH-6 Chlo-0 Temp-65 Cement temp-71
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/7/2017	06:30:00	USER				All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/7/2017	07:00:00	USER				Discussed job associated hazards, contingencies and job procedure with all job associated personnel.
Event	6	Start Job	Start Job	3/7/2017	07:55:51	COM1				TD-10973' TP-10963' 5.5" 20#, FC-10920', TVD-6066', OH-8.5", SURF-1929' 9.625" 36#, MUD-9.2#
Event	7	Test Lines	Test Lines	3/7/2017	08:16:41	COM1		8.59	4402.00	Pumped 5bbls fresh water to fill lines at 2bpm 85psi, closed 2" valve and performed 500psi function test, proceeded to bring pressure to 4500psi, held good with no leaks.
Event	8	Check Weight	Check Weight	3/7/2017	08:22:05	COM1				Weight verified with pressurized mud scales.
Event	9	Pump Spacer 1	Pump Spacer 1	3/7/2017	08:24:41	COM1	1.70	11.50	36.00	Pumped 80bbls of 11.5# 3.78y 23.78g/s Tuned Spacer III, first 40bbls with 16g Musol A, 16g Dual Spacer B and 10g D-Air at 6bpm 385psi.
Event	10	Check Weight	Check Weight	3/7/2017	08:27:33	COM1	5.00	11.29	347.00	Weight verified with pressurized mud scales.
Event	11	Drop Bottom Plug	Drop Bottom Plug	3/7/2017	08:45:06	COM1				Dropped by HES supervisor witnessed by company man.
Event	12	Pump Lead Cement	Pump Lead Cement	3/7/2017	08:45:11	COM1	6.00	13.20	30.00	Pumped 150sks or 41.9bbls of 13.2# 1.57y 7.54g/s Elasticem w/o CBL at 6bpm 630psi. Pumped 458sks or 130.5bbls of 13.2# 1.6y 7.69g/s Elasticem w/CBL at 8bpm 905psi

Event	13	Check Weight	Check Weight	3/7/2017	08:47:15	COM1				Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	3/7/2017	08:48:58	COM1	5.90	13.19	601.00	Weight verified with pressurized mud scales.
Event	15	Standby - Other - see comments	Standby - Other - see comments	3/7/2017	09:01:47	USER				Started to cavitate real bad and had to slow down, tried to get pressure to level out but something was stuck in HTs presumably. Ended up lasting until 30bbls into tail cement. leveled off at 6bpm 850psi. Continued to pump rest of job at 6bpm.
Event	16	Pump Tail Cement	Pump Tail Cement	3/7/2017	09:26:44	COM1	6.00	13.20	342.00	Pumped 545sks or 198bbls of 13.2# 2.04y 9.75g/s NeoCem at 6bpm 1045psi.
Event	17	Check Weight	Check Weight	3/7/2017	09:31:00	COM1	6.10	13.12	834.00	Weight verified with pressurized mud scales.
Event	18	Check Weight	Check Weight	3/7/2017	09:34:57	COM1	6.20	13.19	883.00	Weight verified with pressurized mud scales.
Event	19	Other	Other	3/7/2017	10:09:12	COM1				Shutdown, rig blew iron down to pits, followed with 5bbls fresh water through pumps and lines.
Event	20	Drop Top Plug	Drop Top Plug	3/7/2017	10:14:07	COM1				Dropped by HES supervisor witnessed by company man.
Event	21	Pump Displacement	Pump Displacement	3/7/2017	10:14:13	COM1				Pumped 242bbls fresh water with first 20bbls with 10g of MMCR, at 6bpm 1965psi.
Event	22	Bump Plug	Bump Plug	3/7/2017	10:58:18	COM1		8.17	2430.00	Slowed down to 3bpm 230bbls away, final circulating pressure-1810psi. Bump pressure-2340psi.
Event	23	Check Floats	Check Floats	3/7/2017	11:03:06	USER				Released pressure and got 3bbls fresh water back.
Event	24	End Job	End Job	3/7/2017	11:10:27	COM1				No spacer to surface.
Event	25	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	3/7/2017	11:15:00	USER				All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	26	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/7/2017	13:00:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	27	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/7/2017	13:30:00	USER				Pre journey managment prior to departure.