

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3789665	Quote #:	Sales Order #: 0904103103							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: John Drahota								
Well Name: KONA	Well #: A19-685	API/UWI #: 05-123-44525-00								
Field: WATTENBERG	City (SAP): GILL	County/Parish: WELD	State: COLORADO							
Legal Description: NW SW-21-6N-64W-2343FSL-1100FWL										
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: Nicholas Roles								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST	230 degF							
Job depth MD	18810ft	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	1958	0	1958
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	18810	0	0
Open Hole Section			8.5				1958	7376	1958	6909
Open Hole Section			8.5				7376	19292		
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	11.5 lb/gal Tuned Spacer III w/ Chems	Tuned Spacer III	80	bbl	11.5	3.78		4		
34.70 gal/bbl		FRESH WATER								
0.60 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
147.42 lbm/bbl		BARITE, BULK (100003681)								
0.60 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
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	ElastiCem	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		8	7.53	
7.53 Gal		FRESH WATER								

iCem® Service

(v. 4.4.18)

Created: Thursday, June 22, 2017

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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
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	719	sack	13.2	1.6		8	7.69
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/min	Total Mix Fluid Gal
4	NeoCem NT1	NeoCem TM	1278	sack	13.2	2.04		8	9.75
9.75 Gal		FRESH WATER							
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	Displacement	416.5	bbl	8.33			10	
Cement Left In Pipe		Amount	51ft		Reason			Shoe Joint	
Comment Got trace spacer to surface. Estimated TOL#1-1507', TOL#2-2440',TOT-7462'									

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	6/21/2017	01:00:00	USER				Crew call out for o/l at 0700
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/21/2017	04:45:00	USER				All crew aware of hazards and directions. All fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/21/2017	05:00:00	USER				Started journey management.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/21/2017	06:00:00	USER				Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment. Rig had ~2000ft casing left to run.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/21/2017	06:15:00	USER				All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	6	Other	Other	6/21/2017	07:00:00	USER				Water Test- PH-6 Chlo-0 Temp-60 Cement temp-70
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/21/2017	17:00:00	USER				Discussed job associated hazards, contingencies and job procedure with all job associated personnel.
Event	8	Start Job	Start Job	6/21/2017	17:37:49	COM4				TD-19292', TP-18810' 5.5" 20#, FC-18759', TVD-6909', SURF-1958' 9.625" 36#, OH-8.5" MUD-9.2#
Event	9	Drop Bottom Plug	Drop Bottom Plug	6/21/2017	17:48:02	COM4				Dropped by HES supervisor, witnessed by company man.
Event	10	Test Lines	Test Lines	6/21/2017	17:51:03	COM4	8.31		4530.00	Pumped 5bbls fresh water to fill lines, closed 2" lo torc, performed 500psi k/o function test, followed with 5th gear stall at 1320psi, proceeded to bring pressure to 4500psi, held pressure, no leaks.
Event	11	Test Lines	Test Lines	6/21/2017	17:57:22	COM4	8.38		2701.00	Performed 3000psi test on Rig Kelly Line. Held pressure, no leaks.
Event	12	Pump Spacer 1	Pump Spacer 1	6/21/2017	18:02:51	COM4	11.44	4.70	410.00	Pumped 80bbls Tuned Spacer III 11.5# 3.78y 23.5g/s with 50g Musol A, 50g Dual Spacer B and 20g D-Air at 4bpm 160psi.
Event	13	Check Weight	Check Weight	6/21/2017	18:05:18	USER	11.51	4.20	327.00	Weight verified with pressurized mud scales.
Event	14	Drop Bottom Plug	Drop Bottom Plug	6/21/2017	18:22:48	USER				Dropped by HES supervisor, witnessed by company man.

Event	15	Pump Lead Cement	Pump Lead Cement	6/21/2017	18:27:38	COM4	13.34	5.00	278.00	Pumped 150sks or 41.9bbbls Elasticem w/o CBL 13.2# 1.57y 7.53g/s at 8bpm 590psi.
Event	16	Check Weight	Check Weight	6/21/2017	18:29:37	USER	13.15	8.00	578.00	Weight verified with pressurized mud scales.
Event	17	Pump Lead Cement	Pump Lead Cement	6/21/2017	18:33:29	COM4	13.19	8.00	576.32	Pumped 719sks or 204.9bbbls Elasticem w/CBL 13.2# 1.6y 7.69g/s at 8bpm 600psi.
Event	18	Check Weight	Check Weight	6/21/2017	18:38:58	COM4	13.22	7.93	625.22	Weight verified with pressurized mud scales.
Event	19	Pump Tail Cement	Pump Tail Cement	6/21/2017	19:01:26	COM4	13.28	7.70	688.40	Pumped 1278sks or 464.3bbbls 13.2# 2.04y 9.75g/s Neocem at 8bpm 920psi. Tail was cut short from 1339sks to 1278sks due to rig not running casing to calculated depth of 19276', casing was set at 18810'.
Event	20	Check Weight	Check Weight	6/21/2017	19:07:27	COM4	13.18	8.00	852.66	Weight verified with pressurized mud scales.
Event	21	Check Weight	Check Weight	6/21/2017	19:32:36	USER	13.20	8.00	862.00	Weight verified with pressurized mud scales.
Event	22	Pump Tail Cement	Pump Tail Cement	6/21/2017	19:58:27	COM4	13.18	8.00	856.00	Pumped the additional 38.5sks of Tail from last pod of 660.
Event	23	Shutdown	Shutdown	6/21/2017	20:04:05	COM4				Shutdown, rig blew air through lines to pits, followed with 5bbbls fresh water through pumps and lines.
Event	24	Drop Top Plug	Drop Top Plug	6/21/2017	20:04:18	COM4				Dropped by HES supervisor, witnessed by company man.
Event	25	Pump Displacement	Pump Displacement	6/21/2017	20:16:12	COM4	8.24	10.10	480.00	Pumped 416.5bbbls fresh water with 10g MMCR in first 20bbbls, 20g Algicide throughout.
Event	26	Bump Plug	Bump Plug	6/21/2017	21:03:03	COM4	8.29	2.90	1875.00	Slowed down to 3bpm at 395bbbls away, final circulating pressure-1730psi, bump pressure-2210PSI
Event	27	Check Floats	Check Floats	6/21/2017	21:08:04	USER				Released pressure and got 4bbbls fresh water to truck, floats held.
Event	28	End Job	End Job	6/21/2017	21:11:10	COM4				Got trace spacer to surface. Estimated TOL#1-1507', TOL#2-2440',TOT-7462'
Event	29	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	6/21/2017	21:15:00	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	30	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/21/2017	22:45:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	31	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/21/2017	23:00:00	USER				Pre journey managment prior to departure.