

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3783213	Quote #:	Sales Order #: 0904231265							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: John Drahota								
Well Name: WELLS RANCH	Well #: AF07-638	API/UWI #: 05-123-44247-00								
Field: WATTENBERG	City (SAP): KERSEY	County/Parish: WELD	State: COLORADO							
Legal Description: SE SE-8-5N-62W-1312FSL-175FEL										
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									
Job depth MD	16079ft	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	1942	0	1942
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	19079	0	6482
Open Hole Section			8.5				1942	6386	1942	6386
Open Hole Section			8.5				6386	16090	6386	6482
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 w/ Chems	Tuned Spacer III	80	bbl	11.5	3.78		6		
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 ft ³ /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								
0.90 %		SCR-100 (100003749)								

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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	501	sack	13.2	1.6		8	7.7
7.70 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/min	Total Mix Fluid Gal
4	NeoCem NT1	NeoCem TM	1091	sack	13.2	2.041		8	9.75
9.75 Gal		FRESH WATER							
0.08 %		SCR-100 (100003749)							
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	356	bbl	8.33			10	
Cement Left In Pipe		Amount	43		Reason			Shoe Joint	
Comment Got 5bbls spacer to surface. Estimated TOL#1-1503', TOL#2-2545',TOT-6043'									

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	8/15/2017	17:00:00	USER				Called out by Service Coordinator for O/L at 0000
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/15/2017	20:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/15/2017	21:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/15/2017	22:00:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/15/2017	22:15:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	8/15/2017	23:00:00	USER				Water test- PH-7, Chlor-0, Temp-60. Cement temp-70.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/16/2017	03:30:00	USER				Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	8/16/2017	04:00:06	COM4				TD-16090', TP-16079' 5.5" 20#, FC-16036', TVD-6482, SURF-1942' 9.625" 36#, OH-8.5" MUD-9.3#
Event	9	Drop Bottom Plug	Drop Bottom Plug	8/16/2017	04:00:50	USER				Dropped by HES supervisor, witnessed by company man.
Event	10	Test Lines	Test Lines	8/16/2017	04:03:01	COM4	8.40		4441.00	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	Pump Spacer 1	Pump Spacer 1	8/16/2017	04:16:33	COM4	11.05	3.90	194.00	Pumped 80bbls Tuned Spacer III 11.5# 3.78y 23.5g/s with 45g Musol A, 45g Dual Spacer B and 10g D-Air at 6bpm 350psi.
Event	12	Check Weight	Check weight	8/16/2017	04:17:16	COM4	11.20	3.90	194.00	Weight verified with pressurized mud scales.
Event	13	Drop Bottom Plug	Drop Bottom Plug	8/16/2017	04:33:39	USER				Dropped by HES supervisor, witnessed by company man.
Event	14	Pump Lead Cement	Pump Lead Cement	8/16/2017	04:37:03	COM4	13.45	6.20	560.00	Pumped 150sks or 41.9bbls Elasticem w/o CBL 13.2# 1.53y 7.53g/s at 8bpm 590psi.

Event	15	Check Weight	Check weight	8/16/2017	04:38:51	COM4	13.14	6.10	531.00	Weight verified with pressurized mud scales.
Event	16	Pump Lead Cement	Pump Lead Cement	8/16/2017	04:44:34	COM4	13.27	8.00	720.00	Pumped 501sk or 142.7bbls Elasticem w/CBL 13.2# 1.6y 7.69g/s at 8bpm 745psi.
Event	17	Pump Tail Cement	Pump Tail Cement	8/16/2017	05:03:42	COM4	13.23	7.10	621.00	Pumped 1091sk or 396.4bbls 13.2# 2.04y 9.75g/s Neocem at 8bpm 850psi.
Event	18	Check Weight	Check weight	8/16/2017	05:07:12	COM4	13.16	7.90	963.00	Weight verified with pressurized mud scales.
Event	19	Check Weight	Check weight	8/16/2017	05:09:57	COM4	13.18	7.90	955.00	Weight verified with pressurized mud scales.
Event	20	Clean Lines	Clean Lines	8/16/2017	06:04:54	COM4				Shutdown, rig blew air through lines to pits, followed with 5bbls fresh water through pumps and lines.
Event	21	Drop Top Plug	Drop Top Plug	8/16/2017	06:09:40	COM4				Dropped by HES supervisor, witnessed by company man.
Event	22	Pump Displacement	Pump Displacement	8/16/2017	06:09:52	COM4	8.26	10.10	605.00	Pumped 356bbls fresh water with 10g MMCR in first 20bbls, 15g Algicide throughout.
Event	23	Bump Plug	Bump Plug	8/16/2017	06:51:33	COM4	8.31	3.20	1923.00	Slowed down to 3bpm at 336bbls away, final circulating pressure 1800psi, bump pressure 2200PSI. Held pressure for 5min casing test, pressure came up to 2440psi.
Event	24	Check Floats	Check Floats	8/16/2017	06:56:42	USER				Released pressure and got _bbls fresh water to truck, floats held.
Event	25	End Job	End Job	8/16/2017	07:00:04	COM4				Got 5bbls spacer to surface. Estimated TOL#1-1503', TOL#2-2545', TOT-6043'
Event	26	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/16/2017	07:05:00	USER				Discussed rigging down hazards and procedure according to HMS.
Event	27	Depart Location Safety Meeting	Depart Location Safety Meeting	8/16/2017	09:00:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	28	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/16/2017	09:30:00	USER				Pre journey management prior to departure.