

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3783319		Quote #:		Sales Order #: 0904219783					
Customer: NOBLE ENERGY INC - EBUS				Customer Rep:							
Well Name: WELLS RANCH		Well #: AF07-631		API/UWI #: 05-123-44241-00							
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO					
Legal Description: SE SE-8-5N-62W-1275FSL-175FEL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB70026				Srcv Supervisor: Luke Kosakewich							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type		BHST									
Job depth MD		15965ft		Job Depth TVD		6530ft					
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	1943	0	1943	
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	15950	0	0	
Open Hole Section			8.5				1943	6530	1943	6530	
Open Hole Section			8.5				6530	15965	0	0	
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		5	
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
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			502	sack	13.2	1.61		8	7.7
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

iCem® Service

(v. 4.4.18)

Created: Monday, August 14, 2017

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4	NeoCem NT1	NeoCem TM	1079	sack	13.2	2.04		8	9.75
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 with MMCR in the first 20 bbls. and Biocide throughout	353	bbl	8.33			10	
Cement Left In Pipe									
Cement Left In Pipe		Amount	43ft	Reason				Shoe Joint	
Comment Got 10 bbls. of spacer back to surface. Estimated top of Lead is 1461ft and top of tail is 5,868'. Full returns through out the job. Floats held. Got 4.5 bbls. of fluid back to the truck.									

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)	DS Pump Press (psi)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	8/11/2017	02:00:00	USER				Crew was called out at 02:00 for an on location time 08:00.
Event	2	Depart Location Safety Meeting	Depart Location Safety Meeting	8/11/2017	03:00:00	USER				Held pre journey safety meeting and JSA. Started journey management with dispatch and left location.
Event	3	Arrive at Shop	Arrive at Shop	8/11/2017	03:30:00	USER				Arrived at the yard to fix and wash the trucks and pick up new trucks and euipment needed for the cement job.
Event	4	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/11/2017	06:15:00	USER				Held pre journey safety meeting and JSA.
Event	5	Depart Shop for Location	Depart Shop for Location	8/11/2017	06:40:00	USER				Started journey management with dispatch and departed for location.
Event	6	Arrive at Location from Service Center	Arrive at Location from Service Center	8/11/2017	08:10:00	USER				Preformed a site assessment and hazard hunt. Checked in with the customer and disscussed job procedures, rig up, and well bore scamatickets to calculate the cement job. Well boar: MD:15,965', TP: 5.5" 20# 15,950', FC: 15,907', OH: 8.5", TVD: 6,530', SC: 9.625" 36# 1,943', Mud# 9.4. Water Test: PH: 7.2 Chlorides: 0, Temp 59 degrees.
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/11/2017	08:20:00	USER				Held pre rig up safety meeting and JSA.
Event	8	Rig-Up Equipment	Rig-Up Equipment	8/11/2017	08:30:00	USER				Rigged up all lines, hoses, and equipment needed for the job.
Event	9	Safety Meeting	Safety Meeting	8/11/2017	11:30:00	USER				Held pre job safety meeting with all personnel on location.
Event	10	Start Job	Start Job	8/11/2017	11:46:19	COM4				Pumped 5 bbls. of fresh water to fill lines.
Event	11	Test Lines	Test Lines	8/11/2017	11:54:30	COM4				Pressure tested lines to 4,500 psi. with a 500 psi. electronic kick out test.
Event	12	Other	Other	8/11/2017	11:56:04	USER				Found a leak on the stand pipe. The company man had the rig hands get a man basket to fix to leak.
Event	13	Resume	Resume	8/11/2017	12:16:52	USER	0.00	4282.00	8.64	The leak was fixed. Had a succcessful pressure test.
Event	14	Drop Bottom Plug	Drop Bottom Plug	8/11/2017	12:27:15	USER				Dropped the bottom plug directly into the casing. Witnessed by the

customer.

Event	15	Pump Spacer 1	Pump Spacer 1	8/11/2017	12:29:20	COM4	4.00	436.00	11.63	Pumed 80 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg. Density was verified by pressurized scales.
Event	16	Drop Bottom Plug	Drop Bottom Plug	8/11/2017	12:54:57	USER				Dropped the bottom plug directly into the casing. Witnessed by the customer.
Event	17	Pump Lead Cement	Pump Lead Cement	8/11/2017	12:59:27	COM4	8.20	686.00	13.32	Pumped 42 bbls. (150 sks.) of Elasticem cap cement mixed at 13.2 ppg. Followed by 143 bbls. (502 sks.) of Elasticem mixed at 13.2 ppg. Density was verified by pressurized scales every tear of cement.
Event	18	Pump Tail Cement	Pump Tail Cement	8/11/2017	13:29:08	COM4	8.10	1039.00	13.26	Pumped 392 bbls. (1079 sks.) of Neocem mixed at 13.2 ppg. Density was verified by pressurized scales.
Event	19	Check Weight	Check weight	8/11/2017	13:30:58	COM4	8.10	1018.00	13.16	Cement weighed up at 13.3 ppg.
Event	20	Shutdown	Shutdown	8/11/2017	14:22:18	COM4				Rig blew down lines to the wash up tank.
Event	21	Clean Lines	Clean Lines	8/11/2017	14:22:23	COM4				Washed pumps and lines until clean.
Event	22	Drop Top Plug	Drop Top Plug	8/11/2017	14:34:30	COM4				Dropped the top plug directly into the casing. Witnessed by the customer.
Event	23	Pump Displacement	Pump Displacement	8/11/2017	14:37:28	COM4	10.10	624.00	8.24	Displaced 352 bbls. of fresh water with MCCR in the first 20 and Biocide throughout the rest of displacement.
Event	24	Bump Plug	Bump Plug	8/11/2017	15:19:51	COM4	3.00	1973.00	8.29	Bumped the 500 psi. over 2,200 psi. at 3 bpm. Finale pressure was 2,679 psi. Got 10 bbls. of spacer to surface. Estimated TOL is 1,461' and TOT is 5,868'.
Event	25	Check Floats	Check Floats	8/11/2017	15:24:36	USER				Bled off pressure from 2,846 psi. to check floats. Floats held. Got 4.5 bbls. of fluid back to the truck.
Event	26	End Job	End Job	8/11/2017	15:29:17	COM4				Washed pumps and lines until clean.
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/11/2017	15:35:00	USER				Held pre rig down safety meeting and JSA.
Event	28	Rig-Down Equipment	Rig-Down Equipment	8/11/2017	15:40:00	USER				Rigged down all lines, hoses, and equipment.
Event	29	Depart Location Safety Meeting	Depart Location Safety Meeting	8/11/2017	16:30:00	USER				Held a pre journey safety meeting and JSA.
Event	30	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/11/2017	16:45:00	USER				Started journey management with dispatch and left location.