

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3783268		Quote #:		Sales Order #: 0904194898				
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Woodie Beardsly						
Well Name: WELLS RANCH			Well #: AF07-618			API/UWI #: 05-123-44251-00				
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-8-5N-62W-1200FSL-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: Aaron Smith						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type		BHST								
Job depth MD		16051ft			Job Depth TVD		6914			
Water Depth		Wk Ht Above Floor 4								
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	1936	0	1936
Casing	0	5.5	4.778	20	BUTTRESS	P-110	0	16033	0	6914
Open Hole Section			8.5				1941	6413	0	6413
Open Hole Section			8.5				6413	16051	0	6914
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			
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		6	7.53
7.52 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
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM		514	sack	13.2	1.61		6	7.7

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7.71 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	1083	sack	13.2	2.04		6	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	355	bbl	8.33				
Cement Left In Pipe	Amount	Reason					Shoe Joint		
Comment No spacer to surface, TOTC 6414', TOLC 1798'.									

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	8/2/2017	00:00:00	USER				Crew of Aaron Smith, Bryan Kraft, John Camper, and Mark Ruth called out for on location @ 0600
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/2/2017	03:45:00	USER				Journey management meeting held prior to departure to discuss the route and hazards of route.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/2/2017	04:00:00	USER				Depart yard with all equipment and materials, Pump Truck 11644701/11645460, Bulk Truck 11562544/11633846. Pickup 12422574.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/2/2017	05:30:00	USER				With all equipment and materials. Discussed job procedure and numbers with customer rep. Verified all plugs, 1 HWE top plug, and 2 HWE bottom plugs.
Event	5	Comment	Comment	8/2/2017	05:35:00	USER				TD, 16051' 8 1/2" OH, TP 16033' 5 1/2" 20#/FT, FC 15989' SSII, PACKER 2085-2090, TVD 6914, SC 1941' 9 5/8 36#/FT. 192 Centek Centralizers,
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/2/2017	05:40:00	USER				JSA to discuss the hazards of rig-up with HES crew.
Event	7	Rig-Up Equipment	Rig-Up Equipment	8/2/2017	05:45:00	USER				Rig-up all surface lines and equipment.
Event	8	Casing on Bottom	Casing on Bottom	8/2/2017	07:30:00	USER				Landing joint brought to floor and landed.
Event	9	Circulate Well	Circulate Well	8/2/2017	07:35:00	USER				MW 9.3 ppg, pv10, yp 6, Gels 4/5/6. 10 BPM, 1022 bbls, 1.5 hrs, Gas 44 Units. 720 psi.
Event	10	Rig-Up Completed	Rig-Up Completed	8/2/2017	08:00:00	USER				With no incidents or injuries.
Event	11	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/2/2017	09:13:35	USER	0.00	8.27	-2.00	With all essential personnel, to discuss job procedure, and hazards of pumping the job.
Event	12	Start Job	Start Job	8/2/2017	09:44:35	COM5				With water supplied from uprights, water tested good to mix cement PH 7, Cl 52 PPM, Temp 73.
Event	13	Test Lines	Test Lines	8/2/2017	09:47:25	USER		8.31	4694.00	@4500 psi, pressure test was good.

Event	14	Drop Bottom Plug	Drop Bottom Plug	8/2/2017	09:55:00	USER				Loaded bottom plug in casing, verified by customer
Event	15	Pump Spacer 1	Pump Spacer 1	8/2/2017	09:56:08	USER	4.10	11.54	354.00	80 bbls tuned spacer @ 11.5 ppg, 3.78 ft3/sk, 23.5 gal/sk, verified with pressurized scales. 4 BPM, 230 PSI.
Event	16	Drop Bottom Plug	Drop Bottom Plug	8/2/2017	10:17:22	USER				Loaded bottom plug in casing, verified by customer rep.
Event	17	Pressure Up	Pressure Up	8/2/2017	10:19:31	USER				IBOP on top drive was closed when HES came on line to pump 1st Lead. Bled pressure off, open IBOP and continued job.
Event	18	Pump Lead Cement	Pump Lead Cement	8/2/2017	10:22:42	USER	8.00	13.22	466.00	150 sks (41.94 bbls) Elasticem @ 13.2 ppg, 1.57 ft3/sk, 7.53 gal/sk. Verified with pressurized scales. 8 BPM, 460 PSI.
Event	19	Pump Lead Cement	Pump Lead Cement	8/2/2017	10:29:40	USER	8.00	13.09	465.00	514 sks (147.39 bbls) Elasticem @ 13.2 ppg, 1.61 ft3/sk, 7.71 gal/sk. verified with pressurized scales. 8 BPM 460 PSI.
Event	20	Pump Tail Cement	Pump Tail Cement	8/2/2017	10:51:41	USER	6.00	13.21	369.00	1083 sks (393.48 bbls,) NeoCem @ 13.2 ppg, 2.04 ft3/sk, 9.75 gal/sk. Verified with pressurized scales. 6 BPM, 480 PSI.
Event	21	Shutdown	Shutdown	8/2/2017	11:45:20	USER				To blow lines down.
Event	22	Drop Top Plug	Drop Top Plug	8/2/2017	11:48:53	USER				Dropped top plug in casing verified with customer rep.
Event	23	Clean Lines	Clean Lines	8/2/2017	11:51:01	USER				Wash pumps and lines to the pit.
Event	24	Pump Displacement	Pump Displacement	8/2/2017	11:56:36	USER	10.00	8.32	338.00	354.96 bbls fresh water, with 10 gallons mmcr in the first 20 bbls, 20 gallons aldicide throughout. 10 BPM 310 PSI
Event	25	Bump Plug	Bump Plug	8/2/2017	12:35:09	USER	3.00	8.42	1695.00	500 psi over final circulating pressure. Final circulating pressure
Event	26	Check Floats	Check Floats	8/2/2017	12:39:02	USER				4 bbls back, Floats held.
Event	27	End Job	End Job	8/2/2017	12:40:31	COM5				No HES pumped slurries to surface, TOTC 6414', TOLC 1798
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/2/2017	12:42:56	USER				JSA to discuss the hazards of rig down.
Event	29	Rig-Down Equipment	Rig-Down Equipment	8/2/2017	12:46:38	USER				Rig-down all equipment and surface lines.
Event	30	Rig-Down Completed	Rig-Down Completed	8/2/2017	13:20:00	USER				With no incidents or injuries.
Event	31	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/2/2017	13:30:00	USER				Journey management meeting held prior to departure.
Event	32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/2/2017	13:45:00	USER				Thanks You for Choosing Halliburton Cementing, Aaron Smith and Crew.