

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3684182	Quote #:	Sales Order #: 0903020631
Customer: NOBLE ENERGY INC E-BUSINESS		Customer Rep: Seth Mulhein	
Well Name: WELLS RANCH	Well #: BB01-649	API/UWI #: 05-123-41972-00	
Field: WATTENBERG	City (SAP): KERSEY	County/Parish: WELD	State: COLORADO
Legal Description: NW SW-5-5N-62W-2056FSL-426FWL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321	
Job BOM: 392189			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Vaughn Oteri	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type		BHST	225 degF
Job depth MD	6824ft	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	0	9.625	8.921	36	BTC	J-55	0	1851	0	1851
Casing	0	5.5	5.45		BTC	P-110	0	16303		16303
Open Hole Section			8.5				1851	16403	0	16403

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	Packers Plus
Float Shoe	5.5				Bottom Plug	5.5		
Float Collar	5.5				SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5			6824	Centralizers	5.5		

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	12.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	12.5	2.75		6		

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2	12.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	12.5	2.75		6		
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	ELASTICEM (TM) SYSTEM	607	sack	13.6	1.88		6	8.57	
	0.50 %	HR-5, 50 LB SK (100005050)								
	8.57 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	Displacement	Displacement	153	bbl	8.33					
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint		
Comment Trace of spacer back to surface										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	Comments
Event	1	Other	Water info	1/5/2016	22:19:35	USER				Water test=pH: 7, Cl: 0 , temp _56 degrees
Event	2	Other	Well info	1/5/2016	22:21:54	USER				TD: 16403', TP 16303', DV: 6824' OH: _8 1/2"_, Casing: Size/5 1/2" Weight : 20 ppf, Previous Casing Shoe: 1851'
Event	3	Call Out	Call Out	1/5/2016	22:23:23	USER				Call out from ARC hub
Event	4	Arrive At Loc	Arrive At Loc	1/5/2016	22:23:27	USER				Requested on location @1500 Arrived on location @ 1500 met with company rep to discuss job process and concerns advised that rig was having issues and may be a while before they are ready for HES
Event	5	Start Job	Start Job	1/6/2016	02:26:32	COM4	-50.00	8.63	0.00	Pre-loaded plug into cement head witnessed by company rep. Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	6	Test Lines	Test Lines	1/6/2016	02:29:40	COM4	4532.00	9.20	0.00	Pressure Test Lines to 4532 PSI
Event	7	Pump Spacer 1	Pump Spacer 1	1/6/2016	02:43:34	COM4	191.00	13.51	3.20	Pump 40 bbls Tuned Spacer III @ 12.5 lb/gal (Surfactants Added on Batch Mixer) Density Verified by Pressurized Scales
Event	8	Pump Spacer 2	Pump Spacer 2	1/6/2016	02:50:59	COM4	94.00	12.67	5.00	Pump 40 bbls Tuned Spacer III @ 12.5 lb/gal (No Surfactants) Density Verified by Pressurized Scales
Event	9	Pump Cement	Pump Cement	1/6/2016	03:02:31	COM4	384.00	13.48	7.90	Mix and Pump 607 sks (203.2 bbls) ElastiCem Cement @ 13.6 lb/gal (Density Verified by Pressurized Scales) Y1.88 G/SK8.57
Event	10	Shutdown	Shutdown	1/6/2016	03:28:52	COM4	-13.00	13.44	0.00	Shutdown, Prepare to Drop Plug and Clean Lines
Event	11	Clean Lines	Clean Lines	1/6/2016	03:31:47	COM4	-52.00	15.46	0.00	Rig Blows line clear from floor to wash-up tank, and Pump Truck washes pumps and lines.
Event	12	Drop Top Plug	Drop Top Plug	1/6/2016	03:33:38	COM4	-12.00	12.56	3.00	Drop Top Plug (Witnessed by Tool Rep.) Top Plug Pre-Loaded in Plug Container prior to starting job.
Event	13	Pump Displacement	Pump Displacement	1/6/2016	03:38:03	COM4	-12.00	8.34	0.00	Pump 153bbl Water Displacement (MMCR in First 10 bbls)

Event	14	Bump Plug	Bump Plug	1/6/2016	03:57:11	COM4	2986.00	8.35	0.00	Bump Plug @ 2986 PSI
Event	15	Pressure Up Well	Pressure Up Well	1/6/2016	03:59:34	COM4	4144.00	8.38	0.00	Pressure Up to 4143 PSI, Close D.V. Tool
Event	16	Other	Other	1/6/2016	04:02:44	COM4	2209.00	8.34	0.00	Release Pressure, Returned 1.5 bbls back to tanks. D.V Tool Closed.
Event	17	Pressure Up Well	Pressure Up Well	1/6/2016	04:05:39	COM4	3122.00	8.35	0.00	Pressure Up to 3125 PSI, Perform Casing Test
Event	18	Other	Other	1/6/2016	04:08:22	COM4	3149.00	8.31	0.00	Release pressure back to pump truck
Event	19	End Job	End Job	1/6/2016	04:22:57	COM4	-18.00	8.08	1.20	Trace of spacer back to surface