

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3968362		Quote #:		Sales Order #: 0906082728					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: John Drahota							
Well Name: WELLS RANCH STATE			Well #: AA32-789			API/UWI #: 05-123-50175-00					
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD			State: COLORADO				
Legal Description: 5-5N-63W-300FNL-663FWL											
Contractor: H & P DRLG					Rig/Platform Name/Num: H & P 517						
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB31357					Srvc Supervisor: Thomas Haas						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST		230 degF				
Job depth MD		16924ft			Job Depth TVD		6980				
Water Depth					Wk Ht Above Floor		5				
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			0	1934	0	1934	
Casing	0	5.5	4.892	17			0	16924	0	6980	
Open Hole Section			8.5				1934	16938	1934	6980	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
						Top Plug	5.5	1	HES		
Float Shoe	5.5	1	HES	16924		Bottom Plug	5.5	2	HES		
Float Collar	5.5	1	HES	16875							
						Plug Container	5.5	1	HES		
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	Tuned Prime Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS			120	bbl	11.5	3.87	24.5	8	4265
	3.50 lbm/bbl	SEM-93P, 35 LB SACK - (1023977)									
	3.50 lbm/bbl	SEM-94P, 35 LB SACK - (1023987)									
	1 lbm/bbl	FE-2, 2000 LB BAG - (1005549)									
	145.09 lbm/bbl	BARITE, BULK (100003681)									

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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	140	sack	13.2	1.67	8.04	8	1126
0.40 %		SCR-100, 2000 LB BAG - (1005967)							
8.03 Gal		FRESH WATER							
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
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	475	sack	13.2	1.67	8.04	8	3819
0.27 %		SCR-100, 2000 LB BAG - (1005967)							
8.04 Gal		FRESH WATER							
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
4	NeoCem NT1	NeoCem TM	1126	sack	13.2	2.04	9.79	8	11024
0.08 %		FE-2, 2000 LB BAG - (1005549)							
9.79 Gal		FRESH WATER							
0.08 %		SCR-100, 2000 LB BAG - (1005967)							
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
5	Displacement	Displacement	392	bbl	8.33			8	
Cement Left In Pipe									
Amount		49 ft			Reason			Shoe Joint	
Mix Water: pH 7		Mix Water Chloride: <300 ppm			Mix Water Temperature: 76 °F				
Cement Temperature: N/A		Plug Displaced by: 8.33 lb/gal F.W.			Disp. Temperature: 68 °F				
Plug Bumped? Yes		Bump Pressure: 1870 psi			Floats Held? Yes				
Cement Returns: N/A		Returns Density: N/A			Returns Temperature: N/A				
Comment PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 1870 PSI, 5 MIN CASING TEST AT 2300 PSI, FLOATS HELD, 4 BBL BACK. INTERFACE RETURNED TO SURFACE.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	11/10/2019	20:00:00	USER	CREW CALLED OUT AT 20:00 11/10/2019, REQUESTED ON LOCATION 6:00 11/11/2019. CREW PICKED UP CEMENT, CHEMICALS (40 GAL D-AIR, 10 GAL MMCR, 3 LBS BE-3), 100 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 11764737/10867096, BULK 660: 12113644/10867521, PUMP ELITE: 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/11/2019	00:00:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	11/11/2019	00:30:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	11/11/2019	02:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1934', CASING: 5.5" 17# @ 16924', 49' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 6980', 9.4 PPG WELL FLUID, FRESH WATER DISPLACEMENT.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/11/2019	04:00:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/11/2019	04:10:00	USER	CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/11/2019	09:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	11/11/2019	09:36:16	COM4	START JOB DATA RECORDING.
Event	9	Drop Bottom Plug	Drop Bottom Plug	11/11/2019	09:36:53	USER	PLUG WAS LOADED DIRECTLY INTO THE LANDING JOINT, VERIFIED BY COMPANY MAN.
Event	10	Test Lines	Test Lines	11/11/2019	09:39:21	COM4	KICKOUTS SET @ 500 PSI, KICKED OUT @ 850 PSI, 5TH GEAR STALL OUT @ 1750 PSI. PRESSURE TESTED IRON TO 4800.
Event	11	Test Lines	Test Lines	11/11/2019	09:41:56	COM4	PRESSURE TESTED I-BOP TO 2000 PSI.
Event	12	Pump Spacer 1	Pump Spacer 1	11/11/2019	09:49:18	COM4	PUMP 120 BBLs OF TUNED SPACER @ 11.5 LB/GAL, ADDED 30 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	11/11/2019	10:07:17	COM4	SHUTDOWN TO DROP 2ND BOTTOM PLUG.

Event	14	Drop Bottom Plug	Drop Bottom Plug	11/11/2019	10:09:59	COM4	PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.
Event	15	Pump Cap Cement	Pump Cap Cement	11/11/2019	10:12:25	COM4	PUMP 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.67 YIELD, 8.04 GAL/SK, 41.6 BBLS, CALCULATED TOC @ 2441', DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ADDED 10 GAL OF D-AIR.
Event	16	Pump Lead Cement	Pump Lead Cement	11/11/2019	10:17:03	COM4	PUMP 475 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.68 YIELD, 8.04 GAL/SK, 141.3 BBLS, CALCULATED TOL @ 3461', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	17	Pump Tail Cement	Pump Tail Cement	11/11/2019	10:34:16	COM4	PUMP 1126 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 YIELD, 9.79 GAL/SK, 409.1 BBLS, CALCULATED TOT @ 6924, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	18	Shutdown	Shutdown	11/11/2019	11:28:42	COM4	SHUTDOWN TO DROP TOP PLUG AND CLEAN PUMPS AND LINES. RIGS SWIVEL PACKING WAS LEAKING, THEY GREASED IT AND HAMMERED IT UP.
Event	19	Drop Top Plug	Drop Top Plug	11/11/2019	11:49:45	COM4	TOP PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.

Event	20	Pump Displacement	Pump Displacement	11/11/2019	11:49:49	COM4	BEGIN CALCULATED DISPLACEMENT 392 BBL FRESH WATER. 10 GAL MMCR IN FIRST 20 BBL, 3 LBS OF BE-3 THROUGH OUT THE REST.
Event	21	Bump Plug	Bump Plug	11/11/2019	12:46:34	COM4	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 1870 PSI. INTERFACE RETURNED TO SURFACE.
Event	22	Other	Casing Test	11/11/2019	12:46:59	USER	5 MIN CASING TEST AT 2300 PSI.
Event	23	Other	Check Floats	11/11/2019	12:51:12	USER	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, 4 BBL BACK.
Event	24	End Job	End Job	11/11/2019	12:53:07	COM4	END JOB DATA RECORDING.
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/11/2019	17:00:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Completed	Rig-Down Completed	11/11/2019	17:10:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/11/2019	17:20:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	28	Crew Leave Location	Crew Leave Location	11/11/2019	17:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Job Chart

