

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3968433		<b>Quote #:</b>		<b>Sales Order #:</b> 0906156623					
<b>Customer:</b> NOBLE ENERGY INC-EBUS						<b>Customer Rep:</b> Chris Ewing					
<b>Well Name:</b> WELLS RANCH STATE				<b>Well #:</b> AA32-751		<b>API/UWI #:</b> 05-123-50171-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> GILL		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> 5-5N-63W-300FNL-2237FWL											
<b>Contractor:</b> H & P DRLG				<b>Rig/Platform Name/Num:</b> H & P 517							
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HB31357				<b>Srv Supervisor:</b> Prince Perez							
<b>Job</b>											
<b>Formation Depth (MD)</b>		<b>Top</b> 0'		<b>Bottom</b>		16,764'					
<b>Job depth MD</b>		16750ft		<b>Job Depth TVD</b>		6,860'					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		7'					
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing		9.625	8.921	36			0	1949	0	1949	
Casing		5.5	4.892	17			0	16750	0	6860	
Open Hole Section			8.5				1949	16764	1949	6860	
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	5.5	1		16,750		Top Plug	5.5	1	HES		
Float Shoe	5.5					Bottom Plug	5.5	2	HES		
Float Collar	5.5	1		16,702		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5				
Stage Tool	5.5					Centralizers	5.5				
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</b>											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS			120	bbl	11.5	3.87	24.5	6	4,266
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>

2	Cap	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.67	8.03	8	1,124
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	Lead	ELASTICEM (TM) SYSTEM	459	sack	13.2	1.67	8.04	8	3,690
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	Tail	NeoCem TM	1,119	sack	13.2	2.04	9.79	8	10,955
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	387.5	bbl	8.33				
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		<300 ppm		Mix Water Temperature:		80 °F
Cement Temperature:		## °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		80 °F
Plug Bumped?		Yes	Bump Pressure:		2,155 psi		Floats Held?		Yes
Cement Returns:		## bbl	Returns Density:		## lb/gal		Returns Temperature:		## °F
Comment									
Pumped 120 bbls of Tuned Prime Spacer with dry surfactants.									
Pumped 41.6 bbls of Elasticem.									
Pumped 136.5 bbls of Elasticem with SCBL.									
Pumped 406.6 bbls of Neocem.									
Pumped 387.5 bbls of fresh water displacement with MMCR in the first 20 bbls and 6 packets of BE-3 throughout.									
10 bbls of spacer interface to surface.									
4.5 bbls back on the floats.									

## 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)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	12/7/2019	16:40:00	USER					CREW CALLED OUT AT 16:40, REQUESTED ON LOCATION 21:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660, 10025027, 11566182, AND PUMP 11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/7/2019	17:50:00	USER					CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	12/7/2019	18:00:00	USER					STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	12/7/2019	19:50:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9/58" 36 LB/FT @ 1,948.6', 5.5" CASING: 17 LB/FT TOTAL 16,750.4', 8 1/2" HOLE, TD 16,764', 46' SHOE TRAC, TVD- 6,860'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 21:00 12/7/2019.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	12/7/2019	20:00:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH

LOCATION, RIG UP AND WEATHER.										
Event	6	Rig-Up Equipment	Rig-Up Equipment	12/7/2019	20:10:00	USER				RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	12/7/2019	23:20:00	USER	0.00	0.00	0.00	0.00
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/7/2019	23:30:00	USER	0.00	0.00	1.00	0.00
MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.										
Event	9	Start Job	Start Job	12/7/2019	23:42:19	COM4	0.00	0.00	1.00	0.00
BEGIN RECORDING JOB DATA.										
Event	10	Drop Bottom Plug	Drop Bottom Plug	12/7/2019	23:45:00	USER	0.00	1.00	356.00	4.20
LOADED BY THE COMPANY MAN.										
Event	11	Test Lines	Test Lines	12/7/2019	23:49:35	COM4	0.00	0.00	4654.00	5.10
PRESSURE TESTED IRON TO 4,700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 600 PSI, 5TH GEAR STALL OUT @ 1,740 PSI. 4,700 PRESSURE TEST KICKED OUT @ 4,570 PSI										
Event	12	Test Lines	Test Lines	12/7/2019	23:56:32	COM4	0.00	0.00	2505.00	5.50
TESTED IBOP TO 2,500 PSI.										
Event	13	Pump Spacer 1	Pump Spacer 1	12/7/2019	23:58:34	COM4	0.00	0.00	34.00	0.00
PUMP 120 BBLS OF TUNED PRIME SPACER @ 11.5 LB/GAL, 3.87 CUFT/SK, 24.5 GALL/SK. 35 GALS D-AIR. HOS CALCULATED @ 2,447.2'. 6 BBLS CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 6 BBLS/MIN @ 400 PSI. MIX WATER USED @ 3,755 GALLONS.										

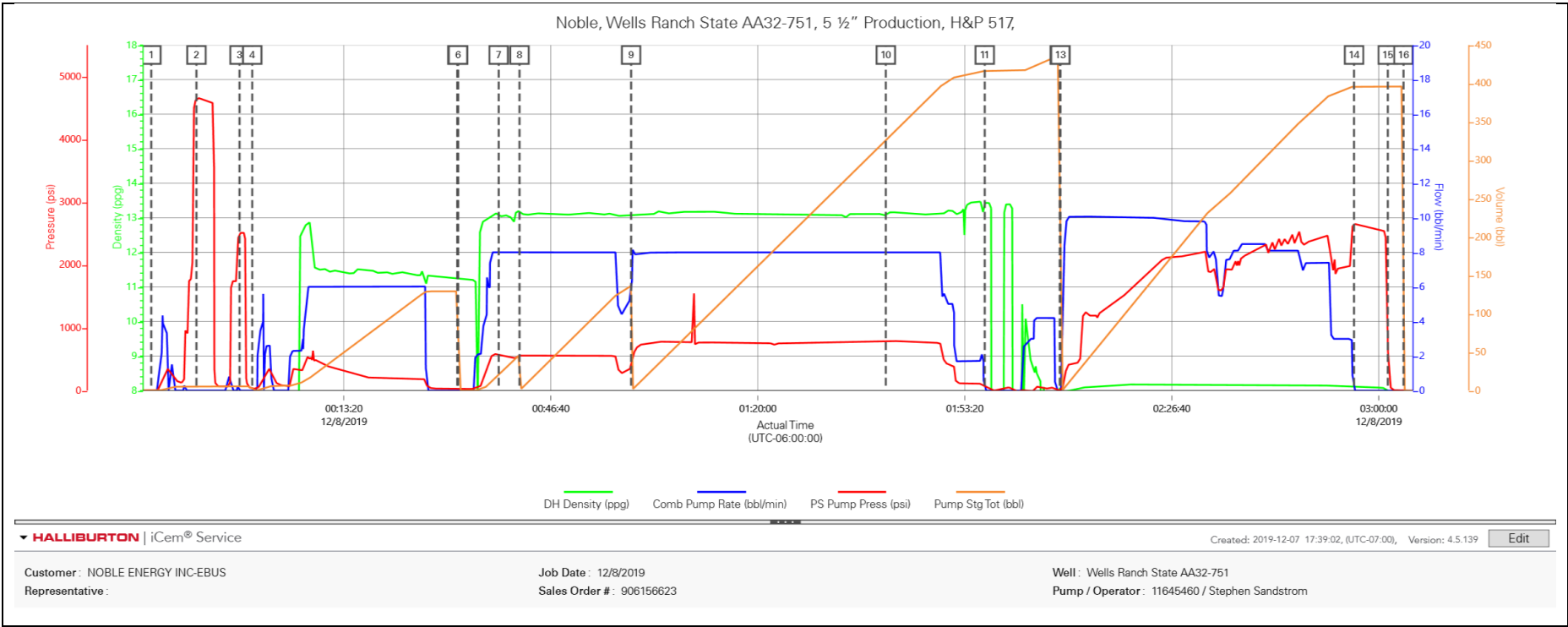
Event	14	Pump Cap Cement	Pump Cap Cement	12/8/2019	00:25:00	COM4	11.36	6.00	179.00	120.10	PUMPED 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.67 FT3/SK, 8.03 GAL/SK. 41.6 BBLS. HOC CALCULATED @ 1,020.6'. TOC CALCULATED @ 2,447.2'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 590 PSI. MIX WATER USED @ 1,125 GALLONS.
Event	15	Drop Bottom Plug	Drop Bottom Plug	12/8/2019	00:31:36	COM4	11.24	0.00	27.00	129.30	LOADED BY THE COMPANY MAN.
Event	16	Check Weight	Check Weight	12/8/2019	00:38:16	COM4	13.08	8.00	582.00	19.80	
Event	17	Pump Lead Cement	Pump Lead Cement	12/8/2019	00:41:37	COM4	13.17	8.00	559.00	46.60	PUMPED 459 SKS OF ELASTICEM W/SCBL @ 13.2 LB/GAL, 1.67 FT3/SK, 8.04 GAL/SK. 136.5 BBLS. HOL CALCULATED @ 3,346.1', TOL CALCULATED @ 3,467.8'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 560 PSI. MIX WATER USED @ 3,200 GALLONS.
Event	18	Pump Tail Cement	Pump Tail Cement	12/8/2019	00:59:36	COM4	13.09	6.10	410.00	136.50	PUMP 1,119 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.79 GAL/SK, 406.6 BBLS. HOT CALCULATED @ 9,936.5', TOT CALCULATED @ 6,813.9'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 640 PSI. MIX WATER USED @ 10,430 GALLONS.

Event	19	Check Weight	Check Weight	12/8/2019	01:40:37	COM4	13.08	8.00	783.00	326.10	
Event	20	Shutdown	Shutdown	12/8/2019	01:56:33	COM4	13.44	0.00	56.00	416.30	SHUTDOWN TO WASH LINES.
Event	21	Drop Top Plug	Drop Top Plug	12/8/2019	02:08:38	COM4	8.09	0.00	-8.00	435.80	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	22	Pump Displacement	Pump Displacement	12/8/2019	02:08:45	COM4	8.09	0.00	-8.00	0.00	BEGIN CALCULATED DISPLACEMENT OF 387.5 BBLS WITH FRESH WATER. MMCR IN THE FIRST 20 BBLS AND 6 PACKETS OF BE-3 THROUGHOUT. PUMP RATE 10 BPM @ 2,215 PSI. CAUGHT CEMENT @ 30 BBLS INTO DISPLACEMENT. SPACER INTERFACE TO SURFACE @ 377 BBLS INTO DISPLACEMENT. 10 BBLS OF TUNED PRIME SPACER TO SURFACE. SLOW RATE TO 3 BPM @ 360 BBLS INTO DISPLACEMENT.
Event	23	Bump Plug	Bump Plug	12/8/2019	02:56:02	COM4	8.13	0.00	2655.00	396.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,155 PSI PRESSURED 500 PSI OVER BUMP. SHUTDOWN FOR 5 MINUTES.
Event	24	Check Floats	Check Floats	12/8/2019	03:01:28	USER	8.01	0.00	877.00	396.00	RELEASED PRESSURE, FLOATS HELD, 4.5 BBLS BACK.
Event	25	End Job	End Job	12/8/2019	03:04:00	COM4	7.99	0.00	-5.00	0.00	STOP RECORDING JOB DATA.
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	12/8/2019	03:10:00	USER	7.93	0.00	-5.00	0.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.

Event	27	Rig-Down Equipment	Rig-Down Equipment	12/8/2019	03:20:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	28	Rig-Down Completed	Rig-Down Completed	12/8/2019	05:10:00	USER	
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/8/2019	05:20:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	30	Crew Leave Location	Crew Leave Location	12/8/2019	05:30:00	USER	THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW.

3.0 Attachments

3.1 Noble Wells Ranch State AA32-751-Custom Results.png





3.2 Noble Wells Ranch State AA32-751-Custom Results (1).png

