

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3919051		<b>Quote #:</b>		<b>Sales Order #:</b> 0905546045					
<b>Customer:</b> NOBLE ENERGY INC-EBUS						<b>Customer Rep:</b>					
<b>Well Name:</b> VOGLER STATE				<b>Well #:</b> D21-760		<b>API/UWI #:</b> 05-123-48565-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> KEENESBURG		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> SW SW-21-3N-64W-915FSL-1048FWL											
<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\HB70026					<b>Srv Supervisor:</b> Prince Perez						
<b>Job</b>											
<b>Formation Depth (MD)</b>		<b>Top</b> 0'		<b>Bottom</b>		17,761'					
<b>Job depth MD</b>		17,742'		<b>Job Depth TVD</b>		6,900'					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		5'					
<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	4.778	20			0	17742	0	6900	
Open Hole Section			8.5				1948	17787	1949	6900	
<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		17742		Top Plug	5.5	1	HES		
Float Shoe	5.5					Bottom Plug	5.5	2	HES		
Float Collar	5.5	1		17,695.2		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5	205	SMMT		
<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	Tuned Spacer III			120	bbl	11.5	3.78	23.5	4	4,189
<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	1.68	8.04	8	1,126
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	444	sack	13.2	1.68	8.06	8	3,588
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	450.89	bbl	13.2	2.04	9.75	8	12,100
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	Fresh Water	392.8	bbl	8.33				
Cement Left In Pipe		Amount	46.5 ft		Reason			Shoe Joint	
Mix Water:	pH 6	Mix Water Chloride:	<300 ppm			Mix Water Temperature:	72 °F		
Cement Temperature:	## °F	Plug Displaced by:	8.34 lb/gal			Disp. Temperature:	72 °F		
Plug Bumped?	Yes	Bump Pressure:	2,050 psi			Floats Held?	Yes		
Cement Returns:	0 bbl	Returns Density:	9.6 lb/gal kg/m3			Returns Temperature:	## °F		
Comment									
Pumped 120 bbls of Tuned Spacer III with 70 gallons of Musol A, and 70 gallons of Dual B. Pumped 42 bbls of Elasticem. Pumped 133 bbls of Elasticem w/SCBL. Pumped 451 bbls of Neocem. Pumped 392.8 bbls of fresh water displacement with MMCR in the first 20 and aldacide throughout. Only trace amount of spacer back. 4.5 bbls back on the floats.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

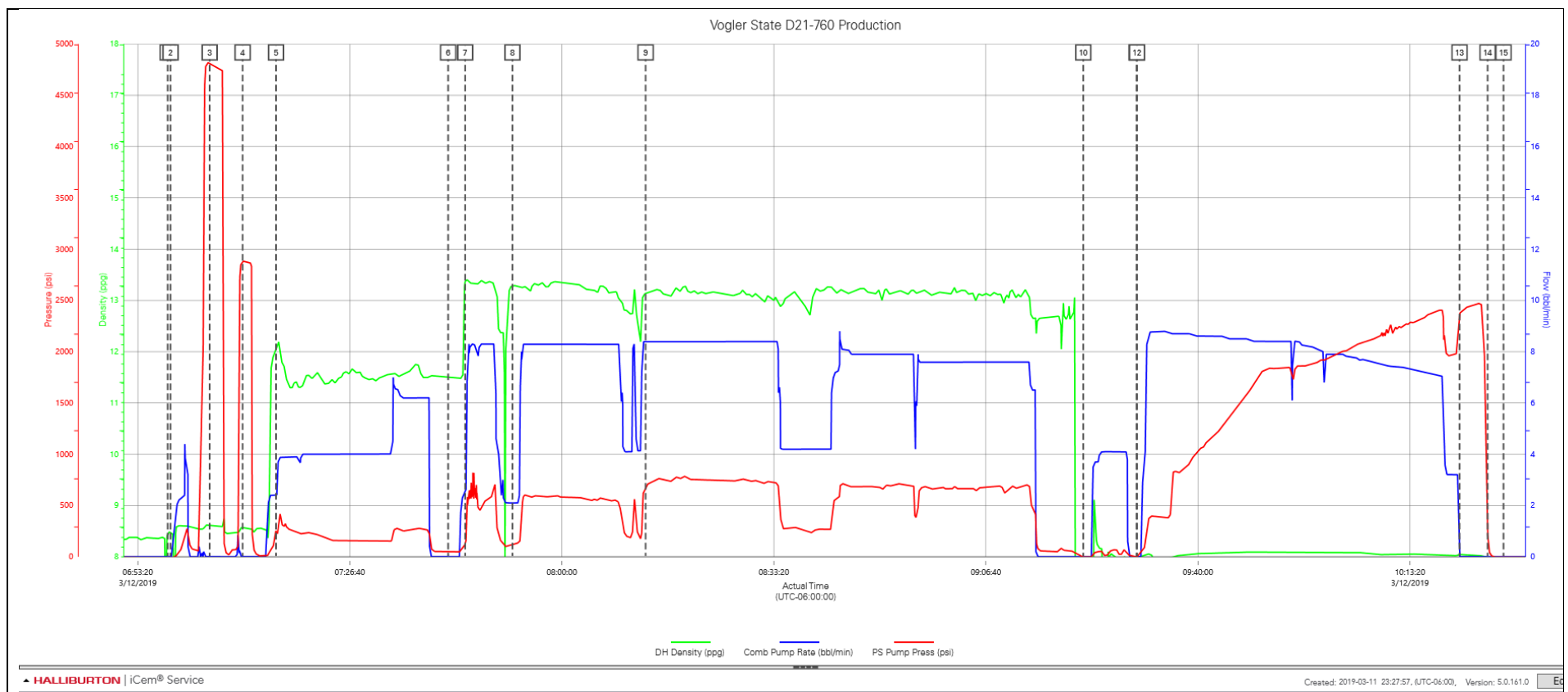
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	3/11/2019	20:30:00	USER				CREW CALLED OUT AT 20:30, REQUESTED ON LOCATION 02:30. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660, 10025030, 10867096, 10867415, /AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/12/2019	00:50:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	3/12/2019	01:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/12/2019	02:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9/58" 36 LB/FT @ 1,948.6', 5.5" CASING: 20 LB/FT TOTAL 17,741.7', 8 1/2" HOLE, TD 17,761', 46.5' SHOE TRAC, TVD- 6,900'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 04:30 03/12/2019.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	3/12/2019	02:10:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	3/12/2019	02:20:00	USER				RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	3/12/2019	06:20:00	USER	0.00	0.00	-4.00	
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	3/12/2019	06:30:00	USER	0.00	0.00	-3.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	3/12/2019	06:58:03	COM4	8.52	0.00	-10.00	BEGIN RECORDING JOB DATA.
Event	10	Drop Bottom Plug	Drop Bottom Plug	3/12/2019	06:58:29	USER	8.47	0.00	-10.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	11	Test Lines	Test Lines	3/12/2019	07:04:38	COM4	8.62	0.00	4816.00	PRESSURE TESTED IRON TO 4,700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,000 PSI, 5TH GEAR STALL OUT @ 2,050 PSI. 4,700 PRESSURE TEST KICKED OUT @ 4,750 PSI

Event	12	Test Lines	Test Lines	3/12/2019	07:09:49	COM4	8.57	0.00	2885.00	TESTED IBOP TO 3,000 PSI. HELD FOR ONE MINUTE.
Event	13	Pump Spacer 1	Pump Spacer 1	3/12/2019	07:15:04	COM4	12.08	2.40	268.00	PUMP 120 BBLS OF TUNED SPACER III @ 11.5 LB/GAL, 3.78 CUFT/SK, 23.5 GALL/SK. 70 GALLONS OF DUAL B, 70 GALLONS OF MUSOL A. HOS CALCULATED @ 2,432.9. 6.9 BBLS CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 220 PSI.
Event	14	Drop Bottom Plug	Drop Bottom Plug	3/12/2019	07:42:07	COM4	11.51	0.00	46.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	15	Pump Cap Cement	Pump Cap Cement	3/12/2019	07:44:48	COM4	13.38	2.50	127.00	PUMPED 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.68 FT3/SK, 8.04 GAL/SK. 41.89 BBLS. HOC CALCULATED @ 1,026.7', TOC CALCULATED @ 2,432.9' DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 400 PSI
Event	16	Pump Lead Cement	Pump Lead Cement	3/12/2019	07:52:14	COM4	13.29	2.10	130.00	PUMPED 444 SKS OF ELASTICEM W/SCBL @ 13.2 LB/GAL, 1.68 FT3/SK, 8.08 GAL/SK. 132.85 BBLS. HOL CALCULATED @ 3,256.1', TOL CALCULATED @ 3,459.6'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 630 PSI
Event	17	Pump Tail Cement	Pump Tail Cement	3/12/2019	08:13:10	COM4	13.10	8.40	665.00	PUMP 1,241 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.75 GAL/SK, 450.89 BBLS. HOT CALCULATED @ 11,026', TOT CALCULATED @ 6,715.7'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 770 PSI.
Event	18	Shutdown	Shutdown	3/12/2019	09:21:58	COM4	0.21	0.00	-2.00	SHUTDOWN TO WASH LINES.
Event	19	Drop Top Plug	Drop Top Plug	3/12/2019	09:30:21	COM4	-0.30	0.00	-3.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	20	Pump Displacement	Pump Displacement	3/12/2019	09:30:25	COM4	-0.30	0.00	-3.00	BEGIN CALCULATED DISPLACEMENT OF 392.83 BBLS WITH FRESH WATER. MMCR IN THE FIRST 20 AND ALDACIDE THROUGHOUT. PUMP RATE 8.5 BPM @ 2,470 PSI. CAUGHT CEMENT @ 30 BBLS INTO DISPLACEMENT. TRACES OF SPACER RETURNED TO SURFACE. SLOW RATE TO 3 BPM @ 370 BBLS INTO DISPLACEMENT.
Event	21	Bump Plug	Bump Plug	3/12/2019	10:21:07	COM4	8.05	0.00	2374.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,050 PSI PRESSURED 500 PSI OVER BUMP. SHUTDOWN FOR 5 MINUTES.
Event	22	Check Floats	Check Floats	3/12/2019	10:25:32	USER	7.97	0.00	272.00	RELEASED PRESSURE, FLOATS HELD, 4.5 BBLS BACK.

Event	23	End Job	End Job	3/12/2019	10:28:02	COM4	7.97	0.00	-7.00	STOP RECORDING JOB DATA.
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	3/12/2019	10:30:00	USER	7.96	0.00	-7.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	25	Rig-Down Equipment	Rig-Down Equipment	3/12/2019	10:40:00	USER				RIG DOWN BULK AND MIXING EQUIPMENT.
Event	26	Rig-Down Completed	Rig-Down Completed	3/12/2019	12:10:00	USER				
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/12/2019	12:20:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	28	Crew Leave Location	Crew Leave Location	3/12/2019	12:30:00	USER				THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW.

## 3.0 Attachments

### 3.1 Vogler State D21-760 Production – Job Chart with Events



## 3.2 Vogler State D21-760 Production – Job Chart without Events

