

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3919082		<b>Quote #:</b>		<b>Sales Order #:</b> 0905515608				
<b>Customer:</b> NOBLE ENERGY INC-EBUS					<b>Customer Rep:</b> Chris Ewing					
<b>Well Name:</b> VOGLER STATE			<b>Well #:</b> D21-780			<b>API/UWI #:</b> 05-123-48572-00				
<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-973FWL										
<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>Srvc Supervisor:</b> Luke Kosakewich					
<b>Job</b>										
<b>Formation Name</b>										
<b>Formation Depth (MD)</b>		<b>Top</b>			<b>Bottom</b>					
<b>Form Type</b>					<b>BHST</b>					
<b>Job depth MD</b>		17660ft			<b>Job Depth TVD</b>			6720ft		
<b>Water Depth</b>					<b>Wk Ht Above Floor</b>					
<b>Perforation Depth (MD)</b>		<b>From</b>			<b>To</b>					
<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	1936	0	1936
Casing		5.5	4.892	17			0	17643	0	6720
Open Hole Section			8.5				1936	17660	1936	6720
<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						Top Plug	5.5	1	HES	
Float Shoe	5.5	1		17643		Bottom Plug	5.5	2	HES	
Float Collar	5.5	1		17595.3		SSR plug set				
Insert Float						Plug Container				
Stage Tool						Centralizers				
<b>Fluid Data</b>										
<b>Stage/Plug #:</b> 1										

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal																	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III W Surfactants	120	bbl	11.5	3.78		5																		
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.68		6	8.04																	
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	436	sack	13.2	1.68		8	8.06																	
4	NeoCem NT1	NeoCem TM	447.6	bbl	13.2	2.04		8	9.75																	
5	Displacement	Fresh water W MMCR in the first 20 bbls. Biocide throughout	409	bbl	8.33			8																		
<table border="1"> <thead> <tr> <th>Cement Left In Pipe</th> <th>Amount</th> <th>ft</th> <th>Reason</th> <th>Shoe Joint</th> </tr> </thead> <tbody> <tr> <td>Mix Water:</td> <td>pH 7</td> <td>Mix Water Chloride:</td> <td>0 ppm</td> <td>Mix Water Temperature:</td> <td>60 °F</td> </tr> <tr> <td>Plug Bumped?</td> <td>Yes</td> <td>Bump Pressure:</td> <td>psi</td> <td>Floats Held?</td> <td>Yes</td> </tr> </tbody> </table>										Cement Left In Pipe	Amount	ft	Reason	Shoe Joint	Mix Water:	pH 7	Mix Water Chloride:	0 ppm	Mix Water Temperature:	60 °F	Plug Bumped?	Yes	Bump Pressure:	psi	Floats Held?	Yes
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<p><b>Comment</b> There were full returns throughout the job. Bumped the plug 500 psi. over 2,000 psi. at 3 bpm. Bump pressure was 2,500 psi. Held for 5 minutes. Pressure held. Bled off pressure to check floats. Floats held. Got 5 bbls. of fluid back to the truck. Circulated 42 bbls. of spacer to surface. . Estimated TOT is 5,799' . TOL 2,601', TOC 1,628', and TOS 0'.</p>																										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	Comments
Event	1	Call Out	Call Out	3/6/2019	07:30:00	USER				Crew was called out at 07:30 for a on location time of 12:30.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	3/6/2019	11:15:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	3/6/2019	11:30:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/6/2019	12:25:00	USER				Crew performed a site assessment, safety meeting and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics. The rig was 5,600 from bottom.
Event	5	Other	Other	3/6/2019	12:30:00	USER				Well bore: MD: 17,660', TP: 5.5" 17# set at 17,642.8', FC: 17,595.3', TVD: 6,720', SC: 9.625" 36 # set at 1,935.8', OH: 8.5". Mud # 9.6 ppg. Water test: PH: 7, Chlorides: > 230 ppm., Temp: 70 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/6/2019	12:45:00	USER				Held a pre rig up safety meeting with my crew.
Event	7	Rig-Up Equipment	Rig-Up Equipment	3/6/2019	16:40:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	3/6/2019	22:15:00	USER	9.00	1.70	8.39	Halliburton cement crew held a pre cement job safety meeting and JSA with third party personnel and rig crew.
Event	9	Start Job	Start Job	3/6/2019	22:57:33	COM5	-2.00	0.00	8.39	Pumped 1.5 bbl. of fresh water at 3 bpm. to fill lines with calculated volume.
Event	10	Test Lines	Test Lines	3/6/2019	23:01:28	COM5	66.00	0.00	8.41	Pressure tested lines to 4,500 psi. with a 500 psi. electronic kick out test.
Event	11	Test Lines	Test Lines	3/6/2019	23:11:43	COM5	79.00	0.00	8.49	Pressure tested lbop to 3,000 psi. with a 500 psi. electronic kick out test.

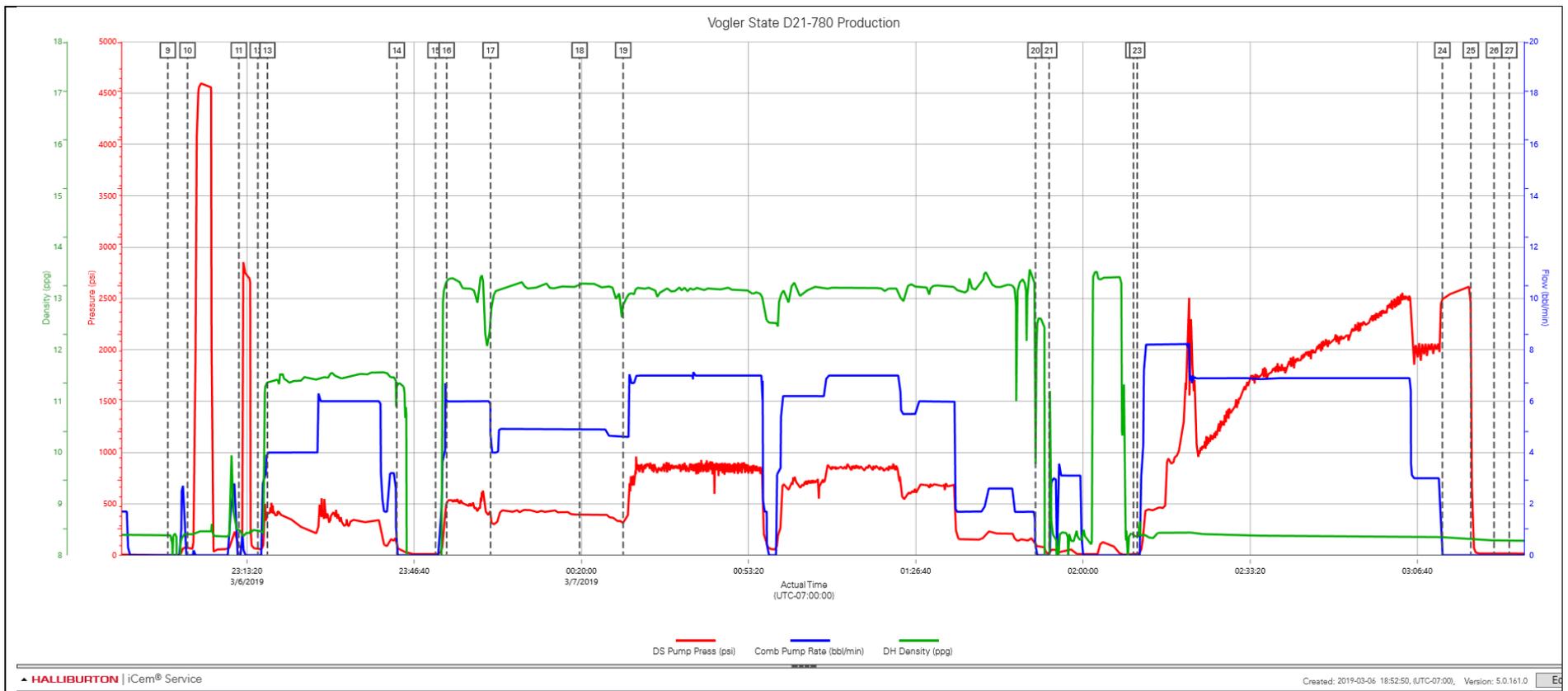
Event	12	Drop Bottom Plug	Drop Bottom Plug	3/6/2019	23:15:30	COM5	59.00	0.00	8.48	Halliburton loaded and dropped the bottom plug which, was witnessed by the customer.
Event	13	Pump Spacer 1	Pump Spacer 1	3/6/2019	23:17:24	COM5	417.00	4.00	11.38	Pumped 120 bbls. of Tuned Spacer III mixed at 11.5 ppg., Yield: 3.78 ft3/sks, 23.5 gal/sks. Density was verified by pressurized scales.
Event	14	Shutdown	Shutdown	3/6/2019	23:43:12	COM5	83.00	0.00	11.32	Halliburton loaded and dropped the bottom plug that was witnessed by the customer.
Event	15	Drop Bottom Plug	Drop Bottom Plug	3/6/2019	23:50:56	COM5	12.00	0.00	0.58	Halliburton loaded and dropped the bottom plug that was witnessed by the customer.
Event	16	Pump Cap Cement	Pump Cap Cement	3/6/2019	23:53:09	COM5	536.00	6.00	13.35	Pumped 42 bbls. (140 sks.) of Elasticem W/O Super CBL mixed at 13.2 ppg., Yield: 1.68 ft3/sks, 8.04 gal/sks. Density was verified by pressurized scales.
Event	17	Pump Lead Cement	Pump Lead Cement	3/7/2019	00:01:54	USER	382.00	4.10	12.69	Pumped 130 bbls. (436 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.68 ft3/sks, 8.06 gal/sks. Density was verified by pressurized scales.
Event	18	Failure	Failure	3/7/2019	00:19:38	USER	412.00	4.90	13.29	The Flecs key pad became inoperable. Jarod was calibrating the F300 and the keypad froze. We were locked out of the Flecs touch screen.
Event	19	Pump Tail Cement	Pump Tail Cement	3/7/2019	00:28:20	USER	314.00	4.60	12.89	Pumped 448 bbls. (1232 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft3/sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	20	Shutdown	Shutdown	3/7/2019	01:50:32	USER	95.00	0.00	9.92	Pumped all cement away and shutdown.
Event	21	Clean Lines	Clean Lines	3/7/2019	01:53:15	USER	25.00	0.00	0.93	Washed pumps and lines until clean. The rig blew the iron down to the wash up pit.
Event	22	Drop Top Plug	Drop Top Plug	3/7/2019	02:10:04	USER	9.00	0.00	8.39	Washed pumps and lines until clean. The rig blew the iron down to the wash up pit. Loaded the top plug
Event	23	Pump Displacement	Pump Displacement	3/7/2019	02:10:49	USER	8.00	0.00	8.36	Pumped 409.1 bbls. of fresh water with MMCR in the first 20 bbls. Biocide was added throughout the rest of displacement.
Event	24	Bump Plug	Bump Plug	3/7/2019	03:11:39	COM5	2503.00	0.00	8.35	Bumped the plug 500 psi. over 2,000 psi. at 5 bpm. Bump pressure was 2,500 psi. Held for 5 minutes. Pressure held. Bled off pressure to check floats. Floats held. Got 5 bbls. of fluid back to the truck. Circulated 42 bbls. of spacer to

surface. Estimated TOT is 5,799' '. TOL 2,601', TOC 1,628', and TOS 0'.

Event	25	Check Floats	Check Floats	3/7/2019	03:17:20	USER	2216.00	0.00	8.30	Bled off pressure to check floats. Floats held. Got 5 bbls. of fluid back to the truck.
Event	26	End Job	End Job	3/7/2019	03:21:58	COM5	16.00	0.00	8.29	Washed and blew down all pumps and lines until clean and dry.
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/7/2019	03:25:00	USER	16.00	0.00	8.28	Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	28	Rig-Down Equipment	Rig-Down Equipment	3/7/2019	03:30:00	USER	16.00	0.00	8.28	Rigged down all lines, hoses and equipment.
Event	29	Safety Meeting - Departing Location	Safety Meeting - Departing Location	3/7/2019	05:50:00	USER				Held a pre journey safety meeting with crew.
Event	30	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/7/2019	06:00:00	USER				Started journey management with dispatch and left location.

## 3.0 Attachments

### 3.1 Vogler State D21-780 Production – Job Chart with Events



3.2 Vogler State D21-780 Production – Job Chart without Events

