

## Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3919007		Quote #:		Sales Order #: 0906352012				
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Joe Bailey						
Well Name: VOGLER STATE			Well #: D33-759		API/UWI #: 05-123-48568-00					
Field: WATTENBERG		City (SAP): KEENESBURG		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-21-3N-64W-1065FSL-1048FWL										
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 321						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB31357				Srvc Supervisor: James Bunnell						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		17610ft		Job Depth TVD		6886				
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		9.625	8.921	36			0	1948	0	1948
Casing		5.5	4.892	17			0	17591	0	6886
Open Hole Section			8.5				1945	17610	1948	6886
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			17591		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5			17544		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5		HES	
Stage Tool	5.5					Centralizers	5.5		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	24.42		

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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
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.65	8.4	6	1176
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 w/ SCBL	ELASTICEM (TM) SYSTEM	507	sack	13.2	1.67	8.05	6	4081
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	NeoCem NT1	NeoCem TM	1178	sack	13.2	2.04	9.79	6	11532
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	MMCR Displacement	MMCR Displacement	20	bbl	8.34				
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
6	Displacement	Displacement	387	bbl	8.33				
Cement Left In Pipe		Amount	47 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride: 250 ppm			Mix Water Temperature:		71 °F °C	
Cement Temperature:		## °F °C		Plug Displaced by: 8.33 lb/gal		Disp. Temperature:		64 °F °C	
Plug Bumped?		Yes		Bump Pressure: 2700 psi MPa		Floats Held?		Yes	
Cement Returns:		0 bbl m3		Returns Density: ## lb/gal kg/m3		Returns Temperature:		## °F °C	
Comment Halliburton pumped 120bbbls tuned spacer followed by 41bbbls cap cement, 150bbl lead cement, and 428bbbls tail cement. Well was displaced with 20bbbls mmcr water followed by 387bbbls fresh water plug bumped and floats held 5bbbls back.									

## 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	3/1/2020	21:00:00	USER	CREW CALLED OUT AT 2100, REQUESTED ON LOCATION 0400. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. PUMP 11645460.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	3/2/2020	01:00:00	USER	CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	3/2/2020	02:00:00	USER	With all equipment and materials.
Event	4	Other	Other	3/2/2020	02:05:00	USER	SURFACE CASING- 9.625" 36 LB/FT @ 1948', 5.5" CASING: 17 LB/FT TOTAL 17591', 8.5" HOLE 1948'-17610',,, 47' SHOE TRAC, TVD- 6886'. PUMP FRESH WATER DISPLACEMENT WITH MMCR FIRST 20 BBLS. Water tested good PH 7 Chlorides less than 400
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/2/2020	02:30:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	6	Rig-Up Completed	Rig-Up Completed	3/2/2020	04:00:00	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	3/2/2020	11:20:00	USER	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS
Event	8	Start Job	Start Job	3/2/2020	11:55:34	COM4	Start recording data.
Event	9	Test Lines	Test Lines	3/2/2020	11:59:26	COM4	Tested to 4500psi
Event	10	Pump Spacer 1	Pump Spacer 1	3/2/2020	12:09:32	COM4	120bbls tuned spacer 11.5ppg 3.87yd 24.42gl/sk verified with pressurized scales.
Event	11	Check Weight	Check Weight	3/2/2020	12:12:53	COM4	
Event	12	Shutdown	Shutdown	3/2/2020	12:35:16	COM4	
Event	13	Drop Bottom Plug	Drop Bottom Plug	3/2/2020	12:35:26	COM4	
Event	14	Pump Cap Cement	Pump Cap Cement	3/2/2020	12:38:34	COM4	140sk 41bbls 13.2ppg 1.65yd 8.4gl/sk verified with pressurized scales. TOC 2446'
Event	15	Pump Lead Cement	Pump Lead Cement	3/2/2020	12:47:34	COM4	507sk 150bbls 13.2ppg 1.67yd 8.05gl/sk verified with pressurized scales. TOC 3450'
Event	16	Check Weight	Check Weight	3/2/2020	12:49:58	COM4	
Event	17	Pump Tail Cement	Pump Tail Cement	3/2/2020	13:08:38	COM4	1178sk 428bbls 13.2ppg 2.04yd 9.79gl/sk verified with pressurized scales. TOC 7126'
Event	18	Check Weight	Check Weight	3/2/2020	13:35:16	COM4	
Event	19	Shutdown	Shutdown	3/2/2020	14:10:19	COM4	
Event	20	Drop Top Plug	Drop Top Plug	3/2/2020	14:19:42	COM4	

Event	21	Pump Displacement	Pump Displacement	3/2/2020	14:19:46	COM4	407bbls fresh water MMCR in the first 20bbls BE-3 in the remainder.
Event	22	Bump Plug	Bump Plug	3/2/2020	15:12:06	COM4	2790psi held for 5 minutes. check floats 5bbls back floats held.
Event	23	End Job	End Job	3/2/2020	15:21:09	COM4	Stop recording data.
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/2/2020	15:25:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	25	Rig-Down Completed	Rig-Down Completed	3/2/2020	16:30:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/2/2020	16:35:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	27	Other	Other	3/2/2020	16:40:00	USER	Thank you from Halliburton and crew.

## 3.0 Chart

Custom Results

