

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3919175		Quote #:		Sales Order #: 0905727636					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep:							
Well Name: GUTTERSEN STATE			Well #: D23-771		API/UWI #: 05-123-48595-00						
Field: WATTENBERG		City (SAP): KEENESBURG		County/Parish: WELD		State: COLORADO					
Legal Description: SE SW-23-3N-64W-667FSL-2051FWL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB31357				Srv Supervisor: Prince Perez							
Job											
Formation Depth (MD)		Top 0'		Bottom		17,650'					
Job depth MD		17,634'		Job Depth TVD		6,850'					
Water Depth				Wk Ht Above Floor		5'					
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	1945	0	1945	
Casing		5.5	4.892	17			0	17634	0	6850	
Open Hole Section			8.5				1945	17650	1945	6850	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5	1		17,634		Top Plug	5.5	1	HES		
Float Shoe	5.5					Bottom Plug	5.5	2	HES		
Float Collar	5.5	1		17,586		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5				
Stage Tool	5.5					Centralizers	5.5				
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	Spacer	Tuned Spacer III			120	bbl	11.5	3.79	23.5	5	4,178

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	Cap	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.68	8.04	6	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	515	sack	13.2	1.68	8.06	8	4,151	
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	1,167	sack	13.2	2.04	9.75	8	11,378	
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	408	bbl	8.33					
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Mix Water:		pH 8	Mix Water Chloride:			<300 ppm		Mix Water Temperature:		55 °F
Cement Temperature:		## °F	Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		55 °F
Plug Bumped?		Yes	Bump Pressure:			1,980 psi		Floats Held?		Yes
Cement Returns:		0 bbl	Returns Density:			9.7 lb/gal		Returns Temperature:		## °F
Comment										
Pumped 120 bbls of Tuned Spacer III with 75 gallons of Dual B and Musol A, and 20 gallons of Dair.										
Pumped 42 bbls of Elasticem.										
Pumped 154 bbls Elasticem with SCBL.										
Pumped 424 bbls of Neocem.										
Pumped 408 bbls of fresh water displacement with MMCR in the first 20 bbls and aldacide throughout.										
No spacer to surface.										
4 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)	Pump Stg Tot (bbl)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	5/31/2019	01:00:00	USER					CREW CALLED OUT AT 01:00, REQUESTED ON LOCATION 05:15. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660, 11566182, 11527037, 11023106, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/31/2019	04:50:00	USER					CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	5/31/2019	05:00:00	USER					STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/31/2019	05:50:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9/58" 36 LB/FT @ 1,944.9', 5.5" CASING: 17 LB/FT TOTAL 17,633.5', 8 1/2" HOLE, TD 17,650', 48' SHOE TRAC, TVD- 6,850'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 11:35 5/31/2019.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	5/31/2019	06:00:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS

											ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	5/31/2019	06:10:00	USER					RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/31/2019	12:10:00	USER	8.24	0.00	0.00	43.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Rig-Up Completed	Rig-Up Completed	5/31/2019	12:35:00	USER	8.24	0.00	0.00	50.00	
Event	9	Start Job	Start Job	5/31/2019	13:05:00	COM4	8.24	0.00	0.00	56.00	BEGIN RECORDING JOB DATA.
Event	10	Drop Bottom Plug	Drop Bottom Plug	5/31/2019	13:06:45	COM4	8.24	0.00	0.00	56.00	PLUG LOADED BY COMPANY MAN.
Event	11	Test Lines	Test Lines	5/31/2019	13:12:21	COM4	8.46	0.00	4.20	4994.00	PRESSURE TESTED IRON TO 4,700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,050 PSI, 5TH GEAR STALL OUT @ 1,810 PSI. 4,700 PRESSURE TEST KICKED OUT @ 4,700 PSI
Event	12	Test Lines	Test Lines	5/31/2019	13:17:25	COM4	8.29	0.00	4.50	3291.00	TESTED IBOP TO 3,000 PSI, KICKED OUT @ 2,900 PSI
Event	13	Pump Spacer 1	Pump Spacer 1	5/31/2019	13:18:41	COM4	8.29	0.00	4.50	60.00	PUMP 120 BBLS OF TUNED SPACER III @ 11.5 LB/GAL, 3.79 CUFT/SK, 23.5 GALLONS OF DUAL B, 75 GALLONS OF MUSOL A. HOS CALCULATED @ 2,465.1'. 5.6 BBLS CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

PUMP RATE 6 BBLS/MIN @ 550 PSI.											
Event	14	Shutdown	Shutdown	5/31/2019	13:43:44	COM4	11.51	0.00	120.40	62.00	SHUTDOWN TO LOAD PLUG.
Event	15	Drop Bottom Plug	Drop Bottom Plug	5/31/2019	13:43:59	COM4	11.51	0.00	120.40	64.00	PLUG LOADED BY COMPANY MAN.
Event	16	Pump Cap Cement	Pump Cap Cement	5/31/2019	13:44:05	COM4	11.52	0.00	0.00	65.00	PUMPED 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.68 FT3/SK, 8.04 GAL/SK. 41.9 BBLS. HOC CALCULATED @ 1,026.7'. TOC CALCULATED @ 2,465.1'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 6 BBLS/MIN @ 500 PSI
Event	17	Pump Lead Cement	Pump Lead Cement	5/31/2019	13:52:02	COM4	13.28	6.00	32.50	484.00	PUMPED 515 SKS OF ELASTICEM W/SCBL @ 13.2 LB/GAL, 1.68 FT3/SK, 8.06 GAL/SK. 154.09 BBLS. HOL CALCULATED @ 3,776.7', TOL CALCULATED @ 3,491.8'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 730 PSI
Event	18	Pump Tail Cement	Pump Tail Cement	5/31/2019	14:13:16	COM4	13.45	8.10	163.20	872.00	PUMP 1,167 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.75 GAL/SK, 407.98 BBLS. HOT CALCULATED @ 10,365', TOT CALCULATED @ 7,268.5'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 1,010 PSI.
Event	19	Shutdown	Shutdown	5/31/2019	15:18:07	COM4	12.93	0.00	427.60	117.00	SHUTDOWN TO WASH LINES.

Event	20	Drop Top Plug	Drop Top Plug	5/31/2019	15:29:48	COM4	7.88	0.00	448.20	-2.00	PLUG LOADED BY COMPANY MAN.
Event	21	Pump Displacement	Pump Displacement	5/31/2019	15:29:52	COM4	7.94	0.00	0.00	-2.00	BEGIN CALCULATED DISPLACEMENT OF 407.98 BBLS WITH FRESH WATER. MMCR IN THE FIRST 20 BBLS AND ALDACIDE THROUGHOUT. PUMP RATE 8 BPM @ 2,670 PSI. CAUGHT CEMENT @ 30 BBLS INTO DISPLACEMENT. NO SPACER TO SURFACE. SLOW RATE TO 3 BPM @ 380 BBLS INTO DISPLACEMENT.
Event	22	Bump Plug	Bump Plug	5/31/2019	16:19:44	COM4	8.06	0.00	411.70	2480.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 1,980 PSI PRESSURED 500 PSI OVER BUMP. SHUTDOWN FOR 3 MINUTES.
Event	23	Check Floats	Check Floats	5/31/2019	16:24:24	USER	8.04	0.00	411.70	715.00	RELEASED PRESSURE, FLOATS HELD, 4 BBLS BACK.
Event	24	End Job	End Job	5/31/2019	16:24:56	USER	8.03	0.00	411.70	47.00	STOP RECORDING JOB DATA.
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	5/31/2019	16:25:00	USER	8.03	0.00	411.70	39.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Equipment	Rig-Down Equipment	5/31/2019	16:35:00	USER					RIG DOWN BULK AND MIXING EQUIPMENT.
Event	27	Rig-Down Completed	Rig-Down Completed	5/31/2019	18:10:00	USER					
Event	28	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/31/2019	18:20:00	USER					CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

3.0 Attachments

3.1 Job Chart

