

*The Road to Excellence Starts with Safety*

Sold To #: 345242		Ship To #: 3918996		Quote #:		Sales Order #: 0906553646				
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Adam Evig						
Well Name: GUTTERSEN STATE			Well #: D36-771		API/UWI #: 05-123-48629-00					
Field: WATTENBERG		City (SAP): KEENESBURG		County/Parish: WELD		State: COLORADO				
Legal Description: NENW-25-3N-64W-1268FNL-2035FWL										
Contractor:				Rig/Platform Name/Num:						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nicholas Roles						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST		220 degF				
Job depth MD		14782ft		Job Depth TVD						
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	1954	0	1954
Casing		5.5	4.892	17			0	14782	0	6742
Open Hole Section			8.5				1954	14802	1954	6742
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
						Top Plug	5.5	1	HES	
Float Shoe	5.5			14782		Bottom Plug	5.5	2	HES	
Float Collar	5.5			14734						
						Centralizers	5.5			Summit
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		8		

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	8.4
0.33 %		SCR-100, 1200 LB BAG - (1126328)							
8.40 Gal		FRESH WATER							
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	495	sack	13.2	1.67		8	8.05
0.20 %		SCR-100, 1200 LB BAG - (1126328)							
8.05 Gal		FRESH WATER							
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	864	sack	13.2	2.04		8	9.79
0.06 %		SCR-100, 1200 LB BAG - (1126328)							
0.06 %		FE-2, 2000 LB BAG - (1005549)							
9.79 Gal		FRESH WATER							
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	342	bbl	8.33			10	
Cement Left In Pipe		Amount	47 ft		Reason			Shoe Joint	
Mix Water:		pH 07	Mix Water Chloride:		1000 ppm		Mix Water Temperature:		65 °F
Cement Temperature:			Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		65 °F
Plug Bumped?		Yes	Bump Pressure:		2490 psi		Floats Held?		Yes
Cement Returns:		0 bbl	Returns Density:				Returns Temperature:		
Comment Got 5bbbls spacer to surface. Estimated TOCap-2497', TOL-3507', TOT-7110'									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
Event	1	Pump Cap Cement	Call Out	6/15/2020	13:30:00	USER					Called out by Service Coordinator for O/L at 1930
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/15/2020	16:45:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/15/2020	17:00:00	USER					Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/15/2020	18:00:00	USER					Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/15/2020	19:15:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Rig-Up Date/Time	Rig-Up Date/Time	6/15/2020	19:30:00	USER					Begin Rig-up.
Event	7	Rig-Up Completed	Rig-Up Completed	6/15/2020	20:00:00	USER					Rig-up complete with no injuries.
Event	8	Other	Other	6/15/2020	20:30:00	USER					Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/15/2020	22:00:00	USER	8.37	0.00	263.76	0.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.

Event	10	Start Job	Start Job	6/15/2020	22:27:22	NONE	8.50	0.00	259.24	0.00	TD-14802', TP-14782' 5.5" 17#, FC-14734', TVD-6742', SURF-1954' 9.625" 36#, OH-8.5" MUD-9.7#
Event	11	Test Lines	Test Lines	6/15/2020	22:31:52	NONE	8.37	0.00	74.47	3.96	Pumped 5bbls fresh water to fill lines, closed 2" lo torc, performed 500psi k/o function test, followed with 5th gear stall at 1290psi, perform 4500psi test on line. Held pressure, no leaks. Bled off pressure, pumped 1bbl to ensure lines still full and closed valve. Proceeded to bring pressure to 2000psi on Kelly line, pressure stabilized and held with no leaks.
Event	12	Drop Bottom Plug	Drop Bottom Plug	6/15/2020	22:42:37	NONE	8.39	0.00	18.54	4.62	Dropped by HES supervisor, witnessed by company man.
Event	13	Pump Spacer 1	Pump Spacer 1	6/15/2020	22:42:46	NONE	8.39	0.00	18.57	0.00	Pumped 120bbls Tuned Prime 11.5# 3.87y 24.42g/s with 30g D-Air at 6bpm 340psi.
Event	14	Check Weight	Check Weight	6/15/2020	22:46:54	NONE	11.56	6.00	442.77	18.86	Weight verified with pressurized mud scales @ 11.5ppg
Event	15	Drop Bottom Plug	Drop Bottom Plug	6/15/2020	23:03:18	NONE	10.42	0.00	37.91	0.00	Dropped by HES supervisor, witnessed by company man.
Event	16	Pump Cap Cement	Pump Cap Cement	6/15/2020	23:04:20	USER	10.42	0.00	41.14	0.00	Pumped 140sks or 41.2bbls ElastiCem w/o CBL 13.2# 1.65y 8.4g/s at 8bpm 330psi.
Event	17	Pump Lead Cement	Pump Lead Cement	6/15/2020	23:09:46	NONE	13.00	8.27	543.28	0.07	Pumped 495sks or 147bbls ElastiCem w/CBL 13.2# 1.67y 8.05g/s at 8bpm 550psi.

Event	18	Check Weight	Check Weight	6/15/2020	23:15:25	NONE	13.31	8.25	548.43	46.67	Weight verified with pressurized mud scales @ 13.2ppg
Event	19	Pump Tail Cement	Pump Tail Cement	6/15/2020	23:29:35	NONE	12.92	8.19	518.30	0.14	Pumped 864sks or 314bbbls 13.2# 2.04y 9.79g/s NeoCem at 9bpm 900psi, with fresh water.
Event	20	Check Weight	Check Weight	6/15/2020	23:31:49	NONE	12.78	8.28	673.58	18.70	Weight verified with pressurized mud scales @ 13.2ppg
Event	21	Shutdown	Shutdown	6/16/2020	00:10:30	USER	13.42	0.00	64.30	318.73	Shutdown, rig blew down iron to pit, swapped valves and washed up pump with 10bbbls fresh water until clean.
Event	22	Drop Top Plug	Drop Top Plug	6/16/2020	00:18:46	NONE	8.01	0.00	-1.12	15.43	Dropped by HES supervisor, witnessed by company man.
Event	23	Pump Displacement	Pump Displacement	6/16/2020	00:18:52	NONE	8.00	0.00	-0.99	0.00	Pumped 342bbbls production water with 10g MMCR in first 20bbbls.
Event	24	Bump Plug	Bump Plug	6/16/2020	00:58:54	NONE	8.18	0.00	2593.16	342.78	Slowed down to 3bpm at 320bbbls away, final circulating pressure- 2000psi, Bump pressure- 2490psi.
Event	25	Other	Other	6/16/2020	01:02:50	NONE	8.12	0.00	813.40	342.78	Released pressure and got 4.5bbbls fresh water to truck, floats held.
Event	26	End Job	End Job	6/16/2020	01:03:34	NONE	7.98	0.00	16.45	342.78	Got 5bbbls spacer to surface. Estimated TOCap-2497', TOL-3507', TOT-7110'
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/16/2020	01:05:00	USER	7.96	0.00	1.01	342.78	Discussed rigging down hazards and procedure

							according to HMS with all HES personnel
Event	28	Safety Meeting - Departing Location	Safety Meeting - Departing Location	6/16/2020	02:00:00	USER	Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	29	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/16/2020	02:15:00	USER	Pre journey management prior to departure.

## 3.0 Attachments

### 3.1 Job Chart

