

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3925734		Quote #:		Sales Order #: 0906840923	
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Dave Nielsen			
Well Name: GUTTERSEN			Well #: D09-785		API/UWI #: 05-123-48949-00		
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO	
Legal Description: SE SW-33-4N-64W-468FSL-1449FWL							
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517			
Job BOM: 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	17498ft			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	0	9.625	8.921	36			0	1927	0	1927
Casing	0	5.5	4.892	17			0	17498	0	6811
Open Hole Section			8.5				1927	17511	1927	6811

Centralizers: 8"-112 8.5"-87 = 199

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Float Shoe	5.5			17498.4		Top Plug	5.5	1	HES
Float Collar	5.5			17449.8		Bottom Plug	5.5	2	HES

Fluid Data										
Stage #: 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	TUNED PRIME CEMENT SPACER	120	bbl	11.5	3.87		6		
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	1.6	7.63	6	1068	
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	727	sack	13.2	1.67	8.03	8.5	5838	
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	1164	sack	13.2	2.04	9.79	8.5	11396	
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	405	bbl	8.33			10		
Cement Left In Pipe										
Cement Left In Pipe		Amount	49 ft		Reason			Shoe Joint		
Mix Water:		pH 07	Mix Water Chloride:		0 ppm		Mix Water Temperature:			65 °F °C
Cement Temperature:		## °F °C	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:			65 °F °C
Plug Bumped?		Yes	Bump Pressure:		3050 psi MPa		Floats Held?			Yes
Cement Returns:		0 bbl m3	Returns Density:		## lb/gal kg/m3		Returns Temperature:			## °F °C
Comment Got 60bbls spacer to surface. Estimated TOCap-1029', TOL-1864', TOT-7155'										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	12/1/2020	05:00:00	USER					Called out by Service Coordinator for O/L at 0800.
Event	2	Arrive at Location from Service Center	Arrive at Location from Service Center	12/1/2020	12:00:00	USER					Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment. Came off Confluence job and arrived at 1300. Rig was ready to pump at 1230. Started safety meeting at 1400. 1.5hrs of NPT due to no job ready crew available, while on other location.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/1/2020	12:15:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/1/2020	12:30:00	USER					Journey Management prior to departure
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/1/2020	13:15:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Rig-Up Date/Time	Rig-Up Date/Time	12/1/2020	13:20:00	USER					Begin Rig-up.
Event	7	Other	Other	12/1/2020	13:30:00	USER					Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	8	Rig-Up Completed	Rig-Up Completed	12/1/2020	13:55:00	USER					Rig-up complete with no injuries.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/1/2020	14:00:00	USER	0.00	0.00	1.00	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	12/1/2020	14:19:56	COM5	8.37	0.00	2.00	0.00	TD-17511', TP-17498.4' 5.5" 17#, FC-17449.8', TVD-6811', SURF-1927' 9.625" 36#, OH-8.5" MUD-9.8#

Event	11	Prime Pumps	Prime Pumps	12/1/2020	14:24:35	COM5	0.00	0.00	1.00	0.00	
Event	12	Drop Bottom Plug	Drop Bottom Plug	12/1/2020	14:25:40	COM5	8.48	3.80	121.00	2.20	Dropped by HES supervisor, witnessed by company man.
Event	13	Test Lines	Test Lines	12/1/2020	14:26:57	COM5	8.41	0.00	62.00	5.20	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 online. 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	14	Pump Spacer 1	Pump Spacer 1	12/1/2020	14:35:41	COM5	8.37	0.00	54.00	0.00	Pumped 120bbls Tuned Prime 11.5# 3.87y 24.46g/s with 20g D-Air at 6bpm 340psi.
Event	15	Drop Bottom Plug	Drop Bottom Plug	12/1/2020	14:57:50	COM5	10.35	0.00	45.00	120.40	Dropped by HES supervisor, witnessed by company man.
Event	16	Pump Cement	Pump Cement	12/1/2020	14:57:57	COM5	10.34	0.00	46.00	120.40	Pumped 140sks or 40bbls ElastiCem w/o CBL 13.2# 1.6y 7.63g/s at 8.5bpm 580psi.
Event	17	Pump Lead Cement	Pump Lead Cement	12/1/2020	15:07:21	COM5	13.18	6.00	506.00	40.20	Pumped 727sks or 216bbls ElastiCem w/CBL 13.2# 1.67y 8.03g/s at 8.5bpm 700psi.
Event	18	Pump Tail Cement	Pump Tail Cement	12/1/2020	15:34:37	COM5	13.23	8.60	720.00	226.60	Pumped 1164sks or 423bbls 13.2# 2.04y 9.79g/s NeoCem at 8.5bpm 900psi.
Event	19	Drop Top Plug	Drop Top Plug	12/1/2020	16:32:52	COM5	12.47	0.00	51.00	438.50	Dropped by HES supervisor, witnessed by company man.
Event	20	Shutdown	Shutdown	12/1/2020	16:33:05	COM5	12.47	0.00	51.00	438.50	Shutdown, racked back pump and washed up through lines and down wash up line to pits until clean water was seen. Pumped total of 15bbls to clean truck and lines
Event	21	Pump Displacement	Pump Displacement	12/1/2020	16:41:00	COM5	8.01	0.00	31.00	0.00	Pumped 405bbls production water with 10g MMCR in first 20bbls.

Event	22	Bump Plug	Bump Plug	12/1/2020	17:30:50	COM5	8.09	0.00	2919.00	410.70	Slowed down to 4bpm at 320bbbls away, final circulating pressure- 2500psi, Bump pressure-3050psi.
Event	23	End Job	End Job	12/1/2020	17:39:03	COM5	8.03	0.00	3.00	0.00	Got 60bbbls spacer to surface. Estimated TOCap-1029', TOL-1864', TOT-7155'

3.0 Attachments

3.1 Job Chart

