

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3925733		Quote #:		Sales Order #: 0906855868	
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Jim Turner			
Well Name: GUTTERSEN			Well #: D09-765		API/UWI #: 05-123-48948-00		
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO	
Legal Description: SE SW-33-4N-64W-467FSL-1517FWL							
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517			
Job BOM: 7523							
Well Type: HORIZONTAL OIL							
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Vaughn Oteri			

Job

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	220 degF
Job depth MD	17363ft	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	1926	0	1926
Casing	0	5.5	4.892	17			0	17350	0	
Open Hole Section			8.5				1928	17363		6811

Centralizers: 8"-223 8.5"-87 = 310

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Float Shoe	5.5			17350	Top Plug	5.5	1	HES
Float Collar	5.5			17301	Bottom Plug	5.5	2	HES
					Centralizers	5.5	313	Summit

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	3.7		6.0		
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	8	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	712	sack	13.2	1.67	8.03	9.0	5717	
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	1163	sack	13.2	2.04	9.79	8.0	11386	
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	401	bbl	8.33			10		
Cement Left In Pipe										
Amount		49 ft			Reason			Shoe Joint		
Comment 48bbl of spacer back to surface.										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pump A Pressure <i>(psi)</i>	Dwnhole Density <i>(ppg)</i>	Cmb Pump Rate <i>(bbl/min)</i>	Cmb Stg Total <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	12/8/2020	13:00:00	USER					Call out from ARC hub.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/8/2020	17:30:00	USER					Held pre-Convoy meeting with all HES drivers to discuss driving directions and hazards.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/8/2020	18:00:00	USER					Depart from Ft. Lupton co HES yard.
Event	4	Arrive At Loc	Arrive At Loc	12/8/2020	18:30:00	USER					Arrived on location met with company rep to discuss job process and concerns.
Event	5	Start Job	Start Job	12/9/2020	01:00:26	NONE	-10.63	8.65	0.00	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards.
Event	6	Other	Other	12/9/2020	01:10:59	NONE	-3.76	8.55	0.00	0.00	Adjust time in computer system on truck.
Event	7	Other	Other	12/9/2020	01:11:02	NONE	-3.57	8.54	0.00	0.00	Pumped 2.0bbls of water to prime pumps and lines.
Event	8	Test Lines	Test Lines	12/9/2020	01:13:14	NONE	40.68	8.32	0.00	2.05	Pressure tested pumps and lines with fresh water, 5170psi. Pressure held good no leaks were found.
Event	9	Test Lines	Test Lines	12/9/2020	01:17:01	NONE	16.98	8.29	0.00	2.09	Pressure tested IBOP on top drive to 2172psi, pressure held good.
Event	10	Drop Bottom Plug	Drop Bottom Plug	12/9/2020	01:21:09	NONE	4.94	8.28	0.00	0.00	Released bottom plug witnessed by company rep.
Event	11	Pump Spacer 1	Pump Spacer 1	12/9/2020	01:21:26	NONE	4.91	8.27	0.00	0.00	Mixed and pumped 120bbls of 11.5ppg Y-3.7 G/sk-23.55 at 6.0bpm 480psi
Event	12	Drop Bottom Plug	Drop Bottom Plug	12/9/2020	01:43:30	NONE	52.07	10.39	0.00	0.00	Released bottom plug witnessed by company rep.

Event	13	Pump Cap Cement	Pump Cap Cement	12/9/2020	01:51:14	NONE	42.24	10.32	0.82	0.01	Mixed and pumped 140sks or 39bbl of 13.2ppg y-1.6 G/sk-7.63 ElastiCem™ at 8.0bpm 700psi
Event	14	Pump Lead Cement	Pump Lead Cement	12/9/2020	01:58:02	NONE	482.54	13.22	6.94	0.12	Mixed and pumped 712sks or 211bbls of 13.2ppg y-1.67 G/sk-8.03 ElastiCem™ at 9.0bpm 604psi
Event	15	Pump Tail Cement	Pump Tail Cement	12/9/2020	02:22:21	NONE	652.18	13.15	9.58	0.16	Mixed and pumped 1163sks or 422bbls of 13.2ppg y-2.04 G/sk-9.79 NeoCem™ at 9.0bpm 770psi
Event	16	Shutdown	Shutdown	12/9/2020	03:13:51	NONE	104.06	12.96	0.00	413.97	Shut pumps down to wash up.
Event	17	Clean Lines	Clean Lines	12/9/2020	03:17:21	NONE	54.52	13.16	0.00	0.00	Wash pumps and lines with fresh water.
Event	18	Drop Top Plug	Drop Top Plug	12/9/2020	03:23:37	NONE	47.03	7.95	0.00	18.96	Released top plug witnessed by company rep.
Event	19	Pump Displacement	Pump Displacement	12/9/2020	03:25:57	NONE	21.40	7.91	0.00	0.00	Pumped 20bbls of MMCR water, Pumped 381 with treated water.
Event	20	Bump Plug	Bump Plug	12/9/2020	04:14:08	NONE	2820.27	8.18	0.00	391.58	Bumped plug 500psi over final pump pressure, FCP = 2,526 bumped to 2,996psi.
Event	21	Other	Other	12/9/2020	04:18:06	NONE	2993.66	8.09	0.00	0.00	Released pressure back to pump truck to check floats, Floats held good 5.5bbls back.
Event	22	End Job	End Job	12/9/2020	04:20:34	NONE	-5.22	7.93	0.00	0.00	48bbls of spacer back to surface.

3.0 Attachments

3.1 Job Chart

