

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 2659483	Quote #:	Sales Order #: 0906100297
Customer: NOBLE ENERGY INC-EBUS		Customer Rep: JIM TURNER	
Well Name: GUTTERSEN STATE		Well #: DD30-766	API/UWI #: 05-123-48662-00
Field:	City (SAP): KERSEY	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-30-3N-63W-450FSL-2576FWL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321	
Job BOM: 7523 7523			
Well Type: GAS			
Sales Person: HALAMERICA\HB31357		Srvc Supervisor: Nikolaus Kornafel	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	16711ft		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	1934	0	0
Casing		5.5	4.892	17			0	16711	0	
Open Hole Section			8.5				1934	16732	0	6745

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5	1		16711	Top Plug	5.5	1	HES
Float Shoe	5.5				Bottom Plug	5.5	2	HES
Float Collar	5.5	1		16661				
Insert Float	5.5				Plug Container	5.5	1	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	SPACER	SBM FDP-C1337-18 CEMENT SPACER SYS	120	bbl	11.5	3.87	24.5	6	4,265

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	CAP CEMENT	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.67	8.03	8	1,124
3	LEAD CEMENT	ELASTICEM (TM) SYSTEM	481	sack	13.2	1.67	8.04	8	3,867
4	TAIL CEMENT	NeoCem TM	1101	sack	13.2	2.04	9.79	8	10,778
5	Displacement	Displacement	387	bbbl	8.33			8	
Cement Left In Pipe									
Amount		50 ft			Reason			Shoe Joint	
Mix Water: pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 69 °F				
Cement Temperature: N/A		Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 69 °F				
Plug Bumped? Yes		Bump Pressure: 2075 psi			Floats Held? Yes				
Cement Returns: 0 bbl		Returns Density: N/A			Returns Temperature: N/A				
Comment Pumped 120 barrels of Tuned Spacer and then dropped the second bottom plug, then pumped 42 barrels of cap cement and then pumped 142 barrels of Lead cement and then pumped 400 barrel of Tail cement. Dropped the top plug and displaced with 387 bbls of fresh water at 9 bbls/min. Bumped the plug at 2,075 psi and brought pressure to 2,575 psi for a 5 min pressure test. Bled off pressure to check floats and floats held. 4.5 barrels 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	11/13/2019	11:00:00	USER	CREW CALLED OUT AT 11:00, REQUESTED ON LOCATION 17:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10866497, BULK 660 11633848, AND PUMP 11826999.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/13/2019	14:45:00	USER	CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	11/13/2019	15:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/13/2019	16:30:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,934, 5.5" CASING: 17 LB/FT TOTAL 16,711', 8.5 OH HOLE 16,732' SHOE TRAC- 50', TVD- 6,745'. PUMP FRESH WATER DISPLACEMENT 387 BBLs. CASING LANDED @ 18:00 11/13/2019. RIG CIRCULATED BOTTOMS UP.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/13/2019	17:00:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/13/2019	17:30:00	USER	CREW STAGED EQUIPMENT, RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/13/2019	21:45:00	USER	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	8	Start Job	Start Job	11/13/2019	22:08:21	COM11	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	11/13/2019	22:16:57	COM11	PRESSURE TESTED IRON TO 5,000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 900 PSI, 5TH GEAR STALL OUT @ 2,100 PSI. PRESSURE TESTED THE RIGS STANDPIPE TO 2,500 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	11/13/2019	22:29:24	COM11	PUMP 120 BBLS OF SPACER @ 11.5 LB/GAL, 3.87 FT3/SK, 24.5 GAL/SK 10 GALLONS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN @ 740 PSI.
Event	11	Check Weight	Check Weight	11/13/2019	22:36:55	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Check Weight	Check Weight	11/13/2019	22:39:13	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	13	Shutdown	Shutdown	11/13/2019	22:51:10	COM11	SHUTDOWN TO DROP SECOND BOTTOM PLUG
Event	14	Pump Lead Cement	Pump Lead Cement	11/13/2019	22:51:17	COM11	PUMPED 140 SKS OF ELASTICEM LEAD CEMENT @ 13.2 LB/GAL, 1.67 FT3/SK, 8.03 GAL/SK. 42 BBLS, TOL @ 2,404. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 680 PSI.
Event	15	Drop Bottom Plug	Drop Bottom Plug	11/13/2019	22:57:29	COM11	BOTTOM PLUG LOADED INTO THE CASING, WITNESSED BY THE COMPANY MAN.
Event	16	Check Weight	Check Weight	11/13/2019	23:00:05	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	17	Pump Lead Cement	Pump Lead Cement	11/13/2019	23:04:29	COM11	PUMPED 481 SKS OF ELASTICEM LEAD CEMENT @ 13.2 LB/GAL, 1.67 FT3/SK, 8.04 GAL/SK. 143 BBLS, TOL @ 3,424. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 640 PSI.
Event	18	Check Weight	Check Weight	11/13/2019	23:06:34	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	19	Shutdown	Shutdown	11/13/2019	23:34:12	COM11	SHUTDOWN TO FIX A LEAK ON THE STANDPIPE.
Event	20	Pump Tail Cement	Pump Tail Cement	11/13/2019	23:47:31	COM11	PUMPED 1,101 SKS OF ECONOCEM TAIL CEMENT @ 13.2 LB/GAL, 2.04 FT3/SK, 9.79 GAL/SK, BBLS. TOT CALCULATED @ 6,928. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 610 PSI.

Event	21	Check Weight	Check Weight	11/13/2019	23:50:16	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	22	Check Weight	Check Weight	11/14/2019	00:00:10	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	23	Check Weight	Check Weight	11/14/2019	00:26:03	COM11	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	24	Shutdown	Shutdown	11/14/2019	00:45:18	COM11	SHUTDOWN TO WASH PUMPS AND LINES
Event	25	Drop Top Plug	Drop Top Plug	11/14/2019	00:57:48	COM11	TOP PLUG LOADED INTO THE CASING BY THE COMPANY MAN.
Event	26	Pump Displacement	Pump Displacement	11/14/2019	00:57:52	COM11	BEGIN CALCULATED DISPLACEMENT OF 387 BBLS WITH FRESH WATER. 10 GAL OF MMCR IN THE FIRST 20 BBLS AND 3 LBS OF BE3 THROUGHOUT THE REST.
Event	27	Displ Reached Cement	Displ Reached Cement	11/14/2019	01:03:22	COM11	CAUGHT CEMENT @ 25 BBLS INTO DISPLACEMENT.
Event	28	Bump Plug	Bump Plug	11/14/2019	01:52:48	COM11	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,075 PSI PRESSURED UP TO 2,575 PSI AND HELD PRESSURE FOR 5 MINUTES. NO SPACER TO SURFACE.
Event	29	Other	Other	11/14/2019	01:57:09	COM11	RELEASED PRESSURE, FLOATS HELD, 4.5 BBLS BACK.
Event	30	End Job	End Job	11/14/2019	02:00:03	COM11	STOP RECORDING JOB DATA.

Event	31	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/14/2019	02:05:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	32	Rig-Down Completed	Rig-Down Completed	11/14/2019	03:30:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	33	Safety Meeting - Departing Location	Safety Meeting - Departing Location	11/14/2019	04:00:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

3.0 Attachments

3.1 Job Chart

