

*The Road to Excellence Starts with Safety*

Sold To #: 345242	Ship To #: 3924008	Quote #:	Sales Order #: 0905819455
Customer: NOBLE ENERGY INC-EBUS		Customer Rep: Thomas Charvat	
Well Name: GUTTERSEN	Well #: D23-711	API/UWI #: 05-123-48845-00	
Field: WATTENBERG	City (SAP): KEENESBURG	County/Parish: WELD	State: COLORADO
Legal Description: SW SE-23-3N-64W-761FSL-1399FEL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 517	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HB31357		Srvc Supervisor: Prince Perez	

**Job**

Formation Depth (MD)	Top	0'	Bottom	17,757'
Job depth MD	17740ft		Job Depth TVD	7,400
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	1933	0	1933
Casing		5.5	4.892	17			0	17740	0	7400
Open Hole Section			8.5				1933	17757	1933	7400

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5	1		17740	Top Plug	5.5	1	HES
Float Shoe	5.5				Bottom Plug	5.5	2	HES
Float Collar	5.5	1		17,694	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5		
Stage Tool	5.5				Centralizers	5.5	114	

**Fluid Data**

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Spacer	Tuned Spacer III	120	bbl	11.5	3.79	23.5	5.5	4,178

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /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	
3	Lead	ELASTICEM (TM) SYSTEM	533	sack	13.2	1.68	8.06	7	4,296	
4	Tail	NeoCem TM	1,164	sack	13.2	2.04	9.75	8	11,349	
5	Displacement	Displacement	410.5	bbl	8.33					
<b>Cement Left In Pipe</b>		<b>Amount</b>	42 ft		<b>Reason</b>			<b>Shoe Joint</b>		
Mix Water:		pH 7	Mix Water Chloride:		<300 ppm		Mix Water Temperature:			71 °F
Cement Temperature:		## °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:			71 °F
Plug Bumped?		Yes	Bump Pressure:		2,022 psi		Floats Held?			Yes
Cement Returns:		0 bbl	Returns Density:		9.5 lb/gal		Returns Temperature:			## °F
<b>Comment</b>										
Pumped 120 bbls of Tuned Spacer III with 20 gallons of D Air, 70 Gallons of Dual B, and 70 gallons of Musol A.										
Pumped 42 bbls of Elasticem.										
Pumped 160 bbls of Elasticem with SCBL.										
Pumped 423 bbls of Neocem.										
Pumped 410.5 bbls of fresh water displacement with MMCR in the first 20 bbls and 20 gallons of Aldacide throughout.										
No spacer to surface.										
5 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	Comments
Event	1	Call Out	Call Out	7/8/2019	11:00:00	USER	CREW CALLED OUT AT 11:00, REQUESTED ON LOCATION 18:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660, 10867098, 10867431, 10867521, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/8/2019	16:50:00	USER	CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	7/8/2019	17:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/8/2019	18:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9/58" 36 LB/FT @ 1,933.3', 5.5" CASING: 17 LB/FT TOTAL 17,739.8', 8 1/2" HOLE, TD 17,757', 46' SHOE TRAC, TVD- 7,400'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 19:00 7/8/2019.

Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	7/8/2019	18:10:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	7/8/2019	18:20:00	USER	RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	7/8/2019	19:50:00	USER	
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/8/2019	20:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	7/8/2019	20:46:08	COM4	BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	7/8/2019	20:51:12	COM4	PRESSURE TESTED IRON TO 4,700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,100 PSI, 5TH GEAR STALL OUT @ 2,050 PSI. 4,700 PRESSURE TEST KICKED OUT @ 4,600 PSI
Event	11	Test Lines	Test Lines	7/8/2019	20:56:43	COM4	TESTED IBOP TO 3,000 PSI. KICKED OUT @ 2,830 PSI.
Event	12	Drop Bottom Plug	Drop Bottom Plug	7/8/2019	21:01:03	COM4	LOADED BY THE COMPANY MAN.

Event	13	Pump Spacer 1	Pump Spacer 1	7/8/2019	21:02:10	COM4	PUMP 120 BBLS OF TUNED SPACER III @ 11.5 LB/GAL, 3.79 CUFT/SK, 23.5 GALL/SK. 20 GALS D-AIR, 70 GALLONS OF DUAL B, 70 GALLONS OF MUSOL A. HOS CALCULATED @ 2,465.1'. 6 BBLS CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 5.5 BBLS/MIN @ 160 PSI.
Event	14	Check Weight	Check Weight	7/8/2019	21:17:43	COM4	
Event	15	Drop Bottom Plug	Drop Bottom Plug	7/8/2019	21:26:22	COM4	LOADED BY THE COMPANY MAN.
Event	16	Pump Cap Cement	Pump Cap Cement	7/8/2019	21:30:07	COM4	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 8 BBLS/MIN @ 450 PSI
Event	17	Check Weight	Check Weight	7/8/2019	21:32:28	COM4	
Event	18	Pump Lead Cement	Pump Lead Cement	7/8/2019	21:40:07	COM4	PUMPED 533 SKS OF ELASTICEM W/SCBL @ 13.2 LB/GAL, 1.68 FT3/SK, 8.06 GAL/SK. 159.5 BBLS. HOL CALCULATED @ 3,908.8', TOL CALCULATED @ 3,491.8'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN @ 600 PSI
Event	19	Check Weight	Check Weight	7/8/2019	21:55:15	COM4	

PUMP 1,164 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.75 GAL/SK, 422.9 BBLS. HOT CALCULATED @ 10,339.2', TOT CALCULATED @ 7,400.6'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 610 PSI.

Event	20	Pump Tail Cement	Pump Tail Cement	7/8/2019	22:10:01	COM4	
Event	21	Check Weight	Check Weight	7/8/2019	22:11:41	COM4	
Event	22	Check Weight	Check Weight	7/8/2019	22:41:31	COM4	
Event	23	Check Weight	Check Weight	7/8/2019	22:54:48	COM4	
Event	24	Shutdown	Shutdown	7/8/2019	23:06:56	COM4	SHUTDOWN TO WASH LINES.
Event	25	Drop Top Plug	Drop Top Plug	7/8/2019	23:20:36	COM4	LOADED AND DROPPED BY THE COMPANY MAN.
Event	26	Pump Displacement	Pump Displacement	7/8/2019	23:20:39	COM4	BEGIN CALCULATED DISPLACEMENT OF 410.5 BBLS WITH FRESH WATER. MMCR IN THE FIRST 20 BBLS AND ALDACIDE THROUGHOUT. PUMP RATE 10 BPM @ 2,500 PSI. CAUGHT CEMENT @ 40 BBLS INTO DISPLACEMENT. NO SPACER TO SURFACE. SLOW RATE TO 3 BPM @ 390 BBLS INTO DISPLACEMENT.
Event	27	Bump Plug	Bump Plug	7/9/2019	00:08:37	COM4	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,022 PSI PRESSURED 500 PSI OVER BUMP. SHUTDOWN FOR 5 MINUTES.

Event	28	Check Floats	Check Floats	7/9/2019	00:14:23	USER	RELEASED PRESSURE, FLOATS HELD, 5 BBLS BACK.
Event	29	End Job	End Job	7/9/2019	00:16:36	COM4	STOP RECORDING JOB DATA.
Event	30	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	7/9/2019	00:20:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	31	Rig-Down Equipment	Rig-Down Equipment	7/9/2019	00:30:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	32	Rig-Down Completed	Rig-Down Completed	7/9/2019	01:50:00	USER	
Event	33	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/9/2019	02:00:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	34	Crew Leave Location	Crew Leave Location	7/9/2019	02:10:00	USER	THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW.

## 3.0 Attachments

### 3.1 Job Chart



