

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3787021	Quote #: 0022312537	Sales Order #: 0904081419
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Ruben Hernandez	
Well Name: BUTTERBALL		Well #: 25N2-34HZ	API/UWI #: 05-123-44407-00
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-10-2N-67W-820FNL-2280FWL			
Contractor: NABORS DRLG		Rig/Platform Name/Num: NABORS X22	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srv Supervisor: Bryan Kraft	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	16089ft	Job Depth TVD	7314ft
Water Depth		Wk Ht Above Floor	4ft
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		J-55	0	1862	0	1862
Casing		5.5	4.892	17	LTC	HCP110	0	16089	0	7314
Open Hole Section			7.875				1862	16098	1862	7314

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	WF
Float Shoe	5.5	1	WF	16089	Bottom Plug	5.5	1	WF
Float Collar	5.5	1	WF	16086	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers			

**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	Spacer	TUNED SPACER III	60	bbl	10.5	6.43	41.3	3	2164	
	86.45 lbm/bbl	<b>BARITE, BULK (100003681)</b>								
	0.70 gal/bbl	<b>MUSOL(R) A, BULK (100003696)</b>								
	35.70 gal/bbl	<b>FRESH WATER</b>								

0.70 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>							
0.25 gal/bbl		<b>D-AIR 3000L, 5 GAL PAIL (101007444)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
2	Cap Cement	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57	7.53	8	1130
7.53 Gal		<b>FRESH WATER</b>							
0.90 %		<b>SCR-100 (100003749)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
3	Lead Cement	ELASTICEM (TM) SYSTEM	390	sack	13.2	1.57	7.53	8	2937
0.35 %		<b>SCR-100 (100003749)</b>							
7.53 Gal		<b>FRESH WATER</b>							
0.10 %		<b>SUPER CBL, 50 LB PAIL (100003668)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
4	Tail Cement	ECONOCEM (TM) SYSTEM	1080	sack	13.5	1.68	7.98	8	8618
7.98 Gal		<b>FRESH WATER</b>							
0.40 %		<b>HR-5, 50 LB SK (100005050)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
5	Displacement	BIOCIDE WATER & MMCR	20	bbl	8.34			8	840
0.50 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
6	Displacement	BIOCIDE WATER	353	bbl	8.34			8	14826
<b>Cement Left In Pipe</b>	<b>Amount</b>	0 ft			<b>Reason</b>	4 bbl Wet Shoe			

Mix Water:	pH 7.0	Mix Water Chloride:	<100 ppm	Mix Water Temperature:	<b>55 °F</b>
Cement Temperature:	N/A	Plug Displaced by:	8.3 lb/gal Fresh Water	Disp. Temperature:	<b>55 °F</b>
Plug Bumped?	Yes	Bump Pressure:	2350 psi	Floats Held?	<b>Yes</b>
Cement Returns:	N/A	Returns Density:	N/A	Returns Temperature:	<b>N/A</b>
<b>Comment</b> 5 BBLS Tuned Spacer to Surface, Plug bumped @ calculated displacement, Floats Held, 4 BBLS back, pins sheared @ 5230 PSI, Floats held, 2.5 BBLS 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	6/9/2017	05:00:00	USER	CREW CALLED OUT AT 5:00 6/9/2017, REQUESTED ON LOCATION 10:00 6/9/2017. CREW PICKED UP CEMENT, CHEMICALS (42 GAL MUSOL A, 42 GAL DUAL SPACER B, 20 GAL D-AIR, 10 GAL MMCR), 100 LBS SUGAR, MANIFOLD, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 11593521/11527037, PUMP ELITE: 12644847/11512092.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/9/2017	07:45:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	6/9/2017	08:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location	6/9/2017	09:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" @ 1862', CASING: 17# 5.5" @ 16088.99', 3.21' SHOE JOINT, 7.875" OPEN HOLE, TVD @ 7314', 9.0 PPG WELL FLUID, FRESH WATER DISPLACEMENT. CASING LANDED @ 12:30 6/9/2017.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/9/2017	09:15:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	6/9/2017	09:20:00	USER	CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/9/2017	14:30:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	6/9/2017	14:58:23	COM5	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	6/9/2017	15:01:16	COM5	PRESSURE TESTED IRON TO 5500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @

1300 PSI, 5TH GEAR STALL OUT @ 1800 PSI.  
 ORIGINALLY GOING TO TEST TO 7500 BUT  
 THE POP OFF VALVE IS SET TO 5900 PSI.

Event	10	Pump Spacer 1	Pump Tuned Spacer @ 10.5 ppg	6/9/2017	15:12:06	COM5	PUMP 60 BBLS OF TUNED SPACER @ 10.5 LB/GAL, ADDED 42 GAL MUSOL A, 42 GAL DUAL SPACER B, 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Drop Bottom Plug	Drop Bottom Plug	6/9/2017	15:30:01	USER	PLUG LEFT CONTAINER, VERIFIED BY DRILLER.
Event	12	Pump Cement	Pump Cap Cement @ 13.2 ppg	6/9/2017	15:31:03	COM5	PUMP 150 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 42 BBLS, TOC @ 1144', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Lead Cement	Pump Lead Cement @ 13.2 ppg	6/9/2017	15:37:15	COM5	PUMP 390 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 109 BBLS, TOL @ 2108', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Pump Tail Cement	Pump Tail Cement @ 13.5 ppg	6/9/2017	15:52:52	COM5	PUMP 1080 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 YIELD, 7.98 GAL/SK, 323 BBLS, TOT @ 5636', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	15	Shutdown	Shutdown	6/9/2017	16:34:42	USER	SHUTDOWN TO WASH PUMPS/LINES AND DROP TOP PLUG.
Event	16	Clean Lines	Clean Lines	6/9/2017	16:41:41	COM5	WASH PUMPS AND LINES CLEAN OF CEMENT FOR DISPLACEMENT.
Event	17	Drop Top Plug	Drop Top Plug	6/9/2017	16:44:51	COM5	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	18	Pump Displacement	Pump Fresh Water Displacement	6/9/2017	16:45:41	COM5	BEGIN CALCULATED DISPLACEMENT OF 373 BBLS WITH FRESH WATER.
Event	19	Spacer Returns to Surface	Spacer Returns to Surface	6/9/2017	17:37:09	USER	SPACER TO SURFACE @ 368 BBLS INTO

							DISPLACEMENT. 5 BBLS OF TUNED SPACER TO SURFACE.
Event	20	Bump Plug	Bump Plug	6/9/2017	17:38:33	COM5	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 500 PSI OVER FINAL CIRCULATING PRESSURE OF 2350 PSI.
Event	21	Shutdown	Shutdown	6/9/2017	17:38:48	USER	SHUTDOWN @ 2850 PSI FOR 1 MINUTE.
Event	22	Other	Casing Pressure Test	6/9/2017	17:39:57	COM5	CASING PRESSURE TEST, HOLD 3000 PSI FOR 15 MINUTES.
Event	23	Check Floats	Check Floats	6/9/2017	17:54:30	USER	RELEASED PRESSURE, FLOATS HELD, 4 BBLS BACK.
Event	24	Pressure Up	Pressure Up	6/9/2017	17:59:31	USER	PRESSURE UP TO SHEAR PINS, PINS SHEARED @ 5230 PSI.
Event	25	Check Floats	Check Floats	6/9/2017	18:01:05	USER	RELEASED PRESSURE, FLOATS HELD, 2.5 BBLS BACK.
Event	26	End Job	End Job	6/9/2017	18:02:55	COM5	STOP RECORDING JOB DATA.
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/9/2017	18:15:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	28	Rig-Down Completed	Rig-Down Completed	6/9/2017	18:45:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/9/2017	19:25:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	30	Depart Location	Depart Location	6/9/2017	19:30:00	USER	THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Job Chart

