

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To#: 345242		!Ship To#: 3726876		!Quote#:		!Sales Order#: 0903320513				
Customer: NOBLE ENERGY INC - EBUS				!Customer Rep: LANCE PORTER						
Well Name: SHADOW		!Well #: A26-637		!API/UWI #: 05-123-42884-00						
Field: WATTENBERG		City (SAP): GILL		!County/Parish: WELD		!State: COLORADO				
Legal Description: NWSE-30-6N-63W-2234FSL-1698FEL										
Contractor: H & P DRLG				!Rig/Platform Name/Num: H & P 321						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB61755				!Srvc Supervisor: Joseph Fantasia						
Job										
Formation Name										
Form Type		IBHST		1230 degF						
Job depth MD		17605ft		!Job Depth TVD						
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	1919	0	1919
Casing		5.5	4.778	20			0	17605	0	0
Open Hole Section			8.5				1919	17626	1919	6670
Tools and Accessories										
Fluid Data										
Stage/Plug#: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	11 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.72		6		
118.19 lbm/bbl		BARITE, BULK (100003681)								
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.30 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
36 gal/bbl		FRESHWATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	11 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.72		7		
118.19 lbm/bbl		BARITE, BULK (100003681)								
3660 gal/bbl		FRESHWATER								

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Fluid#	Stage Type	FluidName	Qty	Qty UoM	Mixing Density lbm/gal	Yield 3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	ExpandaCem w/o SCBL	EXPANDACEM (TM) SYSTEM	150	sack	13.2	1.6		7	7.67
7.67Gal		FRESHWATER							
0.70%		SCR-100 (100003749)							
Fluid#	Stage Type	FluidName	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	ExpandaCem	EXPANDACEM (TM) SYSTEM	610	sack	13.2	16		8	7.69
0.30%		SCR-100 (100003749)							
7.69Gal		FRESHWATER							
Fluid#	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	EconoCem	ECONOCEM(TM)SYSTEM	1538	sack	13.5	1.68		8	7.98
7.98 Gal		FRESHWATER							
0.40%		HR-5, 50 LB SK (100005050)							
Fluid#	Stage Type	FluidName	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
6	Displacement	Displacement	390	bbl	8.33			9	
Cement Left In Pipe		Amount	140 ft	!Reason			JShoe Joint		
Comment APPROX 20 BBLs SPACER TO SURFACE.APPROX TOP OF CEMENT BASEDON VOLUME BACK IS 1252 FT.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	5/24/2016	03:00:00	USER				CALL OUT AT 0300. REQUESTED ON LOCATION AT 0930.
Event	2	Arrive at Location from Service Center	Arrive at Location from Service Center	5/24/2016	08:30:00	USER				ARRIVE ON LOCATION AT 0830. RIG INSTALLING LANDING JOINT. HELD SITE ASSESSMENT AND PRE RIG UP SAFETY MEETING WITH CREW PRIOR TO RIGGING UP EQUIPMENT.
Event	3	Mix Water Test Performed	Mix Water Test Performed	5/24/2016	09:00:00	USER				WATER TEST. TESTED 3 TANKS. CHLORIDES - 0 TEMP 56F PH - 7
Event	4	Start Job	Start Job	5/24/2016	10:45:52	COM6				HELD PRE JOB SAFETY MEETING WITH ALL PRESENT PERSONNEL PRIOR TO STARTING JOB.
Event	5	Prime Pumps	Prime Pumps	5/24/2016	10:50:59	USER				FRESH WATER PRIME UP
Event	6	Test Lines	Test Lines	5/24/2016	10:57:54	COM6	0.00	8.33	3314.00	PRESSURE TEST LINES INCLUDING RIGS KELLY HOSE TO 3314 PSI. ALL PRESSURE HELD ON LINES
Event	7	Drop Bottom Plug	Drop Bottom Plug	5/24/2016	11:00:29	USER				BOTTOM PLUG DROPPED IN CASING PRIOR TO PUMPING SPACER.
Event	8	Pump Spacer 1	Pump Spacer 1	5/24/2016	11:02:24	COM6	2.80	11.00	211.00	PUMP 40 BBLS TUNED SPACER MIXED AT 11 PPG. DENSITY VERIFIED BY SCALE. 12 GALLONS OF MUSOL A AND 12 GALLONS DUAL SPACER ADDED ON THE FLY. 2 GALLONS DAIR ADDED TO CONTROL AIR ENTRAINMENT.
Event	9	Pump Spacer 1	Pump Spacer 1	5/24/2016	11:13:15	USER	5.80	11.00	237.00	PUMP 40 BBLS TUNED SPACER MIXED AT 11 PPG. NO SURFACTANTS ADDED. DENSITY VERIFIED BY SCALE.
Event	10	Shutdown	Shutdown	5/24/2016	11:19:55	USER				
Event	11	Drop Bottom Plug	Drop Bottom Plug	5/24/2016	11:22:01	USER				BOTTOM PLUG DROPPED INTO CASING AFTER PUMPING SPACER.
Event	12	Pump Lead Cement	Pump Lead Cement	5/24/2016	11:25:33	COM6	2.10	13.20	92.00	PUMP 216 BBLS (760 SACKS) EXPANDACEM MIXED AT 13.2 PPG. FIRST 150 SACKS WITH OUT SUPER CBL. DENSITY VERIFIED BY SCALE.

Event	13	Check Weight	Check weight	5/24/2016	11:35:06	COM6	8.00	13.20	445.00	DENSITY VERIFIED BY SCALE,
Event	14	Pump Tail Cement	Pump Tail Cement	5/24/2016	11:54:50	COM6	8.00	13.50	498.00	PUMP 460 BBLS (1538 SACKS) ECONOCHEM MIXED AT 13.5 PPG. DENSITY VERIFIED BY SCALE.
Event	15	Check Weight	Check weight	5/24/2016	11:56:20	COM6	8.00	13.50	542.00	DENSITY VERIFIED BY SCALE.
Event	16	Shutdown	Shutdown	5/24/2016	13:04:17	COM6				
Event	17	Clean Lines	Clean Lines	5/24/2016	13:12:26	COM6				BLOW DOWN TOP DRIVE AND LINES TO WASH UP TANK. PUMP 3 BBLS FRESH WATER TO CLEAN PUMPS.
Event	18	Drop Top Plug	Drop Top Plug	5/24/2016	13:13:48	COM6				TOP PLUG DROPPED INTO CASING DURING SHUTDOWN.
Event	19	Pump Displacement	Pump Displacement	5/24/2016	13:16:11	COM6	5.90	8.33	51.00	DISPLACE USING 390 BBLS WATER. 10 GALLONS MMCR ADDED TO FIRST 20 BBLS. GOOD RETURNS THROUGHOUT. APPROX 20 BBLS SPACER TO SURFACE. BASED ON VOLUME BACK TOP OF CEMENT IS AT APPROX 1252 FT. GOT RUBBER PIECES ACCROSS SHAKERS AT 300 BBLS AWAY. RUBBER PIECES STARTED OUT ABOUT 1 INCH IN LENGTH AND WERE 1/4 INCH IN LENGTH BY END OF DISPLACEMENT.
Event	20	Bump Plug	Bump Plug	5/24/2016	14:02:03	COM6	4.00	8.33	1854.00	PLUG LANDED AT 1873 PSI. PRESSURE BROUGHT TO 2500 PSI AND HELD 5 MIN.
Event	21	Check Floats	Check Floats	5/24/2016	14:07:20	USER	0.00	8.33	2697.00	FLOATS HELD. ABOUT 5 BBLS WATER BACK TO TRUCK.
Event	22	End Job	End Job	5/24/2016	14:25:10	USER				HELD PRE RIG DOWN SAFETY MEETING PRIOR TO RIGGING DOWN EQUIPMENT.
Event	23	Depart Location	Depart Location	5/24/2016	15:00:00	USER				DEPART LOCATION AFTER JOURNEY MGMNT.