

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3726880	Quote #:	Sales Order #: 0903365382							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: CLIFF								
Well Name: SHADOW	Well #: A26-663	API/UWI #: 05-123-42885-00								
Field: WATTENBERG	City (SAP): GILL	County/Parish: WELD	State: COLORADO							
Legal Description: SW NE-30-6N-63W-2261FNL-2335FEL										
Contractor:		Rig/Platform Name/Num: H&P 524								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB61755		Srvc Supervisor: Joseph Scileppi								
Job										
Formation Name										
Formation Depth (MD)	Top 0	Bottom	17466							
Form Type		BHST	230 degF							
Job depth MD	17455ft	Job Depth TVD	5698							
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	1918	0	1918
Casing		5.5	4.778	20			0	17455	0	5698
Open Hole Section			8.5				1918	17466	1918	5698
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5			17455	Top Plug	5.5	1	HES		
Float Shoe	5.5				Bottom Plug	5.5	2	HES		
Float Collar	5.5				SSR plug set	5.5		HES		
Insert Float	5.5				Plug Container	5.5		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	11 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.72				
118.19 lbm/bbl										
0.40 gal/bbl										
0.40 gal/bbl										
35.60 gal/bbl										
BARITE, BULK (100003681)										
MUSOL A, 330 GAL TOTE - (790828)										
DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)										
FRESH WATER										

last updated on 6/16/2016 5:59:15 AM

Page 1 of 3

iCem® Service

(v. 4.2.393)

Created: Wednesday, June 22, 2016

HALLIBURTON

Cementing Job Summary

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	11 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.72																												
118.19 lbm/bbl		BARITE, BULK (100003681)																																
36.60 gal/bbl		FRESH WATER																																
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																									
3	ExpandaCem w/o SCBL	EXPANDACEM (TM) SYSTEM	150	sack	13.2	1.6		5	7.67																									
7.67 Gal		FRESH WATER																																
0.70 %		SCR-100 (100003749)																																
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																									
4	ExpandaCem	EXPANDACEM (TM) SYSTEM	624	sack	13.2	1.6		5	7.69																									
0.30 %		SCR-100 (100003749)																																
7.69 Gal		FRESH WATER																																
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																									
5	EconoCem	ECONOCCEM (TM) SYSTEM	1500	sack	13.5	1.68		5	7.98																									
7.98 Gal		FRESH WATER																																
0.40 %		HR-5, 50 LB SK (100005050)																																
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																									
6	Displacement	Displacement	384.6	bbl	8.33																													
<table border="1"> <tr> <td>Cement Left In Pipe</td><td>Amount</td><td>50 ft</td><td>Reason</td><td>Shoe Joint</td></tr> <tr> <td>Mix Water: pH ##</td><td>Mix Water Chloride: ## ppm</td><td>Mix Water Temperature: ## °F °C</td><td colspan="2"></td></tr> <tr> <td>Cement Temperature: ## °F °C</td><td>Plug Displaced by: ## lb/gal kg/m3 XXXX</td><td>Disp. Temperature: ## °F °C</td><td colspan="2"></td></tr> <tr> <td>Plug Bumped? Yes/No</td><td>Bump Pressure: #### psi MPa</td><td>Floats Held? Yes/No</td><td colspan="2"></td></tr> <tr> <td>Cement Returns: ## bbl m3</td><td>Returns Density: ## lb/gal kg/m3</td><td>Returns Temperature: ## °F °C</td><td colspan="2"></td></tr> </table>										Cement Left In Pipe	Amount	50 ft	Reason	Shoe Joint	Mix Water: pH ##	Mix Water Chloride: ## ppm	Mix Water Temperature: ## °F °C			Cement Temperature: ## °F °C	Plug Displaced by: ## lb/gal kg/m3 XXXX	Disp. Temperature: ## °F °C			Plug Bumped? Yes/No	Bump Pressure: #### psi MPa	Floats Held? Yes/No			Cement Returns: ## bbl m3	Returns Density: ## lb/gal kg/m3	Returns Temperature: ## °F °C		
Cement Left In Pipe	Amount	50 ft	Reason	Shoe Joint																														
Mix Water: pH ##	Mix Water Chloride: ## ppm	Mix Water Temperature: ## °F °C																																
Cement Temperature: ## °F °C	Plug Displaced by: ## lb/gal kg/m3 XXXX	Disp. Temperature: ## °F °C																																
Plug Bumped? Yes/No	Bump Pressure: #### psi MPa	Floats Held? Yes/No																																
Cement Returns: ## bbl m3	Returns Density: ## lb/gal kg/m3	Returns Temperature: ## °F °C																																
Comment GOT 30 BBLs OF SPACER BACK, TO SURFACE, TOC IS 1902'																																		

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	6/17/2016	17:00:00	USER				CALLOUT FOR ON LOCATION AT 2200
Event	2	Crew Leave Yard	Crew Leave Yard	6/17/2016	20:30:00	USER				PRE JOURNEY JSA W/ CREW
Event	3	Arrive At Location	Arrive At Location	6/17/2016	21:45:00	USER				UPON ARRIVAL RIG HAD 20 JOINTS LEFT TO RUN, MET W/ COMPANY REP TO DISCUSS JOB PROCEDURE
Event	4	Rig-Up Equipment	Rig-Up Equipment	6/17/2016	22:00:00	USER				PRE RIG UP HAZARD HUNT JSA W/ CREW
Event	5	Other	Other	6/17/2016	22:05:00	USER				FIELD MIX WATER ANALYSIS: TEMP-66, CHLORIDES-0, PH-7
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/18/2016	00:50:00	USER				JSA W/ ALL INVOLVED PERSONNEL
Event	7	Start Job	Start Job	6/18/2016	01:06:19	COM5				
Event	8	Prime Pumps	Prime Pumps	6/18/2016	01:06:49	COM5				
Event	9	Test Lines	Test Lines	6/18/2016	01:16:09	COM5	0.00	8.49	3115.00	TESTED KELLY HOSE TO 3500 PSI FOR 3 MIN, NO VISIBLE LEAKS
Event	10	Test Lines	Test Lines	6/18/2016	01:21:17	COM5	0.00	8.52	4333.00	TESTED LINES TO 4500 PSI FOR 5 MIN, NO VISIBLE LEAKS
Event	11	Drop Bottom Plug	Drop Bottom Plug	6/18/2016	01:26:26	COM5				PLUG LOADED AND WITNESSED BY COMPANY REP
Event	12	Pump Spacer 1	Pump Spacer 1	6/18/2016	01:29:21	COM5	4.00	11.17	350.00	PUMPED 80 BBLS OF 11 PPG SPACER W/ SURFACTANTS (16 GAL MUSOL A AND 16 GAL DUAL SPACER SURFACTANT B) IN FIRST 40 BBLS. SECOND 40 BBLS OF SPACER WITH NO SURFACTANTS. PUMPED SPACER AT 4 BPM AND 187 PSI
Event	13	Drop Bottom Plug	Drop Bottom Plug	6/18/2016	01:46:50	COM5				PLUG LOADED AND WITNESSED BY COMPANY REP
Event	14	Pump Lead Cement	Pump Lead Cement	6/18/2016	01:52:22	COM5	4.00	13.26	202.00	PUMPED 774 SKS OR 220.5 BBLS OF 13.2 LEAD CMT. FIRST 150 SKS (43 BBLS) W/O SCBL. AT 8 BPM AND 460 PSI
Event	15	Pump Tail Cement	Pump Tail Cement	6/18/2016	02:22:28	COM5	7.60	13.45	548.00	PUMPED 1500 SKS OR 448.8 BBLS OF 13.5 CMT AT 7 BPM

AND 520 PSI

Event	16	Shutdown	Shutdown	6/18/2016	03:32:44	COM5				
Event	17	Drop Top Plug	Drop Top Plug	6/18/2016	03:46:34	COM5				PLUG LOADED AND WITNESSED BY COMPANY REP
Event	18	Pump Displacement	Pump Displacement	6/18/2016	03:48:25	COM5	12.00	8.31	572.00	PUMPED 384.6 BBLS OF H2O W/ MMCR IN FIRST 20 BBLS AT 9 BPM AND 2500 PSI, GOT 30 BBLS OF SPACER TO SURFACE
Event	19	Bump Plug	Bump Plug	6/18/2016	04:36:53	COM5	0.00	8.35	2228.00	FINAL CIRCULATING PRESSURE WAS 1752 PSI AND PLUG BUMPED AT 2217 PSI
Event	20	Other	Other	6/18/2016	04:43:00	USER	0.00	8.35	2388.00	CHECKED FLOATS, THEY HELD AND GOT 2.25 BBLS BACK TO TRUCK
Event	21	End Job	End Job	6/18/2016	04:49:31	COM5				