

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3887516		Quote #:		Sales Order #: 0905853884					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Chris Ewing							
Well Name: SLW RANCH STATE			Well #: BB07-668		API/UWI #: 05-123-47110-00						
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO					
Legal Description: 7-5N-63W-1573FNL-800FWL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB31357				Srv Supervisor: Michael Loughran							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST		230 degF					
Job depth MD		16911.4ft		Job Depth TVD		6540					
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	1932	0	1932	
Casing		5.5	4.892	17			0	16911.4	0	6540	
Open Hole Section			8.5				1932	16921	1932	6540	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	HES		
Float Shoe	5.5			16911.4		Bottom Plug	5.5	2	HES		
Float Collar	5.5			16866		SSR plug set	5.5		HES		
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/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS			120	bbl	11.5	3.75		6	
1 lbm/bbl		FE-2 (100001615)									
0.60 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)									
149.55 lbm/bbl		BARITE, BULK (100003681)									
0.60 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									

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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	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.71		7.5	8.31	
8.31 Gal		FRESH WATER								
1 %		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	
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	459	sack	13.2	1.71		7.5	8.32	
0.60 %		SCR-100 (100003749)								
8.32 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	
4	NeoCem NT1	NeoCem TM	1101	sack	13.2	2.08		7	10.18	
0.15 %		FE-2 (100001615)								
10.18 Gal		FRESH WATER								
0.15 %		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	
5	Displacement	Displacement	392	bbl	8.33			9		
Cement Left In Pipe		Amount	45.4 ft			Reason		Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			Less 200 ppm		Mix Water Temperature:		78 °F
Cement Temperature:			Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:			2350 psi		Floats Held?		Yes
Cement Returns:			Returns Density:					Returns Temperature:		
Comment Bump plug, Floats held, 4.5 bbl. Back. 15 bbl Spacer/OBM Interface to surface. Calculated Top cement 2470'										

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	7/23/2019	15:30:00	USER	Crew called out for on location time of 2130 hrs. 7/23/2019
Event	2	Crew Leave Yard	Crew Leave Yard	7/23/2019	19:00:44	USER	Crew Leaves Yard
Event	3	Arrive At Loc	Arrive At Loc	7/23/2019	20:21:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 16911.4 17# P-110, TD 16921, 8.50 Hole, F/C 16866, TVD 6540, PC 1931.4' 9.625 J-55 36#, WF 9.5 OBM, HES Top and 2 Bottom plug provided by customer, Water 78 Deg., PH 7, Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/23/2019	20:35:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	7/23/2019	20:40:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/24/2019	00:26:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	7/24/2019	00:48:34	COM4	Begin recording data
Event	8	Test Lines	Test Lines	7/24/2019	00:51:08	COM4	Pressure test to 4500 psi
Event	9	Drop Bottom Plug	Drop Bottom Plug	7/24/2019	01:00:09	COM4	Bottom plug verified by CM
Event	10	Pump Spacer 1	Pump Spacer 1	7/24/2019	01:00:13	COM4	120 bbl. Tuned Prime Spacer, 11.5 ppg, 3.75 yield, 23.2 gal/sack, 72 gal Dual spacer B, 72 gal Musol

Event	11	Shutdown	Shutdown	7/24/2019	01:22:25	COM4	Shutdown to drop bottom plug #2
Event	12	Drop Bottom Plug	Drop Bottom Plug	7/24/2019	01:23:20	COM4	Bottom plug #2 Verified by CM
Event	13	Pump Cap Cement	Pump Cap Cement	7/24/2019	01:24:15	COM4	140 sacks ElastiCem, 42.63 bbl., 13.2 ppg, 1.71 yield, 8.31 gal/sack
Event	14	Pump Lead Cement	Pump Lead Cement	7/24/2019	01:35:17	COM4	459 sacks ElastiCem, 139.79 bbl., 13.2 ppg, 1.71 yield, 8.32 gal/sack
Event	15	Pump Tail Cement	Pump Tail Cement	7/24/2019	01:58:35	COM4	1101 sacks NeoCem, 408.23 bbl., 13.2 ppg, 2.08 yield, 10.18 gal/sack
Event	16	Shutdown	Shutdown	7/24/2019	03:11:33	COM4	Shutdown
Event	17	Clean Lines	Clean Lines	7/24/2019	03:14:47	USER	Wash pumps and lines
Event	18	Drop Top Plug	Drop Top Plug	7/24/2019	03:21:32	COM4	Verified by CM
Event	19	Pump Displacement	Pump Displacement	7/24/2019	03:22:19	COM4	392 bbl. fresh water displacement, 10 gal Micro Matrix retarder in first 20 bbl. 20 gal customer provided biocide throughout displacement. 15 bbl. spacer/OBM interface to surface. Calculated Top of Cement 2470
Event	20	Bump Plug	Bump Plug	7/24/2019	04:10:49	COM4	500 psi over final circulating pressure of 1850 psi @ 3 bbl./min. Bump pressure 2350 psi
Event	21	Check Floats	Check Floats	7/24/2019	04:16:36	USER	Floats hold. 4.5 bbl. back
Event	22	End Job	End Job	7/24/2019	04:20:16	COM4	Stop recording data
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/24/2019	04:25:00	USER	JSA safe Rig-Down

Event	24	Rig-Down Equipment	Rig-Down Equipment	7/24/2019	04:30:00	USER	Rig down equipment
Event	25	Crew Leave Location	Crew Leave Location	7/24/2019	06:00:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 SLW Ranch State BB07-668.png

