

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3894372		Quote #:		Sales Order #: 0905890289				
Customer: NOBLE ENERGY INC-EBUS				Customer Rep:						
Well Name: SLW RANCH STATE			Well #: BB07-615		API/UWI #: 05-123-47405-00					
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO				
Legal Description: 7-5N-63W-1666FSL-60FWL										
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: Thomas Haas						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST		230 degF				
Job depth MD		17045ft		Job Depth TVD		6623				
Water Depth				Wk Ht Above Floor		4				
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	0	9.625	8.921	36			0	1925	0	1925
Casing	0	5.5	4.892	17			0	17045	0	6623
Open Hole Section			8.5				1925	17059	1925	6623
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
						Top Plug	5.5	1	HES	
Float Shoe	5.5	1	HES	17045		Bottom Plug	5.5	2	HES	
Float Collar	5.5	1	HES	16997						
						Plug Container	5.5	1	HES	
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	120	bbl	11.5	3.76	23.2	7	4157	
34.70 gal/bbl		FRESH WATER								
0.60 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)								

1 lbm/bbl		FE-2 (100001615)							
0.60 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
149.40 lbm/bbl		BARITE, BULK (100003681)							
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
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.71	8.31	7.5	1163
8.31 Gal		FRESH WATER							
0.90 %		SCR-100 (100003749)							
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
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	473	sack	13.2	1.71	8.32	7.5	3935
0.60 %		SCR-100 (100003749)							
8.32 Gal		FRESH WATER							
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
4	NeoCem NT1	NeoCem TM	1109	sack	13.2	2.08	10.18	8	11289
0.14 %		FE-2 (100001615)							
10.18 Gal		FRESH WATER							
0.14 %		SCR-100 (100003749)							
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
5	Displacement Fluid	Displacement Fluid	20	bbl	8.33				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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
6	Displacement	Displacement	373	bbl	8.33				
Cement Left In Pipe		Amount	48 ft		Reason SHOE TRACK			Shoe Joint	

Mix Water:	pH 7	Mix Water Chloride:	<300 ppm	Mix Water Temperature:	74 °F
Cement Temperature:	N/A	Plug Displaced by:	8.33 lb/gal F.W.	Disp. Temperature:	71 °F
Plug Bumped?	Yes	Bump Pressure:	1700 psi	Floats Held?	Yes
Cement Returns:	N/A	Returns Density:		Returns Temperature:	N/A
Comment Plug bumped at calculated displacement, final circulating of pressure of 1700 psi, floats held, released pressure back to the truck, 4.5 bbl back, interface to surface.					

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	8/13/2019	00:00:00	USER	CREW CALLED OUT AT 00:00 8/13/2019, REQUESTED ON LOCATION 06:00 8/13/2019. CREW PICKED UP CEMENT, CHEMICALS (70 GAL MUSOL A, 70 GAL DUAL SPACER B, 10 GAL D-AIR, 10 GAL MMCR), 100 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 12644881/10897881, BULK 660: 10897881/11689672 , PUMP ELITE 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/13/2019	03:45:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	8/13/2019	04:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/13/2019	05:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1925', CASING: 5.5" 17# @ 17045', 48' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 6623', 9.6 PPG WELL FLUID, FRESH WATER DISPLACEMENT.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/13/2019	05:10:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/13/2019	05:15:00	USER	CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/13/2019	11:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	8/13/2019	11:32:00	USER	START JOB DATA RECORDING. COMPUTER DID NOT CAPTURE PRESSURE TEST, RTD CAPTURE IS ATTACHED.
Event	9	Drop Bottom Plug	Drop Bottom Plug	8/13/2019	11:33:00	USER	PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.
Event	10	Pressure Test	Pressure Test	8/13/2019	11:34:00	USER	PRESSURE TESTED IRON TO 4500I. KICKOUTS SET @ 500 PSI, KICKED OUT @ 800 PSI, 5TH GEAR STALL OUT @ 2200 PSI. IBOP TESTED TO 2400 PSI.
Event	11	Pump Spacer	Pump Spacer	8/13/2019	11:46:00	USER	PUMP 120 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 70 GAL MUSOL A, 70 GAL DUAL SPACER B, 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Shutdown	Shutdown	8/13/2019	12:11:38	COM4	SHUTDOWN TO DROP BOTTOM PLUG #2.

Event	13	Drop Bottom Plug	Drop Bottom Plug	8/13/2019	12:11:44	COM4	PLUG LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.
Event	14	Pump Cap Cement	Pump Cap Cement	8/13/2019	12:16:44	COM4	PUMP 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.71 YIELD, 8.31 GAL/SK, 42.6 BBLS, CALCULATED TOC @ 2427', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	15	Pump Lead Cement	Pump Lead Cement	8/13/2019	12:26:17	COM4	PUMP 473 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.71 YIELD, 8.32 GAL/SK, 144.1 BBLS, CALCULATED TOL @ 3471', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	16	Pump Tail Cement	Pump Tail Cement	8/13/2019	12:43:58	COM4	PUMP 1109 SKS OF NEOCEM @ 13.2 LB/GAL, 2.08 YIELD, 10.18 GAL/SK, 410.8 BBLS, CALCULATED TOT @ 7003', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	18	Shutdown	Shutdown	8/13/2019	13:37:25	COM4	SHUTDOWN TO DROP TOP PLUG, AND CLEAN PUMPS/LINES.
Event	19	Drop Top Plug	Drop Top Plug	8/13/2019	13:46:53	COM4	PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.
Event	20	Pump Displacement	Pump Displacement	8/13/2019	13:46:54	COM4	BEGIN CALCULATED DISPLACEMENT 394 BBL FRESH WATER. 10 GAL MMCR IN FIRST

20 BBL, 20 GAL BIOCIDES TROUGH OUT THE REST.

Event	21	Bump Plug	Bump Plug	8/13/2019	14:32:11	COM4	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 1700 PSI. INTERFACE RETURNED TO SURFACE.
Event	22	Other	Casing Test	8/13/2019	14:32:40	USER	5 MIN CASING TEST AT 2300 PSI.
Event	23	Check Floats	Check Floats	8/13/2019	14:37:31	USER	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, RECIEVED 4.5 BBL BACK TO THE TRUCK.
Event	24	End Job	End Job	8/13/2019	14:40:01	COM4	END JOB DATA RECORDING.
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/13/2019	14:45:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Completed	Rig-Down Completed	8/13/2019	16:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/13/2019	16:20:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
	28	Crew Leave Location	Crew Leave Location	8/13/2019	16:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Job Chart

