

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3954891		Quote #:		Sales Order #: 0905981983					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: CHARLES							
Well Name: WELLS RANCH STATE			Well #: BB03-676		API/UWI #: 05-123-49938-00						
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO					
Legal Description: NW NW-3-5N-63W-1290FNL-1000FWL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB31357				Srcv Supervisor: Lance Carpenter							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST		230 degF					
Job depth MD		17306ft		Job Depth TVD		6970					
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	1957	0	1957	
Casing		5.5	4.892	17			0	17306	0	6970	
Open Hole Section			8.5				1930	17325	1957	6970	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			17258		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 ft3/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	23.2		

0.60 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.60 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)							
149.55 lbm/bbl		BARITE, BULK (100003681)							
1 lbm/bbl		FE-2, 2000 LB BAG - (1005549)							
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	1.67	8.04	5	8.04
0.28 %		SCR-100, 2000 LB BAG - (1005967)							
8.26 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
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	474	sack	13.2	1.67	8.04	5	8.04
0.25 %		SCR-100, 2000 LB BAG - (1005967)							
8.27 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	1172	sack	13.2	2.04	9.79	5	9.79
0.08 %		SCR-100, 2000 LB BAG - (1005967)							
0.08 %		FE-2, 2000 LB BAG - (1005549)							
9.79 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
5	Displacement	Displacement	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	381	bbl	8.33				
Cement Left In Pipe		Amount	ft 48			Reason		Shoe Joint	

Mix Water:	Ph 7	Mix Water Chloride:	200 ppm	Mix Water Temperature:	## °F °C
Cement Temperature:	## °F °C	Plug Displaced by:	8.34 lb/gal	Disp. Temperature:	## °F °C
Plug Bumped?	Yes	Bump Pressure:	1964 psi	Floats Held?	Yes
Cement Returns:	## bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C

Comment

JOB WENT VERY WELL, FULL CEMENT VOLUMES WERE WEIGHED AND PUMPED, PUMPED 401 BBLS OF DISPLACEMENT WATER. CAUGHT CEMENT AT 38 BBLS AWAY. SLOWED RATE AT 371 BBLS AWAY TO BUMP PLUG AT 3 BPM FINAL CIRCULATING PRESSURE WAS 1964PSI TOOK 500 PSI OVER. 2 BBLS OF SPACER BACK TO SURFACE, CHECKED FLOATS AND GOT 3.5 BBLS BACK.

CALCULATED TOPS AND PRESSURE

TOP OF TAIL CEMENT 6913'

TOP OF LEAD CEMENT 3482'

TOP OF CAP CEMENT 2477'

2BBLS OF SPACER BACK TO SURFACE

PRESSURE TO LAND 1540 PSI

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Check Floats	CALL OUT	9/21/2019	00:30:00	USER					CREW CALLED OUT FOR ON LOCATION TIME AT 0630
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/21/2019	04:30:00	USER					HAD PRE CONVOY SAFETY MEETING WITH CREW AND DISCUSSED SAFE FOLLOWING DISTANCE WHILE DRIVING, WILD LIFE AND ROUTE TO LOCATION.
Event	3	Arrive at Rig	Arrive at Rig	9/21/2019	05:40:00	USER					ARRIVED ON LOCATION RIG WAS STILL RUNNING CASING AT 16008' SIGNED IN AND GOT NUMBERS FROM COMPANY MAN.
Event	4	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	9/21/2019	06:00:00	USER					HAD PRE RIG UP SAFETY MEETING AND DISCUSSED TEAM CARRY, PINCH POINTS, SLIP TRIPS AND FALLS AND 40' BUFFER ZONE.
Event	5	Casing on Bottom	Casing on Bottom	9/21/2019	06:15:00	USER					RIG LANDED CASING ON BOTTOM BUT WERE NOT ABLE TO CIRCULATE WELL. RIG STARTED TO PRESSURE UP TO 4500PSI IN SMALL INCREMENTS
Event	6	Break Circulation	Break Circulation	9/21/2019	09:00:00	USER	24.00	9.16	0.00	52.90	RIG WAS ABLE TO ESTABLISH CIRCULATION AND STARTED BOTTOMS UP

Event	7	Safety Meeting	Safety Meeting	9/21/2019	11:15:00	USER	13.00	9.15	0.00	52.90	HAD SAFETY MEETING WITH HES AND RIG CREW DISCUSSED S.W.A NEAREST HOSPITAL, MUSTER AREA, THREE POINTS OF CONTACT, AND PRESSURE THROUGHOUT JOB.
Event	8	Start Job	Start Job	9/21/2019	11:53:22	COM6	-1.00	0.81	0.00	0.00	START JOB
Event	9	Test Lines	Test Lines	9/21/2019	11:56:58	COM6	59.00	8.56	0.00	3.40	TESTED HES LINES TO 4500 PSI AND THEN PRESSURE TESTED AGAINST RIGS IBOP TO 2500 PSI
Event	10	Drop Bottom Plug	Drop Bottom Plug	9/21/2019	12:05:41	USER	27.00	8.62	0.00	4.70	FIRST BOTTOM PLUG WAS PRE LOADED INSIDE THE CASING.
Event	11	Pump Spacer 1	Pump Spacer 1	9/21/2019	12:05:44	COM6	27.00	8.63	0.00	4.70	PUMPED 120BBL OF TUNED SPACER 11.5PPG 3.75 YIELD 23.5 GAL
Event	12	Drop Bottom Plug	Drop Bottom Plug	9/21/2019	12:30:45	COM6	58.00	11.59	0.00	133.60	SHUT DOWN AND DROPPED 2ND BOTTOM PLUG
Event	13	Pump Lead Cement	Pump Lead Cement	9/21/2019	12:35:28	COM6	39.00	11.67	0.00	0.00	PUMPED 41 BBL ELASTICEM CAP 13.2# 1.67 YIELD 8.04 GAL 140 SACKS
Event	14	Pump Cement	Pump Cement	9/21/2019	12:42:35	COM6	394.00	13.21	6.70	44.70	PUMPED 140 BBL ELASTICEM LEAD 13.2# 1.67 YIELD 8.04 GAL 474 SACKS
Event	15	Pump Tail Cement	Pump Tail Cement	9/21/2019	13:12:33	COM6	394.00	13.16	7.30	175.70	PUMPED 425 BBL NEOCEM TAIL 13.2# 2.04 YIELD 9.79 GAL 1172 SACKS
Event	16	Drop Top Plug	Drop Top Plug	9/21/2019	14:26:59	COM6	-11.00	8.27	0.00	500.20	DROPPED TOP PLUG WITH COMPANY MAN ON RIG FLOOR.
Event	17	Pump Displacement	Pump Displacement	9/21/2019	14:27:09	COM6	-10.00	8.27	0.00	0.00	PUMPED 401 BBL WATER DISPLACEMENT FIRST 20 BBL WITH MMCR AND

											BIOCIDE THROUGHOUT. CAUGHT CEMENT AT 38BBLS AWAY.
Event	18	Bump Plug	Bump Plug	9/21/2019	15:14:34	COM6	2336.00	8.37	0.00	413.40	BUMPED PLUG, FINAL CIRCULATING PRESSURE WAS 1964PSI TOOK 500PSI
Event	19	End Job	End Job	9/21/2019	15:18:01	COM6	5.00	8.30	0.00	413.40	
Event	20	Check Floats	Check Floats	9/21/2019	15:23:53	USER	75.00	8.29	0.00	0.00	FLOATS HELD 3.5BBLS BACK
Event	21	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig- Down	9/21/2019	15:30:00	USER					HAD PRE RIG DOWN SAFETY MEETING WITH CREW AND DISCUSSED 40' BUFFER ZONE, TEAM CARRY, SLIP TRIPS AND FALLS AND PINCH POINTS.
Event	22	Depart Location	Depart Location	9/21/2019	17:00:00	USER					HAD PRE CONVOY SAFETY MEETING WITH CREW AND DISCUSSED SAFE FOLLOWING DISTANCE, WILD LIFE AND ROUTE BACK TO YARD.

3.0 Attachments

3.1 NOBLE ENERGY WELLS RANCH STATE BB03-676 PRODUCTION

