

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3968281	Quote #:	Sales Order #: 0906115069
Customer: NOBLE ENERGY INC-EBUS		Customer Rep: Charles Cullver	
Well Name: WELLS RANCH STATE		Well #: AA32-770	API/UWI #: 05-123-50176-00
Field: WATTENBERG	City (SAP): GILL	County/Parish: WELD	State: COLORADO
Legal Description: 5-5N-63W-300FNL-775FWL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 517	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HB31357		Srvc Supervisor: Adam Covington	

Job

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
Job depth MD	16857ft	Job Depth TVD	
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	1949	0	1949
Casing		5.5	4.892	17			0	16857	0	0
Open Hole Section			8.5				1949	16870	0	6880

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			16857	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	Tuned Prime Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	120	bbl	11.5	3.87		4	

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	8.03
8.03 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	461	sack	13.2	1.67		8	8.04
8.04 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	1129	sack	13.2	2.04		6	9.79
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	390	bbl	8.33				
Cement Left In Pipe									
Amount		48 ft			Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	0 ppm		Mix Water Temperature:	68 °F			
Cement Temperature:	83°F	Plug Displaced by:	8.33 lb/gal		Disp. Temperature:	68 °F			
Plug Bumped?	Yes	Bump Pressure:	2274 psi		Floats Held?	Yes			
Cement Returns:	6 bbl	Returns Density:	11.5 lb/gal		Returns Temperature:				
Comment . FCP-2274 PSI TOOK UP TO 2800 PSI. HELD FOR 5 MINUTES AS PER CO. MAN.									
BLED PRESSURE BACK TO THE TRUCK. WE HAD 5 BBLS BACK TO THE TRUCK WHEN FLOW STOPPED, INDICATING THAT THE FLOATS HELD. 6 BBLS OF SPACER BACK TO SURFACE. TOCC-2421' TOLC-3451' TOTC-6808'									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Job Called In	Call Out	11/18/2019	17:30:00	USER	ALL HES CREW MEMBERS WERE CALLED OUT FOR AN ON LOCATION TIME OF 2330.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/18/2019	20:15:00	USER	MET WITH ALL HES CREW MEMBERS AND DISCUSSED DIRECTIONS, DRIVING CONDITIONS AND SPEED LIMITS.
Event	3	Depart Shop for Location	Depart Shop for Location	11/18/2019	20:30:00	USER	ALL CREW MEMBERS LEFT FOR LOCATION.
Event	4	Arrive At Loc	Arrive At Loc	11/18/2019	23:30:00	USER	ALL CREW MEMBERS ARRIVED TO LOCATION SAFELY. PERFORMED A HAZARD HUNT AND GOT NUMBERS FROM CO. MAN. OH-8.5" TD-16870' TP-16857' 5.5" 17#, FC-16809, PC-1949' 9 5/8" 36#, TVD-6880' MUD-9.7#, WATER-- 60 DEGREES, CHLORIDES-0, PH-7.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/19/2019	02:00:00	USER	MET WITH HES CREW MEMBERS DISCUSSED SWINGS, TEAM LIFTS AND PINCH POINTS.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/19/2019	07:15:00	USER	MET WITH ALL HES AND RIG CREW MEMBERS AND DISCUSSED PRESSURES, JOB PROCEDURES AND SAFETY PROCESSES.

Event	7	Drop Bottom Plug	Drop Bottom Plug	11/19/2019	07:51:08	COM5	CO. MAN DROPPED HALLIBURTON 5.5" BOTTOM PLUG. ADAM COVINGTON AND NICK ROLES WITNESSED.
Event	8	Start Job	Start Job	11/19/2019	08:02:14	COM5	FILLED LINES WITH 3 BBLS OF FRESH WATER. 3 BPM, 150 PSI.
Event	9	Test Lines	Test Lines	11/19/2019	08:04:07	COM5	PERFORMED A 4500 PSI KICKOUT TEST (302 PSI) 5TH GEAR STALL (1783 PSI), THEN TOOK TO 4500 PSI. BLED OFF. RIG CLOSED THEIR LINES AND WE TESTED TO 2500 PSI UNTIL CO. MAN WAS HAPPY WITH IT AND BLED IT OFF.
Event	10	Pump Spacer 1	Pump Spacer 1	11/19/2019	08:14:07	COM5	PUMPED 120 BBLS OF 11.5#, 3.87y, 24.5wr PRIME TUNED SPACER AT 4 BPM, 500 PSI. USED 30 GALLONS OF D-AIR.
Event	11	Check Weight	Check Weight	11/19/2019	08:22:10	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP SPACER. SPACER WEIGHED UP AT 11.5#.
Event	12	Drop Bottom Plug	Drop Bottom Plug	11/19/2019	08:42:26	COM5	SHUTDOWN AND CO. MAN DROPPED HALLIBURTON 5.5" BOTTOM PLUG. ADAM COVINGTON WITNESSED.
Event	13	Pump Lead Cement	Pump Cap Cement	11/19/2019	08:43:39	COM5	PUMEPD 42 BBLS (140 SKS) OF 13.2#, 1.67y, 8.03wr ELASTICEM LEAD CEMENT AT 8 BPM, 49 PSI TO START. FULL RETURNS. MIX GALLONS-- CALCULATED 1124 GALLONS, ACTUAL-980 GALLONS.

Event	14	Check Weight	Check Weight	11/19/2019	08:58:06	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13#
Event	15	Pump Lead Cement	Pump Lead Cement	11/19/2019	09:00:35	USER	PUMPED 137 BBLS (461 SKS) OF 13.2#, 1.67y, 8.04wr ELASTICEM LEAD CEMENT AT 8 BPM, 789 PSI. FULL RETURNS. --MIX GALLONS CALCULATED 3,706, ACTUAL 3500 GALLONS.
Event	16	Check Weight	Check Weight	11/19/2019	09:02:13	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13#.
Event	17	Pump Tail Cement	Pump Tail Cement	11/19/2019	09:15:56	COM5	PUMPED 410 BBLS (1129 SKS) OF 13.2#, 2.04y, 9.79wr NEOCEM TAIL CEMENT AT 8 BPM, 860 PSI. --MIX GALLONS CALCULATED 11,052G, ACTUAL 10313 GALLONS
Event	18	Check Weight	Check Weight	11/19/2019	09:23:29	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.1#
Event	19	Check Weight	Check Weight	11/19/2019	09:25:43	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.1#
Event	20	Check Weight	Check Weight	11/19/2019	09:32:47	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#.

Event	21	Check Weight	Check Weight	11/19/2019	09:46:07	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#
Event	22	Check Weight	Check Weight	11/19/2019	10:00:42	COM5	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#
Event	23	Shutdown	Shutdown	11/19/2019	10:19:39	COM5	SHUTDOWN TO BLOW LINES DOWN, WASH UP PUMPS AND LINES AND GET READY TO DROP PLUG.
Event	24	Drop Top Plug	Drop Top Plug	11/19/2019	10:30:10	COM5	CO. MAN DROPPED HALLIBURTON 5.5" TOP PLUG. ADAM COVINGTON WITNESSED.
Event	25	Pump Displacement	Pump Displacement	11/19/2019	10:30:14	COM5	PUMPED 390 BBLS OF FRESH WATER DISPLACEMENT WITH THE FIRST 20 BBLS HAD 10 GALLONS OF MMCR DISPERSED THROUGH. FROM 30 BBLS TO 300 BBLS AWAY HAD 3 LBS OF BE-3 ADDED. STARTED AT 10 BPM (530 PSI) TO CATCH CEMENT. CAUGHT CEMENT AT 26 BBLS AWAY AND SLOWED DOWN TO 6 BPM AS PER CO. MAN. SLOWLY STARTED TO WALK RATE UP AS CO. MAN WAS CONCERNED ABOUT PRESSURE.
Event	26	Bump Plug	Bump Plug	11/19/2019	11:33:22	COM5	SLOWED RATE 30 BBLS FROM BUMPING. FCP-2274 PSI TOOK UP TO 2800 PSI. HELD FOR 5 MINUTES AS PER CO. MAN

Event	27	Other	Other	11/19/2019	11:39:08	COM5	BLED PRESSURE BACK TO THE TRUCK. WE HAD 5 BBLS BACK TO THE TRUCK WHEN FLOW STOPPED, INDICATING THAT THE FLOATS HELD.
Event	28	End Job	End Job	11/19/2019	11:41:36	COM5	6 BBLS OF SPACER BACK TO SURFACE. TOCC-2421' TOLC-3451' TOTC-6808'
Event	29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/19/2019	11:51:00	USER	MET WITH ALL HES CREW MEMBERS. DISCUSSED SWINGS, OVER HEAD LOADS AND RED ZONE HAZARDS.
Event	30	Depart Location Safety Meeting	Depart Location Safety Meeting	11/19/2019	13:00:00	USER	MET WITH HES CREW MEMBERS DISCUSSED SPEED LIMITS, DIRECTIONS AND HOURS OF SERVICE.
Event	31	Depart Location	Depart Location	11/19/2019	13:15:00	USER	JOB WAS COMPLETED SAFELY BY ADAM COVINGTON AND CREW. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Job Chart

