

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3968361		Quote #:		Sales Order #: 0906118082					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: CHARLES							
Well Name: WELLS RANCH STATE			Well #: AA32-775		API/UWI #: 05-123-50173-00						
Field: WATTENBERG		City (SAP): GILL		County/Parish: WELD		State: COLORADO					
Legal Description: 5-5N-63W-300FNL-738FWL											
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: Lance Carpenter							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		16903ft		Job Depth TVD		6940					
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		9.625	8.921	36			0	1921	0	1921	
Casing		5.5	4.892	17			0	16903	0	6940	
Open Hole Section			8.5				1921	16915	1920	6940	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			16903		Top Plug	5.5	1	HES		
Float Shoe	5.5					Bottom Plug	5.5	2	HES		
Float Collar	5.5			16855		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	3.87			
0.33 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)									
3.50 lbm/bbl		SEM-93P, 35 LB SACK - (1023977)									

3.50 lbm/bbl		SEM-94P, 35 LB SACK - (1023987)							
1 lbm/bbl		FE-2, 2000 LB BAG - (1005549)							
145.09 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	1.67		6	8.03
0.40 %		SCR-100, 2000 LB BAG - (1005967)							
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	470	sack	13.2	1.67		6	8.04
0.27 %		SCR-100, 2000 LB BAG - (1005967)							
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	410	BBL	13.2	2.04		6	9.79
0.08 %		FE-2, 2000 LB BAG - (1005549)							
9.79 Gal		FRESH WATER							
0.08 %		SCR-100, 2000 LB BAG - (1005967)							
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	391	bbl	8.33				
Cement Left In Pipe		Amount	48 ft		Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	200 ppm			Mix Water Temperature:	66 °F		
Cement Temperature:	## °F °C	Plug Displaced by:	8.4 lb/gal Water			Disp. Temperature:	## °F °C		
Plug Bumped?	Yes	Bump Pressure:	1894 psi			Floats Held?	Yes		
Cement Returns:	## bbl m3	Returns Density:	## lb/gal kg/m3			Returns Temperature:	## °F °C		

Comment

JOB WENT WELL. NO ACCIDENT, INJURY OR SPILL. PUMP TRUCK HAD TO BE REPLACED BECAUSE OF MECHANICAL FAILURE TO THE CEMENT HEAD. CALLED FOR A PUMP AT 0745 AND NEW PUMP ARRIVED 0845. BOTTOM PLUG DROPPED BEFORE SPACER. BOTTOM PLUG DROPPED AFTER SPACER. TOP PLUG DROPPED BEFORE DISPLACEMENT. ALL SLURRIES VERIFIED WITH PRESSURIZED MUD BALANCE AND MIX WATER GALLONS. JOB PUMPED AS DESIGNED. 10 BBL SPACER TO SURFACE. BUMPED PLUG 3.4 BPM AT 1894 PSI. TOOK TO 2482 PSI AND HELD FOR 5 MINUTES. BLEED OFF PRESSURE, FLOATS HELD WITH 3 BBL BACK.

TOP OF TAIL CEMENT – 6903'

TOP OF LEAD CEMENT – 3406'

TOP OF CAP CEMENT – 2493'

SPACER TO SURFACE WITH 10 BBL BACK

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	11/22/2019	22:00:00	USER	CREW CALLED OUT. ON LOCATION TIME 0400
Event	2	Depart Shop for Location	Depart Shop for Location	11/23/2019	02:00:00	USER	CREW HAS VERIFIED EQUIPMENT AND MATERIALS FOR JOB. CREW HAS JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING ROUTE, CONVOY ORDER, FOLLOWING DISTANCE, FOGGY CONDITIONS, STOPS AND DEPARTS FOR LOCATION
Event	3	Comment	Comment	11/23/2019	03:15:00	USER	CREW STOPS TO PICK UP BULK EQUIPMENT AND PERSONNEL BEFORE CONTINUING ON TO LOCATION
Event	4	Arrive At Loc	Arrive At Loc	11/23/2019	03:45:00	USER	CREW ARRIVES AT LOCATION. RIG RIH CASING 15200'
Event	5	Casing on Bottom	Casing on Bottom	11/23/2019	05:00:00	USER	CASING ON BOTTOM. RIG BEGIN FILLING CASING AND ESTABLISHING CIRCULATION. AT 0600 RIG CIRCULATING FULL RETURNS AT 10 BPM WITH 760 PSI
Event	6	Safety Meeting	Safety Meeting	11/23/2019	06:45:00	USER	CREW, RIG CREW AND CUSTOMER REP HAVE PRE JOB SAFETY MEETING DISCUSSING SITE HAZARDS, OPERATIONS,

MUSTER AREAS, CONTINGENCIES, RED ZONES, LINE OF FIRE, 3 POINTS OF CONTACT, PROPER LIFTING, STOP WORK, HAZARDS, COMMUNICATION, AND THE JOB PROCEEDURE

Event	7	Start Job	Start Job	11/23/2019	07:31:03	COM6	START JOB
Event	8	Test Lines	Test Lines	11/23/2019	07:31:29	COM6	FILL LINES WITH 3 BBL WATER. PRESSURE TEST HES LINES TO 4500 PSI. HELD FOR A FEW MINUTES. TEST GOOD
Event	9	Test Lines	Test Lines	11/23/2019	07:36:56	USER	TEST IBOP TO 2500 PSI
Event	10	Comment	Comment	11/23/2019	07:39:47	USER	AFTER PRESSURE TEST WENT TO MIX UP SPACER AND CEMENT HEAD WAS STUCK CLOSED DUE TO MECHANICAL MALFUNCTION. DISCUSSED WITH CUSTOMER REP AND CALLED FOR ANOTHER TRUCK WHILE REPAIRING THE ONE ON LOCATION
Event	11	Comment	Comment	11/23/2019	08:44:59	USER	NEW TRUCK ARRIVES ON LOCATION
Event	12	Start Job	Start Job	11/23/2019	09:10:04	COM6	START JOB
Event	13	Pump Spacer 1	Pump Spacer 1	11/23/2019	09:12:06	COM6	PUMP 120 BBL TUNED PRIME SPACER 11.5# 3.87 YIELD 24.5 GAL
Event	14	Shutdown	Shutdown	11/23/2019	09:34:59	USER	SHUTDOWN
Event	15	Drop Bottom Plug	Drop Bottom Plug	11/23/2019	09:37:13	COM6	DROP BOTTOM PLUG

Event	16	Pump Lead Cement	Pump Lead Cement	11/23/2019	09:39:42	COM6	PUMP 41 BBL ELASTICEM CAP CEMENT 13.2# 1.67 YIELD 8.03 GAL 140 SACKS
Event	17	Pump Cement	Pump Cement	11/23/2019	09:47:26	COM6	PUMPED 140 BBL ELASTICEM LEAD 13.2# 1.67 YIELD 8.04 GAL 470 SACKS
Event	18	Pump Tail Cement	Pump Tail Cement	11/23/2019	10:11:18	COM6	PUMP 410 BBL NEOCEM TAIL 13.2# 2.04 YIELD 9.79 GAL 1126 SACKS
Event	19	Check Weight	Check Weight	11/23/2019	10:13:57	COM6	VERIFIED WEIGHT. ALSO VERIFIED WEIGHT ON EACH BLEND AND EVERY 150 BBL THROUGHOUT
Event	20	Shutdown	Shutdown	11/23/2019	11:12:59	USER	SHUTDOWN. BLOW DOWN LINES TO THE PIT. WASH PUMPS TO THE PIT.
Event	21	Drop Top Plug	Drop Top Plug	11/23/2019	11:23:51	COM6	DROP TOP PLUG
Event	22	Pump Displacement	Pump Displacement	11/23/2019	11:23:54	COM6	PUMP 391 BBL WATER DISPLACEMENT WITH FIRST 20 BBL MMCR AND BIOCID E THROUGHOUT
Event	23	Bump Plug	Bump Plug	11/23/2019	12:07:57	COM6	SLOW RATE TO 3.4 BPM AND BUMPED PLUG WITH 1894 PSI. TOOK TO 2482 PSI AND HELD FOR 5 MINUTES
Event	24	Check Floats	Check Floats	11/23/2019	12:16:12	USER	bled off pressure and verified floats holding. 3 BBL back. floats held
Event	25	End Job	End Job	11/23/2019	12:27:29	COM6	END JOB

Event	26	Safety Meeting	Safety Meeting	11/23/2019	12:30:00	USER	CREW HAS PRE RIG DOWN SAFETY MEETING DISCUSSING SLIPS TRIPS FALLS, LINES OF FIRE, RED ZONES, TEAM LIFTING, LINE OF FIRE, PINCH POINTS, HAND PLACEMENT, COMMUNICATION, HYDRATIONS AND BEGIN RIGGING DOWN EQUIPMENT AND LINES
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Event	27	Depart Location	Depart Location	11/23/2019	14:30:00	USER	CREW IS RIGGED DOWN AND READY TO DEPART. CREW HAS JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING WALK AROUNDS, HOURS OF SERVICE, ROUTE, CONVOY ORDER, FOLLOWING DISTANCE, COMMUNICATION AND DEPART FROM LOCATION
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3.0 Attachments

3.1 Job Chart

