

*The Road to Excellence Starts with Safety*

Sold To #: 345242	Ship To #: 3697163	Quote #:	Sales Order #: 0903234491
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: JW Irwin	
Well Name: WELLS RANCH		Well #: AA22-617	API/UWI #: 05-123-42266-00
Field: WATTENBERG	City (SAP): GILL	County/Parish: WELD	State: COLORADO
Legal Description: SW SW-22-6N-63W-970FSL-79FWL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321	
Job BOM: 392189			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB61755		Srcv Supervisor: Vaughn Oteri	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST 230 degF
Job depth MD	6545ft		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	0	9.625	8.921	36			0	1911	0	1911
Casing	0	5.5	4.778	20			0	15915	0	
Open Hole Section			8.5				1911	15931	1911	

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5		Packers+
Float Shoe	5.5			15915	Bottom Plug	5.5		
Float Collar	5.5				SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5		Packers+	6845	Centralizers	5.5		

**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	12.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	12.5	2.75			
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
2	12.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	12.5	2.79			
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
3	ElastiCem B1	ELASTICEM (TM) SYSTEM	597	sack	13.6	1.88		5	8.57
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
4	Displacement	Displacement	154	bbl	9				
Cement Left In Pipe		<b>Amount</b>	42 ft		<b>Reason</b>			<b>Shoe Joint</b>	
<b>Fluid Data</b>									
<b>Stage/Plug #: 2</b>									
Cement Left In Pipe		<b>Amount</b>	42 ft		<b>Reason</b>			<b>Shoe Joint</b>	
<b>Comment</b> HOC-4899.5 TOC-1945.5 HOS-1670.1 TOS-275.4 No spacer back to surface									

## 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)	PS Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	4/11/2016	22:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	4/12/2016	01:00:00	USER				Requested on location @0600 Arrived on location @0100 met with company rep to discuss job process and concerns advised that they were at 15193 and it was going slow.
Event	3	Other	Well info	4/12/2016	01:05:00	USER				Casing 5.5 20# TD-15931 TP-15915 DV TOOL-6845 Surf-1911 Mud 9.9 OH-8.5
Event	4	Other	Water info	4/12/2016	01:06:00	USER				Temp 60 Cl-0 PH-7
Event	5	Start Job	Start Job	4/12/2016	08:21:41	COM4				Held pre-job safety meeting with all hands on location to discuss job process and concerns, advised that the rig's tracer came back sooner than expected (60bbl) company rep made call to supervisor and was told to pump
Event	6	Prime Pumps	Prime Pumps	4/12/2016	08:21:47	COM4	3.00	0.12	0.00	Prime pumps and lines with fresh water
Event	7	Test Lines	Test Lines	4/12/2016	09:38:20	COM4	47.00	8.67	0.00	Pressure tested pumps and lines, found no leaks and pressure held good
Event	8	Check Weight	Check weight	4/12/2016	09:43:37	COM4	20.00	8.68	0.00	Confirm weight on scales
Event	9	Pump Spacer 1	Pump Spacer 1	4/12/2016	09:45:02	COM4	20.00	8.66	0.00	Mixed 12.5ppg Tuned SpacerIII @4.0bpm 94psi with surfactants
Event	10	Pump Spacer 2	Pump Spacer 2	4/12/2016	09:57:02	COM4	93.00	12.57	4.00	Mixed 12.5ppg Tuned SpacerIII @ 4.0bpm 81psi
Event	11	Pump Cement	Pump Cement	4/12/2016	10:05:45	COM4	130.00	13.40	4.00	Mixed 201bbl or 597sks of 13.6ppg (Y-1.88 G/SK-8.57) ElastiCem @ 8bpm
Event	12	Check Weight	Check weight	4/12/2016	10:07:20	COM4	453.00	13.80	8.00	Confirm weight on scales
Event	13	Shutdown	Shutdown	4/12/2016	10:33:32	COM4	93.00	12.94	0.30	
Event	14	Clean Lines	Clean Lines	4/12/2016	10:33:38	COM4	61.00	6.88	0.00	Washed pumps and lines with fresh water
Event	15	Drop Top Plug	Drop Top Plug	4/12/2016	10:33:43	COM4	45.00	10.63	0.00	Released plug witnessed by company rep and Packers Plus hands

Event	16	Pump Displacement	Pump Displacement	4/12/2016	10:41:21	COM4	2.00	-0.19	0.00	Pumped 154bbl to displace cement (lift pressure 2150 final 3895)
Event	17	Displ Reached Cmnt	Displ Reached Cmnt	4/12/2016	10:44:27	COM4	701.00	8.00	12.00	Caught cement
Event	18	Bump Plug	Bump Plug	4/12/2016	11:05:50	COM4	3866.00	8.09	0.00	Bumped plug 3bbl over calculated Pressure brought to 3895psi
Event	19	Other	Other	4/12/2016	11:10:31	COM4	3952.00	8.12	0.00	Released pressure back to pump truck to check floats,2bbl back floats held good
Event	20	End Job	End Job	4/12/2016	11:15:35	COM4				no spacer back to surface ( HOC-4899.5 TOC1945.5 HOS1670.1 TOS275.4)CALCULATED