

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 9059375		Quote #:		Sales Order #: 0907425790				
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Dave Nielsen						
Well Name: ROTH			Well #: A31-730			API/UWI #: 05-123-51331-00				
Field: WATTENBERG		City (SAP): GARDEN CITY		County/Parish: WELD		State: COLORADO				
Legal Description: NE NE-30-6N-64W-904FNL-270FEL										
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517						
Job BOM: 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nicholas Roles						
Job										
Job depth MD		17193ft		Job Depth TVD		6850ft				
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	1944	0	1944
Casing		5.5	4.892	17			0	17193	0	6850
Open Hole Section			8.5				1944	17204	1944	6850
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5	1	HES	17193		Top Plug	5.5	1	HES	
Float Collar	5.5	1	HES	17149		Bottom Plug	5.5	2	HES	
						Centralizers	5.5	212	Summit	

Fluid Data									
Stage #: 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	Spacer	Tuned Prime Cement Spacer	120	bbl	11.5	3.74		6	4284
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	Cement	ElastiCem Cap Cement	140	sack	13.2	1.6	7.63	8	1068
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	Cement	ElastiCem Lead Cement	760	sack	13.2	1.67	8.03	9	6103
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	Cement	NeoCem Tail Cement	1107	sack	13.2	2.04	9.79	9	10838
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	Treated Fresh Water	398	bbl	8.33				16716
Cement Left In Pipe									
Amount	44 ft			Reason				Shoe Joint	
Mix Water:	pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 65 °F			
Plug Bumped?	Yes		Plug Displaced by: 8.33 lb/gal Treated Water			Disp. Temperature: 65 °F			
Cement Returns:	0 bbl.		Bump Pressure: 2417 psi			Floats Held? Yes			
Comment: Got 50bbls spacer to surface. Estimated TOCap-1004', TOL-1839', TOT-7364'. Centralizer totals-17,150ft-1064ft 212 centralizers.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	10/9/2021	04:00:00					Called out by service coordinator for OL time of 1000.
2	Pre-Convoy Safety Meeting	10/9/2021	07:00:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	10/9/2021	07:15:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	10/9/2021	08:30:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
5	Pre-Rig Up Safety Meeting	10/9/2021	08:45:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	10/9/2021	09:00:00					Begin rig up with crew.
7	Rig-Up Completed	10/9/2021	10:00:00					Complete rig up for job to nearest point before red zone.
8	Other	10/9/2021	11:00:00					Mix water test results- PH-7, Chlo-0, Temp-65F.
9	Safety Meeting - Pre Job	10/9/2021	14:00:00	8.00	0.00	37.00	14.50	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.

10	Start Job	10/9/2021	14:11:57	0.22	0.00	-2.00	0.00	TD-17204', TP-17193' 5.5" 17#, FC-17149', TVD-6850', SURF-1944' 9.625" 36#, OH-8.5" MUD-10.1#
11	Test Lines	10/9/2021	14:13:31	7.83	0.00	153.00	4.00	Pumped 5bbls fresh water to fill lines, closed 2" lo torc, performed 500psi k/o function test, followed with 5th gear stall at 1290psi, perform 4500psi test on line. Held pressure, no leaks. Bled off pressure, pumped 1bbl to ensure lines still full and closed valve. Proceeded to bring pressure to 2000psi on Kelly line, pressure stabilized and held with no leaks.
12	Pump Spacer 1	10/9/2021	14:20:07	8.35	0.00	70.00	5.10	Pumped 120bbls Tuned Prime 11.5# 3.74y 23.76g/s with 20g D-Air at 6bpm 340psi
13	Drop Bottom Plug	10/9/2021	14:20:25	8.36	0.00	65.00	0.00	Dropped by HES supervisor, witnessed by company man.
14	Check Weight	10/9/2021	14:29:49	11.69	7.80	547.00	45.40	Weight verified with pressurized mud scales.
15	Check Weight	10/9/2021	14:37:46	11.06	4.50	141.00	86.00	Weight verified with pressurized mud scales.
16	Drop Bottom Plug	10/9/2021	14:42:56	11.71	0.00	40.00	110.70	Dropped by HES supervisor, witnessed by company man.
17	Pump Cement	10/9/2021	14:44:39	11.71	0.00	38.00	110.70	Pumped 140sk or 40bbls ElastiCem w/o CBL 13.2# 1.6y 7.63g/s at 8bpm 580psi.
18	Check Weight	10/9/2021	14:46:42	13.31	4.20	290.00	6.50	Weight verified with pressurized mud scales.
19	Pump Lead Cement	10/9/2021	14:53:56	13.13	7.90	727.00	62.30	Pumped 760sk or 226bbls ElastiCem w/CBL 13.2# 1.67y 8.03g/s at 9bpm 612psi.
20	Pump Tail Cement	10/9/2021	15:19:39	12.91	8.60	747.00	237.00	Pumped 1107sk or 402bbls 13.2# 2.04y 9.79g/s NeoCem at 9bpm 900psi.
21	Check Weight	10/9/2021	15:22:18	13.23	8.50	1026.00	22.60	Weight verified with pressurized mud scales.
22	Check Weight	10/9/2021	15:36:50	13.10	8.50	1012.00	146.70	Weight verified with pressurized mud scales.
23	Check Weight	10/9/2021	15:52:06	13.34	8.50	1187.00	277.00	Weight verified with pressurized mud scales.

24	Shutdown	10/9/2021	16:09:33	13.32	0.20	166.00	417.60	Shutdown, washed up through pumps and down wash up line to pits until clean water was seen. Pumped total of 5bbls to clean truck and lines
25	Drop Top Plug	10/9/2021	16:18:31	8.35	0.00	26.00	21.10	Dropped by HES supervisor, witnessed by company man.
26	Pump Displacement	10/9/2021	16:18:33	8.35	0.00	26.00	0.00	Pumped 398bbls production water with 10 gallons MMCR in first 20 bbl..
27	Bump Plug	10/9/2021	17:08:13	8.44	0.00	2931.00	404.00	Slowed down to 4bpm at 375bbls away, final circulating pressure- 2417psi, Bump pressure-3032psi.
28	Other	10/9/2021	17:12:57	8.46	0.00	3026.00	404.00	Released pressure and got 5.5bbls fresh water to truck, floats held.
29	End Job	10/9/2021	17:17:55	8.39	0.00	-1.00	404.00	Got 50bbls spacer to surface. Estimated TOCap-1004', TOL-1839', TOT-7364'. Centralizer totals-17,150ft-1064ft 212 centralizers.
30	Pre-Rig Down Safety Meeting	10/9/2021	17:20:00	0.54	0.00	52.00	0.00	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
31	Rig Down Lines	10/9/2021	17:30:00					Begin rig down
32	Rig-Down Completed	10/9/2021	18:00:00					Rig down complete with no injuries, spills or damage to equipment.
33	Pre-Convoy Safety Meeting	10/9/2021	18:15:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
34	Depart Location for Service Center or Other Site	10/9/2021	18:30:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Job Chart

