

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3628240		Quote #:		Sales Order #: 0902951327					
Customer: NOBLE ENERGY INC E-BUSINESS						Customer Rep: Dave Nielsen					
Well Name: MOSER			Well #: H34-778			API/UWI #: 05-123-40732-00					
Field: WATTENBERG		City (SAP): HUDSON		County/Parish: WELD		State: COLORADO					
Legal Description: SW SW-22-3N-65W-420FSL-1002FWL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 273							
Job BOM: 7525											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB45834				Srv Supervisor: Vaughn Oteri							
Job											
Formation Name											
Formation Depth (MD)		Top				Bottom					
Form Type				BHST		230 degF					
Job depth MD		16440ft		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	
Drill Pipe	3	4	3.34	14			0	4990	0	4990	
Heavy Weight		4		28			4990	6815	0	6815	
Casing	3	7	6.276	26	BTC	P-110	0	7022	0	6490	
Open Hole Section			6.125		BTC		7022	16440	6469	6500	
Casing	3	4.5	3.92	13.5	BTC	P-110	6815	16436	6490	6496	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	4.5					Top Plug	4.5	1	WFD		
Float Shoe	4.5	1	WFD	16436		Bottom Plug	4.5	1	WFD		
Float Collar	4.5	1	WFD	16387		SSR plug set	4.5				
Insert Float	4.5					Plug Container	4.5		WFD		
Stage Tool	4.5					Centralizers	4.5		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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	60	bbl	11.5	3.86		6	
36.09 gal/bbl		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
2	Expandacem B2	EXPANDACEM (TM) SYSTEM	150	sack	13.8	1.65		6	7.58
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	Expandacem B2	EXPANDACEM (TM) SYSTEM	517	sack	13.8	1.65		6	7.58
7.58 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	MMCR Displacemnt Water	MMCR Displacemnt Water	150	bbl	8.33			6	
0.10 gal/bbl		MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
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	Water Displacement	Water Displacement	54.5	bbl	8.33			6	
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint	
Comment 17bbl of Cement returned to Surface. 60bbl of Spacer returned to Surface.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Arrive At Loc	Arrive At Loc	12/9/2015	04:00:00	USER				Arrive on location with all personnel and equipment. Rig beginning to run drill pipe ~6000ft left to run.
Event	2	Other	Well Info	12/9/2015	04:22:00	USER				TD: 16440ft TP: 16436ft (4.5" @ 13.5#) FC: 16387ft PC: 7022ft (7"@26#) MUD: 11.5ppg TOL: 6815ft HWDP: 1830ft (4"@28#) DP: 4990ft (4" @14#)
Event	3	Other	Water Test	12/9/2015	04:23:00	USER				pH: 7 Cl: 0 Hardness: 12 Iron: 0
Event	4	Other	Rig Info	12/9/2015	11:00:00	USER				Rig Circulation:400bbl Circulation Rate: 4.04bpm Circulation Pressure:969psi Mud Density: 11.5ppg Mud YP/PV:10/14 Pipe Movement: No Rat Hole Length: 4ft
Event	5	Other	Well Info	12/9/2015	11:44:32	USER				Spacer:60 bbl Cement: 196 bbl TOC: 6815ft Displacement: 207bbl CMT left in Pipe: 49ft Shoe Track
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/9/2015	12:00:00	USER				JSA completed: All HES personnel, rig crew, Weatherford and Co. Rep.
Event	7	Start Job	Start Job	12/9/2015	12:18:17	COM4	3.00	8.53	0.00	
Event	8	Test Lines	Test Lines	12/9/2015	13:39:44	COM4	146.00	8.46	0.00	Pressure test lines to 4500psi. No visible leaks.
Event	9	Pump Spacer 1	Pump Spacer 1	12/9/2015	13:44:51	COM4	3.00	8.48	0.00	Pump 60bbl of 11.5ppg Tuned Spacer III at 4bpm and ~1000psi. (Y: 3.86 WR: 24.8)
Event	10	Pump Lead Cement	Pump Lead Cement	12/9/2015	14:00:00	COM4	512.00	12.06	1.00	Pumped 150sacks (44bbl) of 13.8ppg ExpandaCem at 5bpm and 1400psi (Y:1.65 WR: 7.58)
Event	11	Check Weight	Check weight	12/9/2015	14:03:06	COM4	1261.00	13.68	4.90	Verified weight with mud scales.
Event	12	Pump Tail Cement	Pump Tail Cement	12/9/2015	14:09:00	COM4	1340.00	13.74	5.10	Pumped 517sacks (152bbl) of 13.8ppg ExpandaCem at 5bpm and 1400psi (Y:1.65 WR: 7.58)
Event	13	Check Weight	Check weight	12/9/2015	14:11:03	COM4	1419.00	13.82	5.30	Verified weight with mud scales.
Event	14	Shutdown	Shutdown	12/9/2015	14:42:24	COM4	176.00	13.61	0.00	

Event	15	Drop Top Plug	Drop Top Plug	12/9/2015	14:49:50	COM4				Drop drill pipe dart witnessed by HES and Co. Rep.
Event	16	Clean Lines	Clean Lines	12/9/2015	14:50:30	COM4	1.00	9.52	0.00	Wash Pumps and Lines.
Event	17	Pump Displacement	Pump Displacement	12/9/2015	14:55:03	COM4	6.00	1.01	0.00	Pump 204.5bbl displacement with 15gal of MMCR in the first 150bbl.
Event	18	Bump Plug	Bump Plug	12/9/2015	15:42:07	COM4				Final circulating pressure 2141psi and final bump pressure was 2827psi.
Event	19	Other	Other	12/9/2015	15:44:23	COM4				Check Floats. 2.25bbl back. Floats held
Event	20	End Job	End Job	12/9/2015	15:45:58	COM4				
Event	21	Pre-Rig Down Safety Meeting	Pre- Rig Down Safety Meeting	12/9/2015	16:00:00	USER				With HES and rig crew.
Event	22	Test Annulus	Test Annulus	12/9/2015	16:00:01	USER				Rig test backside at 2000psi for 10min
Event	23	Rig-Down Equipment	Rig-Down Equipment	12/9/2015	16:01:00	USER				With HES personnel
Event	24	Circulate Well	Circulate Well	12/9/2015	16:15:01	USER				Rig circulated well and 60 bbl of Spacer returned to surface and 17bbl of cement returned to surface.
Event	25	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/9/2015	16:30:00	USER				With HES personnel
Event	26	Depart Location for Service Center or Other Site	Depart Location	12/9/2015	16:45:00	USER				Thank you for using Halliburton - Vaughn Oteri and crew