

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3745022		Quote #:		Sales Order #: 0903525254					
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: Johnny Sanchez							
Well Name: HARPER			Well #: LD21-662		API/UWI #: 05-123-43294-00						
Field: WILDCAT		City (SAP): RAYMER		County/Parish: WELD		State: COLORADO					
Legal Description: SW NW-22-9N-58W-1783FNL-330FWL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB61755				Srv Supervisor: Steve McCoy							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST		230 degF					
Job depth MD		10692ft		Job Depth TVD		5721					
Water Depth				Wk Ht Above Floor		4 ft					
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	1938	0	1938	
Casing		5.5	4.778	20			0	10692	0	5721	
Open Hole Section			8.5				1938	10699	1938	5721	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			10692		Top Plug	5.5		HES		
Float Shoe	5.5					Bottom Plug	5.5		HES		
Float Collar	5.5			10648		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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			40	bbl	11.5	3.78		5	
0.40 gal/bbl		MUSOL(R) A, BULK (100003696)									
36.09 gal/bbl		FRESH WATER									

0.40 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
147.42 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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.79		5	
36.09 gal/bbl		FRESH WATER							
147.42 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
3	Elasticem Lead w/o CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		5.5	7.53
7.53 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	ElastiCem Lead W/ CBL	ELASTICEM (TM) SYSTEM	460	sack	13.2	1.6		5.5	7.69
7.69 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	EconoCem Tail	ECONOCHEM (TM) SYSTEM	674	sack	13.5	1.68		5.5	7.98
7.98 Gal		FRESH WATER							
0.40 %		HR-5, 50 LB SK (100005050)							
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
6	Displacement	Displacement	235.5	bbl	8.33			10	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	9/6/2016	06:00:00	USER				Requested on Location @ 1100
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/6/2016	07:55:00	USER				
Event	3	Depart Shop for Location	Depart Shop for Location	9/6/2016	08:00:00	USER				
Event	4	Arrive At Loc	Arrive At Loc	9/6/2016	10:30:00	USER				
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/6/2016	10:45:00	USER				
Event	6	Rig-Up Equipment	Rig-Up Equipment	9/6/2016	11:00:00	USER				
Event	7	Casing on Bottom	Casing on Bottom	9/6/2016	13:00:00	USER				RIG CIRCULATED BOTTOMS UP 10BPM 580PSI
Event	8	Start Job	Start Job	9/6/2016	14:43:52	COM16	61.00	1.44	0.00	
Event	9	Pressure Test	Pressure Test	9/6/2016	15:14:26	USER	3804.00	8.58	0.00	3800 PSI TEST NO LEAKS
Event	10	Pump Spacer	Pump Spacer	9/6/2016	15:25:26	USER	293.00	11.53	3.90	80BBL TUNED SPACER 11.5# AT 5BPM AT 243PSI 40W/SURFACTANTS 40W/O
Event	11	Drop Bottom Plug	Drop Bottom Plug	9/6/2016	15:42:58	COM16	48.00	11.40	0.00	WITNESSED BY COMPANY MAN
Event	12	Pump Lead Cement	Pump Lead Cement	9/6/2016	15:45:35	COM16	240.00	13.28	4.00	MIXED AND PUMPED 150SKS (42BBL) ELASTICEM 13.2PPG 1.57 Y 7.53GPS
Event	13	Check Weight	Check weight	9/6/2016	15:53:37	COM16	278.00	13.30	4.20	
Event	14	Pump Lead Cement	Pump Lead Cement	9/6/2016	15:56:19	COM16	254.00	13.25	4.20	MIXED AND PUMPED 460 SKS (131BBL) ELASTICEM 13.2PPG 1.6 Y 7.60GPS
Event	15	Pump Tail Cement	Pump Tail Cement	9/6/2016	16:20:52	COM16	349.00	13.19	5.50	MIXED AND PUMPED 674SKS (201BBL) ECONOCEM 13.5PPG 1.68Y 7.98GPS
Event	16	Check Weight	Check weight	9/6/2016	16:29:17	COM16	414.00	13.48	5.50	VERIFIED BY MUD SCALES

Event	17	Shutdown	Shutdown	9/6/2016	17:08:22	COM16	16.00	13.74	0.00	DROPPED TOP PLUG WITNESSED BY COMPANY MAN
Event	18	Pump Displacement	Pump Displacement	9/6/2016	17:15:36	COM16	207.00	8.27	6.90	PUMPED FRESH WATER 235.5 BBLS
Event	19	Bump Plug	Bump Plug	9/6/2016	17:41:50	COM16	2469.00	8.47	0.00	FINAL CIRCULATING 1900PSI HELD AT 2560PSI FOR 2MIN
Event	20	Check Floats	Check Floats	9/6/2016	17:43:12	USER	1815.00	8.45	0.00	FLOATS HELD 3.5BBLS BACK TO TRUCK
Event	21	End Job	End Job	9/6/2016	17:45:16	COM16	-4.00	8.40	0.00	NO SPACER TO SURFACE
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	9/6/2016	17:50:00	USER	301.00	8.46	10.30	
Event	23	Rig-Down Equipment	Rig-Down Equipment	9/6/2016	18:00:00	USER	-2.00	0.21	0.00	
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/6/2016	18:55:00	USER				
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/6/2016	19:00:00	USER				