

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3811817		Quote #: 0022396732		Sales Order #: 0904585936				
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Burke Hibbert						
Well Name: NEWBY STATE			Well #: 38N-4HZ		API/UWI #: 05-123-45092-00					
Field: WATTENBERG		City (SAP): LONGMONT		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-33-3N-68W-589FSL-1305FEL										
Contractor: NABORS DRLG				Rig/Platform Name/Num: NABORS X22						
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Steven Markovich						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		13765ft		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		9.625	8.921	36		J-55	0	2311	0	2311
Casing		5.5	4.892	17	LTC	HCP110	0	13765	0	0
Open Hole Section			8.5				2311	13777	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			13765		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5					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 Spacer III	Tuned Spacer III	80	bbl	10.5	6.25				
35.80 gal/bbl		FRESH WATER								
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								

88.91 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 Lead	ELASTICEM (TM) SYSTEM	700	sack	13.2	1.57		6	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
3	EconoCem Tail	ECONOCEM (TM) SYSTEM	1110	sack	13.5	1.68		6	7.99
7.99 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	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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	Biocide Water	Biocide Water	299	bbl	8.34				
Comment Spacer to surface at 285bbls away bringing 34bbls of spacer to surface. Final lift pressure was 2444psi. Brought pressure up to 3000psi for 15 min casing test. After 15 mins pressure was 3370. Checked floats and after 3.5bbs back floats held. Kicked pumps in to burst the plug, plug burst at 4583psi and then pumped a 4bbl wet shoe. Estimated top of Tail Cement 5624' Estimated top of Lead Cement 1048'.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	Call Out	1/22/2018	21:00:00	USER					Job called out with an on location time of 02:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/23/2018	01:00:00	USER					JSA with HES crew on driving safety and route to rig.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	1/23/2018	01:30:00	USER					Arrived on location, rig had 38 joints to run, had to round trip last bulk truck out. When we got back with the final bulk truck rig was circulating and we were rigged up.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	1/23/2018	01:35:00	USER					JSA and hazard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	1/23/2018	01:45:00	USER					Rigged up HES lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/23/2018	04:45:00	USER	0.00	-1.00	0.00	0.0	JSA with HES and rig crew on job safety and procedure.
Event	7	Start Job	Start Job	1/23/2018	05:12:51	COM4	8.31	0.00	0.00	0.0	TD 13777' TP 13765" FC 13763' 5 1/2"17# production casing, 8 1/2" open hole, 9 5/8" 36# surface casing at 2311' TVD 7178' Estimated top of Tail Cement 5624' Estimated top of Lead Cement 1048'
Event	8	Test Lines	Test Lines	1/23/2018	05:21:14	USER	8.58	139.00	0.00	4.7	Set kick outs to 500psi and check kick outs, then bring

											pressure up to 5000psi and hold.
Event	9	Pump Spacer 1	Pump Spacer 1	1/23/2018	05:27:38	COM4	8.49	147.00	0.00	0.0	Pump 80bbls of 10.5ppg 6.25yield Tuned Spacer. Added 55 gallons of Dual Spacer B and Musol A on the fly. Pumped at 4.2bbl/min 357psi.
Event	10	Check Weight	Check weight	1/23/2018	05:52:52	COM4	9.98	58.00	0.00	78.2	Weight verified by pressurized scales.
Event	11	Pump Lead Cement	Pump Lead Cement	1/23/2018	05:55:06	COM4	9.97	57.00	0.00	78.2	Pump 195.73bbls (700sks) of 13.2ppg 1.57yield Lead Cement. Pumped at 8bbl/min 1164psi.
Event	12	Pump Tail Cement	Pump Tail Cement	1/23/2018	06:20:19	COM4	13.42	871.00	8.00	196.9	Pump 332.12bbls (1110sks) of 13.5ppg 1.68yield Tail Cement. Pumped at 8bbl/min 929psi.
Event	13	Check Weight	Check weight	1/23/2018	06:20:48	COM4	13.60	1018.00	8.00	3.9	Weight verified by pressurized scales.
Event	14	Check Weight	Check weight	1/23/2018	06:21:17	COM4	13.55	1072.00	8.00	7.7	Weight verified by pressurized scales.
Event	15	Check Weight	Check weight	1/23/2018	06:53:41	COM4	13.48	1141.00	8.00	256.0	Weight verified by pressurized scales.
Event	16	Shutdown	Shutdown	1/23/2018	07:06:05	COM4	6.38	125.00	1.90	339.1	Shutdown and clean pumps and lines.
Event	17	Drop Plug	Drop Plug	1/23/2018	07:13:40	COM4	9.89	6.00	0.00	340.8	Plugs pre loaded into HES head. Plugs were loaded and dropped in front of company rep.
Event	18	Pump Displacement	Pump Displacement	1/23/2018	07:19:30	COM4	6.41	26.00	0.00	0.0	Pump 319bbls of H2O. First 20bbls with MMCR. Pumped at 8bbl/min and slowed down with pressure increase. Spacer to surface

											at 285bbbls away bringing 34bbbls of spacer to surface.
Event	19	Other	Other	1/23/2018	07:41:12	COM4	8.09	1479.00	2.30	160.8	Shutdown, frac tanks were not equalizing properly so we had to switch tanks.
Event	20	Bump Plug	Bump Plug	1/23/2018	08:12:19	COM4	8.33	2444.00	3.00	326.7	Bumped plug at 319bbbls away, final lifting pressure was 2444psi. Brought pressure 500psi over and held.
Event	21	Test Lines	Test Lines	1/23/2018	08:13:14	COM4	8.31	2823.00	0.00	327.2	Kicked pumps in to bring pressure up to 3000psi for 15 min casing test. After 15 mins, the pressure was 3370psi. Opened release line to check floats. After 3.5bbbls back floats held.
Event	22	Other	Other	1/23/2018	08:30:26	COM4	8.28	54.00	0.00	327.4	Kicked in pumps to burst the plug. Plug burst at 4583psi then pumped a 4bbl wet shoe.
Event	23	End Job	End Job	1/23/2018	08:35:28	COM4	8.19	42.00	0.00	336.7	Thank you Steve Markovich and crew.

3.0 Attachments

3.1 Anadarko Newby State 38N-4HZ Production Job Chart

