

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3819652	Quote #: 0022364800	Sales Order #: 0904379377
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Carlton Cooley	
Well Name: ROBIN		Well #: 9-18HZ	API/UWI #: 05-123-45246-00
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SE SE-9-1N-65W-317FSL-814FEL			
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	18267ft 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	1863	0	1863
Casing		5.5	4.892	17	LTC	HCP110	0	18267	0	0
Open Hole Section			7.875				1863	18279	0	18279

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			18267	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	50	bbl	10.5	6.25				
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
88.91 lbm/bbl		BARITE, BULK (100003681)								
37.58 gal/bbl		FRESH WATER								

0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.25 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)							
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	ELASTICEM (TM) SYSTEM	625	sack	13.2	1.57		6	7.54
0.10 %		SUPER CBL, 50 LB PAIL (100003668)							
0.30 %		SCR-100 (100003749)							
7.54 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	ECONOCEM (TM) SYSTEM	1330	sack	13.5	1.68		6	7.98
8 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
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	403	bbl	8.34				
Comment Spacer to surface at 370bbbls away bringing 53bbbls to surface. Estimated Top of Tail Cement 5391' Estimated Top of Lead Cement 1597'									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	10/27/2017	21:00:00	USER	Job called out at 21:00 with an on location time of 01:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	10/28/2017	00:00:00	USER	JSA with HES crew on driving safety and route to location.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	10/28/2017	00:30:00	USER	Arrived on location, rig still running casing. approx 2500'
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	10/28/2017	01:00:00	USER	JSA and hazrd hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	10/28/2017	01:15:00	USER	Rigged up HES lines and equipment.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	10/28/2017	05:30:00	USER	JSA with HES and rig crew on job procedure.
Event	7	Start Job	Start Job	10/28/2017	05:47:30	COM4	TD 18279' TP 18267" WSS 18263' 5 1/2" 17# production casing, 1863' 9 5/8" 36# surface casing, 7 7/8" open hole.
Event	8	Test Lines	Test Lines	10/28/2017	05:50:59	COM4	500psi kick out test then bring pressure up to 4500psi and hold.
Event	9	Pump Spacer 1	Pump Spacer 1	10/28/2017	05:55:35	COM4	Pump 80bbls of 10.5ppg 6.25yield Tuned Spacer. Added 56 gallons of Dual spacer B and Musol A on the fly. Pumped at 5bbl/min 500psi.
Event	10	Drop Bottom Plug	Drop Bottom Plug	10/28/2017	06:10:58	USER	Plugs pre loaded into HES head. Plug dropped verified by company rep.
Event	11	Pump Lead Cement	Pump Lead Cement	10/28/2017	06:13:17	COM4	Pump 174.76bbls (625sks) of 13.2ppg 1.57yield Lead Cement. Pumped at 6.5bbl/min 420psi

Event	12	Check Weight	Check weight	10/28/2017	06:19:49	COM4	Weight verified with pressurized scales.
Event	13	Pump Tail Cement	Pump Tail Cement	10/28/2017	06:53:24	COM4	Pump 397.95bbls (1330sks) of 13.5ppg 1.68yield Tail Cement. Pumped at 7bbl/min 680psi.
Event	14	Check Weight	Check weight	10/28/2017	06:58:14	COM4	Weight verified with pressurized scales.
Event	15	Check Weight	Check weight	10/28/2017	07:24:57	COM4	Weight verified with pressurized scales.
Event	16	Shutdown	Shutdown	10/28/2017	07:53:23	COM4	Shutdown and clean pumps and lines.
Event	17	Drop Top Plug	Drop Top Plug	10/28/2017	08:04:09	COM4	Plugs pre loaded into HES head. Plug dropped verified by company rep.
Event	18	Pump Displacement	Pump Displacement	10/28/2017	08:04:13	COM4	Pump 423bbls of H2O. First 20bbls with MMCR then the final 403 with Biocide. Pumped at 8bbl/min and slowed down with pressure increase.
Event	19	Bump Plug	Bump Plug	10/28/2017	09:22:04	COM4	Bumped plug at 423bbls away, Final lifting pressure was 2493psi. Brought pressure up to 3000psi
Event	20	Test Lines	Test Lines	10/28/2017	09:23:30	COM4	15min 3000psi casing test.
Event	21	Pressure Up Well	Pressure Up Well	10/28/2017	09:40:04	USER	Kick pumps in to burst WSS. WSS didnt burst at 4500psi so we shut down, company rep made a phone call to get the ok to pump to a higher psi. Re eased pressure to do a higher pressure test.
Event	22	Test Lines	Test Lines	10/28/2017	10:02:28	COM4	Company rep requested us to test our lines to 7500psi so we were able to shift sleeve.
Event	23	Other	Other	10/28/2017	10:11:32	COM4	Kicked pumps in to shift sleeve, sleeve shifted at 4866psi brought rate up to 5bbl/min and pumped 3 bbl wet shoe.
Event	24	End Job	End Job	10/28/2017	10:28:58	COM4	Thank you Steve Markovich and Crew.

3.0 Attachments

3.1 Job Chart

