

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3819619	Quote #: 0022374706	Sales Order #: 0904436887
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Ruben Hernandez	
Well Name: ROBIN		Well #: 9-15HZ	API/UWI #: 05-123-45247-00
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SE SE-9-1N-65W-318FSL-874FEL			
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	18334ft		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	183	0	0
Casing		5.5	4.892	17	LTC	HCP110	0	18334	0	0
Open Hole Section			7.875				1830	18345	0	0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			18334	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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	80	bbl	10.5	6.25				
		88.91 lbm/bbl	<b>BARITE, BULK (100003681)</b>							
		37.58 gal/bbl	<b>FRESH WATER</b>							
		0.70 gal/bbl	<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>							

0.25 gal/bbl		<b>D-AIR 3000L, 5 GAL PAIL (101007444)</b>							
0.70 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>							
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	630	sack	13.2	1.57		6	7.54
7.54 Gal		<b>FRESH WATER</b>							
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		<b>FRESH WATER</b>							
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		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
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	402	bbl	8.34				
<b>Comment</b> Spacer to surface at 370bbbls away bringing 55bbbls of Spacer to surface. Estimated top of Tail cement 5301' Estimated top of Lead cement 390' Wet shoe sub burst at 4663psi then pumped a 5bbl wet shoe.									

## 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)	Comments
Event	1	Call Out	Call Out	11/20/2017	03:45:00	USER				Job called out with an on location time of 07:30
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/20/2017	07:00:00	USER				JSA with HES crew on driving safety and directions to the rig.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	11/20/2017	07:25:00	USER				Arrived on location, rig had 3000' of casing to run.
Event	4	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	11/20/2017	07:40:00	USER				JSA and hazard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	11/20/2017	07:50:00	USER				Rigged up HES lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/20/2017	12:45:00	USER	8.51	13.00	0.00	JSA with HES and rig crew on job procedure and job safety.
Event	7	Start Job	Start Job	11/20/2017	13:05:11	COM4	5.01	12.00	0.00	TD 18345' TP 18334' WSS 18325' 5 1/2" 17# production casing. 7 7/8" open hole 9 5/8" 36# surface casing at 1830'.
Event	8	Test Lines	Test Lines	11/20/2017	13:13:20	COM4	8.47	172.00	0.00	Set kick outs to 500psi and do a kick out test then bring pressure up to 6000psi and hold.
Event	9	Check Weight	Check weight	11/20/2017	13:24:58	COM4	8.50	111.00	0.00	Weight verified by pressurized scales.
Event	10	Pump Spacer 1	Pump Spacer 1	11/20/2017	13:44:57	COM4	11.36	557.00	2.20	Pump 80bbl of 10.5ppg 6.25yield spacer. Added 56 gallons of Musol A and Dual

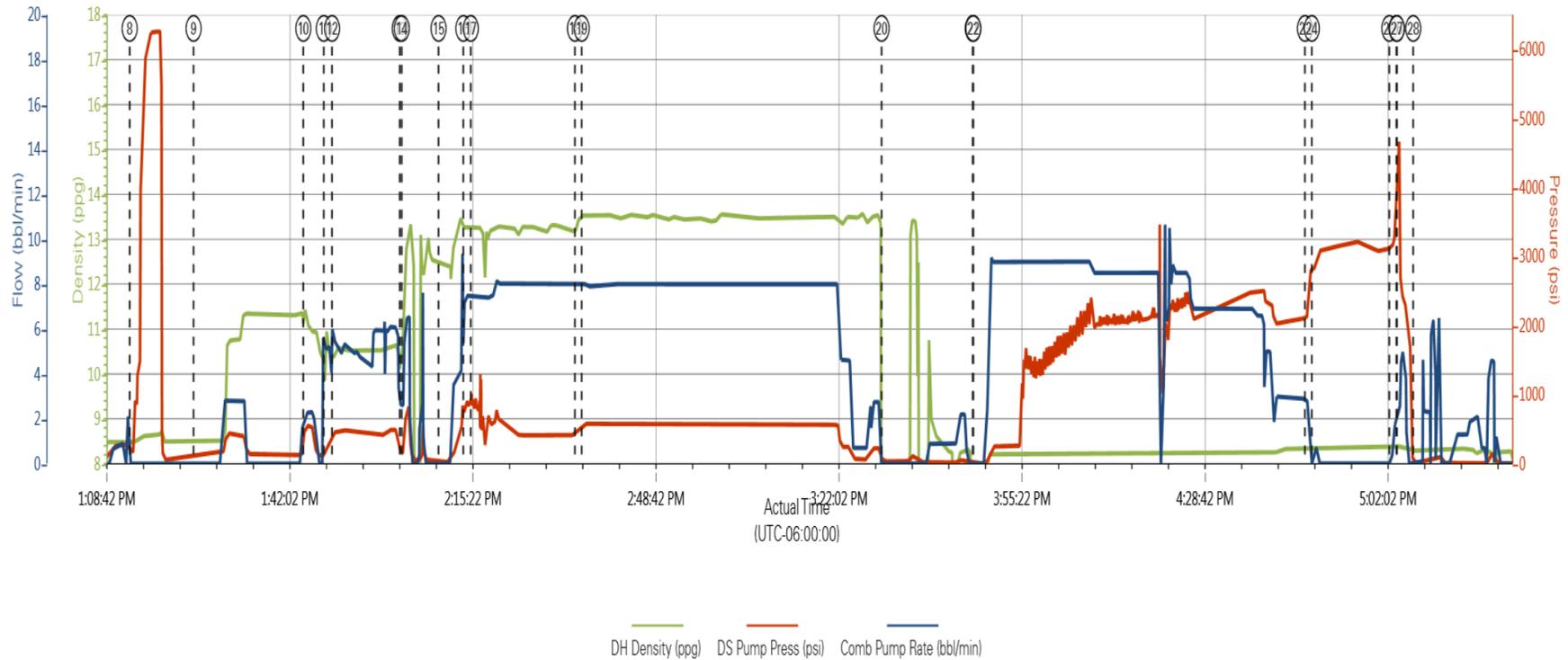
										Spacer B on the fly. Pumped at 5bbl/min 465psi.
Event	11	Check Weight	Check weight	11/20/2017	13:48:41	COM4	10.95	257.00	5.20	Weight verified by pressurized scales.
Event	12	Check Weight	Check weight	11/20/2017	13:50:11	COM4	10.34	465.00	5.50	Weight verified by pressurized scales.
Event	13	Drop Top Plug	Drop Bottom Plug	11/20/2017	14:02:31	COM4	10.52	135.00	2.70	Plugs pre loaded into HES head. Plug dropped and loaded in front of company rep
Event	14	Pump Lead Cement	Pump Lead Cement	11/20/2017	14:02:53	COM4	11.46	341.00	6.40	Pump 176bbls (630sks) of 13.2ppg 1.57yield Lead cement. Pumped at 7.5bbl/min 731psi.
Event	15	Check Weight	Check weight	11/20/2017	14:09:35	COM4	12.45	26.00	0.00	Weight verified by pressurized scales.
Event	16	Check Weight	Check weight	11/20/2017	14:14:06	COM4	13.29	840.00	7.50	Weight verified by pressurized scales.
Event	17	Check Weight	Check weight	11/20/2017	14:15:27	COM4	13.28	875.00	7.50	Weight verified by pressurized scales.
Event	18	Pump Tail Cement	Pump Tail Cement	11/20/2017	14:34:25	COM4	13.38	455.00	8.00	Pump 398bbls (1330sks) of 13.5ppg 1.68yield tail cement. Pumped at 8bbl/min 595psi.
Event	19	Check Weight	Check weight	11/20/2017	14:35:39	COM4	13.52	576.00	8.00	Weight verified by pressurized scales.
Event	20	Shutdown	Shutdown	11/20/2017	15:30:16	COM4	0.14	34.00	0.00	Shutdown, and clean pumps and lines
Event	21	Drop Top Plug	Drop Top Plug	11/20/2017	15:46:52	COM4				Plugs pre loaded into HES head. Plug dropped and loaded in front of company rep
Event	22	Pump Displacement	Pump Displacement	11/20/2017	15:46:59	COM4	-0.26	4.00	0.00	Pump 425bbls. First 20bbls with MMCR then 405bbls of

										Biocide water. Pumped at 9bbl min and slow rate with pressure increase. Spacer to surface at 370bbbls away bringing 55bbbls of spacer to surface.
Event	23	Bump Plug	Bump Plug	11/20/2017	16:47:22	COM4	8.33	2228.00	2.70	Bumed plug at 425bbbls away. Final lifting pressure was 2228psi, took pressure 500psi over and held.
Event	24	Test Lines	Test Lines	11/20/2017	16:48:37	COM4	8.34	2823.00	0.00	Brought pressure up to 3000psi for casing test.
Event	25	Other	Other	11/20/2017	17:02:44	COM4	8.36	3129.00	0.20	Kicked in pumps to burst wet shoe sub.
Event	26	Other	Other	11/20/2017	17:04:02	COM4	8.41	4663.00	2.40	Wet shoe sub burst at 4663psi.
Event	27	Other	Other	11/20/2017	17:04:08	COM4	8.40	3255.00	2.50	Brought rate up to 5bbl/min and pumped 5bbl wet shoe.
Event	28	End Job	End Job	11/20/2017	17:07:06	COM4				Thank you Steve Markovich and crew

3.0 Attachments

3.1 Anadarko Robin 9-15HZ Production Job Chart

Anadarko Robin 9-15HZ Production



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Created: 2017-11-20 06:03:57, Version: 4.2.393

Edit

Customer: ANADARKO PETROLEUM CORP-EBUS

Job Date: 11/20/2017 11:18:14 AM

Well: Robin 9-15HZ

Representative: Steve Markovich

Sales Order #: 904436887