UBO committee performs gap analysis

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THE IADC UBO COMMITTEE'S mission is to promote the safe and efficient execution of underbalance operations worldwide. Over the last three years, the committee has developed a UB classification system, Draft HSE and Fluid Guidelines, UB Rig Pass, helped expand WellCAP to include UB Drilling, and began defining minimum equipment specifications. It has also defined a comprehensive glossary of underbalance drilling terms.

The committee felt a necessary part of equipment specification was to identify, for each level in the classified system, the standards that applied. The gap analysis (extract is shown on opposite page) has been used in operations to focus management efforts on critical areas. The subcommittee is publishing this to establish a best practice in UB drilling.

The committee published the full spreadsheet on the IADC Website (www.iadc.org). The intent is to maintain this as a living document and to update it as the technology and standards progress. The extract from the complete table shown below is for a level 4 well.

Picking a general item from the spreadsheet such as nonreturn valves the user can quickly see that it is applicable for gas or multiphase in both a sweet and sour environment. It is also applicable for single-phase UB drilling mediums.

For all of these applications there are no standards or recommended practices set forth by the normal governing bodies. Therefore, there is an identified gap.

This committee assigned a high priority to delivering a standard and the resolution would be a recommended practice for placement and testing (both before and while installed in the drill string). Until the RP is developed, the operator, contractor and service company must put in place a plan to address these issues.

The value to an operator or contractor is they now do not have to learn this for themselves and can be proactive in putting testing procedures in place. A side benefit of the spreadsheet is that it outlines recommended equipment for a given level.

The spreadsheet is not complete. The committee needs to include the Canadian regulations. Pipe work, compression and membrane units have not been addressed.

If you are involved in underbalance drilling, the committee has a need for your talents. We have made significant progress over the last two years and a lot of hard work is now coming to fruition. The committee meets quarterly with the next meeting scheduled for August. ■

Sample of IADC UBO gap analysis

Drilling Fluid	**Gas/Multiphase**				**Existing Spec**	**UBD Issue**	**Priority**	**Gaps**
Formation Fluid	Gas		Liquid					
	Sour	Sweet	Sour	Sweet				
BOP (preventers & annulars)	N/A	N/A	X	X	**Yes-16A**	**No**	**N/A**	
Rotating Diverter	N/A	N/A	X	X	**No**	**Yes**	**High**	Design, Quality, Performance Testing,
Blooey Line	X	X	X	X	**Yes-5L, 5CT, 14E**	**Yes**	**Med**	Sizing, Velocity, Length, Securing, Connections, Surface Treatment, Condition, QA/Performance
Auto Igniter	N/A	N/A	X	X	**N/A**	**Yes**	**No**	RP only; continuous spark
Feed Compressor	N/A	N/A	X	X	**ASME, DNV**	**No**	**No**	RP needed for UBD application
Booster Compressor	N/A	N/A	X	X	**ASME, DNV**	**No**	**No**	RP needed for UBD application
Mist Pump (Recommended)	N/A	N/A	X	X	**No**	**Yes**	**Med**	RP needed for UBD application; especially materials
Pipe work					**ASME, API, ANSI**	**Yes**	**Med**	RP needed for use & selection
Non-Return Valves	N/A	N/A	X	X	**No**	**Yes**	**High**	New specs/RP needed