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## THE AIRLESS ADAPTER IMPROVES! WBM - OBM - BRINES

- I have been using the Airless Adapter for 2 years and I am thoroughly satisfied with it's performance. The Airless Adapter helps me to weight up faster. 
  Frank Guidry, Company Man with Hilcorp Energy
- While working my way up to Tool Pusher, I spent 18 years working as a Derrickman.

  During that time I learned a lot about air in mud. The hopper is where the air gets into the mud and cannot be avoided with a conventional hopper. After seeing The Airless Adapter work on the Axis Justice, I wished I would have had it back on my rigs. It takes less time and less barite when having to weight up. It gives the Derrickman more free time to take care of his other responsibilities.

  Wade Rodriquez, Tool Pusher with Axxis Justice
- We have just installed an Airless Adapter on one of our rigs. In the past we have had issues with air in the mud on most jobs. This was our first application with the Airless Adapter and we saw none of these problems. If anyone has any questions about the benefits of the Airless Adapter they can contact me. 
  Andy Simon, Owner / Superintendent with Crown Drilling / 337.654.9300
- I have been using the Airless Adapter for the past three years on different jobs with different operators. It has proven time and time again to save barite, time and money. I would recommend the Airless Adapter to anyone. The Craig Durio, Project Manager with Petroleum Engineers, Inc.









IT IS AN ADD-ON DESIGNED TO WORK
WITH ANY CONVENTIONAL MUD MIXING HOPPER
TO PREVENT AIR FROM ENTERING THE MUD SYSTEM

## TOP 8 WAYS THE AIRLESS ADAPTER CAN IMPROVE YOUR MUD SYSTEM

MINIMIZES CORROSION:

TESTING HAS SHOWN SOME HOPPERS INTRODUCE THE VOLUME OF AIR THAT IS IN AN AREA 14' X 8' X 80' INTO THE MUD SYSTEM EVERY 5 MINUTES. AIR IS 20% OXYGEN AND IT IS THE OXYGEN THAT FEEDS CORROSION. IN SOME MUDS, THIS OXYGEN HAS TO BE REMOVED WITH COSTLY OXYGEN SCAVANGERS OR IT WILL CAUSE VERY SERIOUS CORROSION PROBLEMS. USING THE AIRLESS ADAPTER KEEPS THE OXYGEN OUT THEREBY MINIMIZING CORROSION.

ELIMINATES AIR:

WHEN AIR GETS INTO THE MUD SYSTEM IT LOWERS THE DENSITY. AT SOME POINT THE AIR BREAKS OUT OF THE MUD AND RAISES THE DENSITY. WITH AIR IN THE MUD SYSTEM YOU DO NOT CONTROL THE MUD WEIGHT.

TO RUN A GOOD JOB YOU HAVE TO CONTROL BOTTOM HOLE HYDROSTATIC PRESSURE AND TO DO THAT

YOU MUST CONTROL MUD WEIGHT, WITHOUT THE AIRLESS ADAPTER IT IS VERY DIFFICULT TO DO

REDUCES BARITE CONSUMPTION:

WHEN ENOUGH AIR ENTERS THE MUD SYSTEM, ADDITIONAL BARITE IS REQUIRED TO MAINTAIN THE DESIRED MWT. THIS IS BARITE THAT SHOULD NOT HAVE BEEN USED AND ADDS TO THE COST OF THE MUD SYSTEM. THE AIRLESS ADAPTER KEEPS AIR OUT, REDUCES BARITE CONSUMPTION, AND KEEPS COST DOWN. ON ONE JOB THE COST SAVINGS WAS \$47,000.00.

REDUCES DEFOAMER CONSUMPTION:

LESS AIR IN THE MUD SYSTEM MEANS LOWER DEFOAMER CONSUMPTION. CERTAIN MUDS FOAM UP DUE TO THEIR COMPOSITION. THESE MUDS SYSTEMS ARE ONES THAT SHOULD DEFINITELY HAVE THE ADVANTAGES OF THE ADAPTER SINCE YOU DO NOT WANT TO ADD AIR TO SYSTEMS THAT ALREADY HAVE FOAMING PROBLEMS.

THE AIRLESS ADAPTER MAKES THIS PROBLEM MANAGEABLE.

MAINTAINS A MORE CONSTANT BOTTOM HOLE HYDROSTACTIC PRESSURE:

THE INTRODUCTION OF AIR INTO THE MUD SYSTEM GUARANTEES AN UNCERTAIN BOTTOM HOLE HYDROSTATIC PRESSURE (BHHP). CAN WE DRILL A WELL WITH THIS TYPE OF PROBLEM? THE ANSWER IS YES, BUT YOU CAN DO A MUCH BETTER JOB IF YOU CAN CONTROL BHHP. THE ONLY WAY TO DO THIS IS WITH AN AIRLESS ADAPTER.

**REEPS MWT OUT SAME AS MWT IN:** 

ONCE AIR ENTERS THE MUD SYSTEM, IT COMPRESSES ON THE WAY IN AND EXPANDS ON THE WAY OUT.

THIS CYCLE IS WHAT CAUSES UNCONTROLLED BHHP WHICH CAUSES HOLE PROBLEMS.

WITH THE AIRLESS ADAPTER, MWT GOING IN AND MWT COMING OUT ARE THE SAME UNLESS YOU HAVE GAS AT THE SHAKERS.

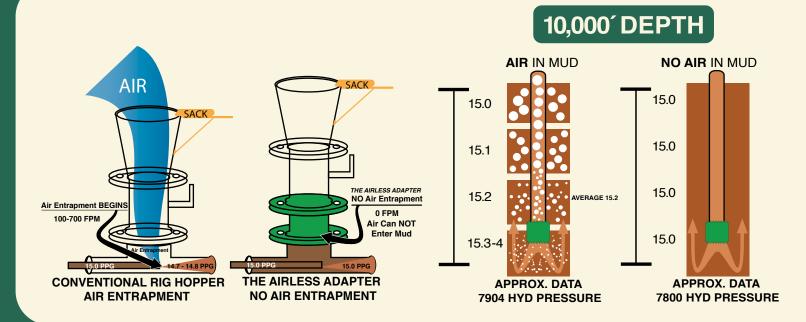
THE PARAMETERS ARE MORE ACCURATE AND LESS CONFUSING SO THE SUPERVISOR CAN MAKE MORE ACCURATE DECISIONS.

SAVES RIG TIME:

SOME RIGS REALIZED A SAVINGS OF 10 HOURS RIG TIME BY NOT HAVING TO WAIT FOR THE MWT OUT TO BE THE SAME AS MWT IN. ON MOST RIGS IT TAKES 30 TO 60 MINUTES BEFORE MWT OUT IS RIGHT. WITH THE AIRLESS ADAPTER YOU GET THE CORRECT MWT OUT WITHIN 10 MINUTES SO YOU CAN GO BACK TO DRILLING MUCH SOONER. THUS SAVING RIG TIME.

**8** ENHANCES POLYMER PERFORMANCE:

OXYGEN IN THE MUD DEPLETES THE EFFECTIVENESS OF POLYMERS BY 30%. THE AIRLESS ADAPTER KEEPS OXYGEN OUT AND MAINTAINS THE FULL PERFORMANCE OF THE POLYMERS. IF YOUR POLYMER COST IS \$300.00 PER BAG YOU LOSE \$90.00 ON EACH BAG. IF YOU USE 2 SACKS PER DAY, YOU OFFSET THE COST OF THE AIRLESS ADAPTER.





## THE AIRLESS ADAPTER OPERATING INSTRUCTIONS

STEP 1

WITH 6" HOPPER VALVE CLOSED TURN ON CENTRIFUGAL PUMP TO HOPPER. OPEN VALVES TO 2" HOSE MAKING SURE THE HOSE IS NOT PLUGGED.

STEP 2

**OPEN 6" HOPPER VALVE** 



STEP 3

WITH 2" BALL VALVE FULLY OPEN - - - OPEN WHEEL VALVE SLOWLY.

MUD WILL BEGIN TO FLOOD JET. USE DIP STICK TO MEASURE HEIGHT OF LIQUID BARRIER.

IT SHOULD BE 5-8" HIGH FOR OPTIMUM PERFORMANCE. TO INCREASE LEVEL, CONITUNE OPENING WHEEL VALVE UNTIL 5-8" LEVEL IS REACHED. IF 5-8" LEVEL IS EXCEEDED. CLOSE WHEEL VALVE TO REDUCE LEVEL.

STEP 4

IF HOPPER AND AIRLESS ADAPTER ARE NOT RUN FOR SEVERAL DAYS- - - THE 2" LINE MAY PLUG UP.

IT IS RECOMMENDED THAT THE CENTRIFUGAL PUMP AND AIRLESS ADAPTER BE TURNED ON FOR 30 MINUTES EACH DAY.

SIEP 5

THE LINE SHOULD BE DISCONNECTED AND DRAINED TO AVOID PLUGGING. PUMP MUD THROUGH LINE EVERY 2 DAYS. IF UNIT PLUGS UP, DISCONNECT AND CLEAR HOSE. REMOVE CLEAN OUT PLUGS ON AIRLESS ADAPTER AND RUN ROD IN TO CLEAR.