Introduction:

The intent of this study guide is to help you prepare for the IWCF Level 3 and Level 4 Supervisor Well Control Exam (Surface and Combined Surface and Subsea BOP).

This guide does not replace the requirement to attend a certified IWCF Well Control school, instead, it serves to supplement the training received in the classroom and to ensure you’re as prepared as possible on examination day (usually the last day of your IWCF class).

This guide assumes that you have a “general” idea how oil and gas wells are drilled and at least a basic understanding of common well control calculations from an introductory IADC or IWCF well control course and/or company provided training material. This guide also assumes you have at least a month to study BEFORE your IWCF exam.

Strengthening the need for this guide, many companies and organizations (including the one I work for) are pushing for an “Enhanced Standard” of well control requiring students to obtain an average score of at least 80% to be recognized as having passed the course (even though the minimum IWCF passing grade is 70%).

I’ll start with the “basics” and then break down each individual test (Simulator, Equipment and P&P) into its own section with some of the preparation tips that helped me pass the exam.

I’ll also add that this guide is NOT a well control manual. Instead, it is a tool to help you study for and pass the IWCF Level 3 and Level 4 well control certification exams using information that is already available to you on the internet and in Study Pack in the Appendix of this guide.

Basics:

Firstly, the IWCF test is no joke. Whether you’re taking IWCF Level 2, Level 3, or Level 4, it is as difficult as everybody says it is. If you don’t prepare prior to the class and you’ve never been through IWCF advanced well control before you’re not going to do very well. This is especially true for students pursuing Level 3 or Level 4 certification as it adds a graded practical exam (simulator exercise) to the mix.

The GOOD NEWS is you have control over your own destiny and it’s only a matter of how important passing is to you. You WILL PASS the class if you put the effort in. EVEN BETTER, you can ACE the exam if you follow my techniques.

By far the most IMPORTANT thing you can do to prepare for the IWCF exam is to review the “Study Pack” questions in the appendix. Even if you know nothing about well control, you’ll pick up a great deal going through the questions over and over. At first it seems like you’re doing nothing but memorizing the answers, but after a while the questions start to “connect” and you begin to get a sense of what is actually going on.
6. What is the maximum allowable mud density?  
   (a) 10.4 ppg  
   (b) 14.4 ppg  
   (c) 14.5 ppg  
   (d) 15.3 ppg

   \[
   \frac{1450 \text{ psi}}{6250 \times 0.052} + 10 \text{ ppg} = 14.4 \text{ ppg} \quad \text{(Remember to round down)}
   \]

   ShoE TVD

7. What is the maximum allowable annular surface pressure (MAASP)?

   \[
   \sqrt{14.4 - 10.4 \text{ ppg}} \times 0.052 \times 6250 = 1300 \text{ psi}
   \]

8. What is the required kill mud weight?

   \[
   \frac{450 \text{ psi}}{8400 \times 0.052} + 10 \text{ ppg} = 11.5 \text{ ppg} \quad \text{(Remember to round up to nearest tenth)}
   \]

9. What will be the required lbs/bbl of barite (baryte) to increase the drilling mud density to the kill density?

   \[
   \frac{(11.5 - 10.4) \times 1500}{35.8 - 11.5} = \frac{1650}{24.3} = 67.9
   \]

10. What will be the Initial Circulating Pressure?

    \[
    650 \text{ psi} + 450 \text{ psi} = 1100 \text{ psi}
    \]

11. What will be the Final Circulating Pressure?

    \[
    \frac{11.5 \text{ ppg}}{10.4 \text{ ppg}} \times 650 \text{ psi} = 719 \text{ psi}
    \]

12. What will be the new pump pressure if the toolpusher decides to pump at a slow circulating rate of 25 SPM?

    \[
    650 \text{ psi} \times \left(\frac{25}{30}\right)^2 = 451 \text{ psi}
    \]