

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This research created a real-time GUI by Matlab software. While the output consisted of this software is well trajectory that was calculated by balanced tangential method and T&D that were based on 3D T&D calculations by Prurapark (2009). T&D were calculated in order to prevent problems such as buckling and tortuosity from happening, the result showed that calculated data is closed to field data and software can calculate buckling zone. This software has four operation modes which are Rotating off Bottom (RoffB), Pulling out of Hole (POH), Running in Hole (RIH), and Rotating on Bottom (RonB), which each operation mode has different procedure for calculation. Moreover, Bottom Hole Assembly (BHA) and Dogleg Severity (DLS), have effect on the value of hookload and torque.

5.2 Recommendations

This thesis T&D calculation is based on a soft-string model with small step sizes, which it gives fast calculation and an enough accurate result. However, it could be changed to stiff-string model which gives a better result when it comes to a complex well trajectory.

Friction coefficient calculated from this software is dynamic coefficient which is calculated while drilling. Thus dynamic coefficient that software calculates is the coefficient at each depth and formation. When the hole is cemented the coefficient definitely changes, however this software can't determine a new coefficient. In this case, it will be estimated.