CHAPTER 6
FUTURE WORK

As a result of the knowledge gained in this investigation, three areas stand out as good topics for potential future work. These areas are as follows:

1. **Development of a release analysis procedure or device based on the RCS circuit:** A three- to five-stage RCS circuit has shown to be the best means of obtaining an ideal flotation separation comparable to a washability curve for gravity separation. Currently, this would require a locked-cycle test using semi-batch flotation cells. Unfortunately, such a procedure would be extremely tedious and would probably introduce so much experimental error that it would not be worth the effort. A continuous device which produces the effect of a multi-stage RCS circuit is needed if this procedure is to become practical. This device might be something along the lines of the conceptual cascadograph proposed by Meloy.

2. **Refinement of the reverse release analysis procedure:** The reverse release analysis procedure was shown to combine the best features of simplified release analysis and timed release analysis in terms of locating the elbow of the yield-vs.-ash curve and extending the curve into the low-ash, low-yield region. In some cases, however, the data scatter from replicate tests seemed to be significant. It appears that this technique should continue to be tested and the procedure refined. Overall, reverse release analysis seems to have the most potential be the best release analysis procedure of the existing techniques.

3. **Further study of the release analysis fitting method for determining flotation rate constants:** The method used here for determining flotation rate constants as a function of particle composition is rather unique. All it involves is a single release analysis test and the use of the Excel Solver routine to back-fit the rate constants to the test data. This procedure needs further study and validation since it could prove to be a very powerful tool for estimating distributed flotation rate constants and back-calculating the feed composition without the use of image analysis techniques.

Link to References

Link to Appendices