The following is general guidance for sample concentration. Other approaches may be employed as appropriate with TL approval. All approvals regarding sample concentration for Fusion 6C STR amplification will go through the DNA TL, Assistant Director and Deputy Director. If concentration is necessary for Y-STR amplification, DNA TL approval is necessary.

1. The analyst must evaluate the potential impact of sample concentration on the complete set of samples in the extraction set. Consider the number/volume of RBs, the number of different amplifications anticipated for the set and which amplification systems would be more critical/appropriate for the cases. Consult with your Lead and/or TL as warranted and obtain approval as stated above. In general, no-suspect case samples should not be concentrated unless sample concentration is expected to lead to sufficient profile results for CODIS entry (SDIS or NDIS). Samples may be concentrated in suspect cases with approval from all parties as stated above.

2. To minimize the number of RBs, case management/the DNA analyst should batch samples and types of samples to be concentrated as much as possible.

3. To conserve as much DNA as possible, the samples to be concentrated will be quanted after extraction (before sample concentration). The amount of sample to be concentrated (and the eluate volume after concentration, e.g., 10 µl—STR (IDP), 15 µl—STR (F6C) is based on the quant results and the amplification(s) required.

4. In the event that another sample in an extraction set has previously been concentrated (e.g., to maximum stringency such that the RB has been consumed and amplified using the same STR system as the current concentration/amplification event), a manipulation blank must be created to account for the processing steps associated with the current concentration.

5. The sample shall not be concentrated if the RB is consumed (except as stated in #4) or missing. If the target volume of sample to concentrate is greater than the amount of RB remaining, the sample may be concentrated using up to the same volume as the RB. If it can be determined that evaporation/sublimation caused the volume of the RB to be less than the sample volume, the sample may still be concentrated. For this determination, the analyst must review the other cases in the extraction set to determine how much RB was consumed.

6. For new case processing, when 2 RBs are quanted from an extraction set, the RB with the greater signal (if any) is used for the concentration and amplification.