The Kaplan-Meier analysis is not well-suited for data where subjects are randomly sampled without replacement from a population at each time interval. There are a few key issues with applying Kaplan-Meier in this scenario:

1. Lack of longitudinal follow-up: Kaplan-Meier assumes that individual subjects are followed over time, with known entry and exit/censoring times. Random sampling at each interval does not provide this continuous follow-up of specific individuals.
2. Violation of independence assumption: Kaplan-Meier assumes independence between observations. Sampling without replacement means the samples at different time points are not independent, as the population composition changes over time.
3. Inability to account for censoring: Censoring, a key component of Kaplan-Meier, cannot be properly handled with repeated random sampling. There's no way to know if absent subjects experienced the event or were simply not sampled.
4. Changing risk set: The number and composition of subjects "at risk" changes arbitrarily between time points due to sampling, rather than due to events or censoring as Kaplan-Meier expects.
5. Loss of individual trajectories: Kaplan-Meier relies on following specific individuals to estimate survival probabilities. Random sampling loses this individual-level information.

For data with repeated random sampling without replacement, other approaches may be more appropriate:

* Cross-sectional analyses at each time point, treating the samples as independent snapshots.
* Time series analysis techniques that can account for the changing population structure.
* Life table methods, which estimate survival probabilities for discrete time intervals using aggregated data.
* If some longitudinal information is available, mixed-effects models or generalized estimating equations could potentially be used.

The key is that standard Kaplan-Meier analysis relies on following specific individuals over time, which is fundamentally incompatible with repeated random sampling from a changing population at intervals. Alternative methods that can handle the cross-sectional nature of the data would likely be more appropriate.

The Liquid sampling meets the criteria for simple random sampling, so the draws are unbiased estimates of the population.