CLAIMS

What is claimed is:

1. An apparatus, comprising:

a liquid reservoir containing a liquid;

a well assembly comprising:

a body defining a well and having an opening and a port, the port being couplable to the liquid reservoir;

a hydrophobic venting membrane coupled to the body and covering the opening; and

a cover covering the hydrophobic venting membrane,

wherein, as the liquid is flowed into the well via the port, the hydrophobic venting membrane vents gas contained within the well.

2. The apparatus of claim 1, further comprising dried reagent contained within the well and wherein the liquid that flows into the well rehydrates the dry regent.

3. The apparatus of any one of the preceding claims, further comprising a coupling between the liquid reservoir and the well assembly.

4. The apparatus of claim 3, wherein the coupling comprises a snap-fit connection.

5. The apparatus of any one of the preceding claims, wherein the port comprises a septum.

6. The apparatus of claim 1, wherein the cover comprises an impermeable barrier.

7. The apparatus of claim 6, wherein the impermeable barrier comprises foil.

8. The apparatus of claim 1, wherein the cover forms at least part of a dead end.

9. The apparatus of claim 8, wherein the cover is coupled to the well and forms an enclosure that captures the gas that vents through the hydrophobic venting membrane.

10. The apparatus of claim 1, wherein the well is couplable to a pressure source.

11. The apparatus of claim 1, further comprising a support extending across at least a portion of the opening.

12. The apparatus of claim 11, wherein the support is disposed between the hydrophobic venting membrane and the cover.

13. The apparatus of any one of claims 11 and 12, wherein the support comprises a lattice structure.

14. An apparatus, comprising:

a well assembly comprising:

a body defining a well having an opening;

a hydrophobic venting membrane coupled to the body and covering the opening; and

a cover covering the hydrophobic venting membrane,

wherein the hydrophobic venting membrane vents gas contained within the well.

15. The apparatus of claim 14, wherein the body comprises a plurality of wells each having a corresponding opening and a port.

16. The apparatus of claim 14, wherein the body comprises an inward extending step that at least partially defines the well and wherein the hydrophobic venting membrane is coupled to the step.

17. The apparatus of claim 14, wherein the body comprises an inward tapered surface that extends toward the port and defines the well.

18. The apparatus of claim 14, wherein the hydrophobic venting membrane covers the openings of the wells.

19. The apparatus of claim 14, wherein the cover is coupled to the body and covers the hydrophobic venting membrane.

20. The apparatus of claim 14, wherein the cover forms an enclosure above each of the wells.

21. The apparatus of claim 14, wherein the cover comprises a frustum.

22. A method, comprising:

flowing a liquid into a well having an opening covered by a hydrophobic venting membrane, whereby air is vented through the hydrophobic venting membrane; and

flowing the liquid out of and into the well.

23. The method of claim 22, wherein flowing the liquid into the well comprises flowing the liquid into the well containing dry reagent, whereby the liquid rehydrates the dry reagent.

24. The method of claim 22, wherein flowing the liquid out of and into the well comprises flowing the liquid back and forth between the well and a fluidic line.

25. The method of claim 22, wherein flowing the liquid out of and into the well comprises flowing the liquid back and forth between the well and a mixing chamber.

26. The method of claim 22, wherein flowing the liquid comprises flowing the liquid out of and into the well under positive pressure.

27. The method of claim 22, wherein flowing the liquid into the well comprises pressurizing a dead end of the well.

28. The method of claim 22, wherein flowing the liquid out of the well comprises pressurizing a dead end of a mixing chamber.

29. The method of any of claim 27, wherein flowing the liquid out of the well comprises depressurizing the well.

30. The method of claim 22, further comprising piercing a cover covering the opening of the well prior to flowing the liquid into the well.

31. The method of claim 30, wherein piercing the cover comprises urging the cover against a protrusion.

32. A method, comprising:

pressurizing a dead end of a well by flowing a liquid into the well, a portion of the well covered by a hydrophobic venting membrane; and

depressurizing the well to flow the liquid out of the well.

33. The method of claim 32, wherein flowing the liquid into the well comprises flowing the liquid into the well containing dry reagent, whereby the liquid rehydrates the dry reagent.

34. The method of claim 32, further comprising iteratively pressurizing the dead end of the well and depressurizing the well.

35. The method of claim 32, further comprising limiting deformation of the hydrophobic venting membrane.