

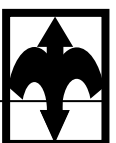
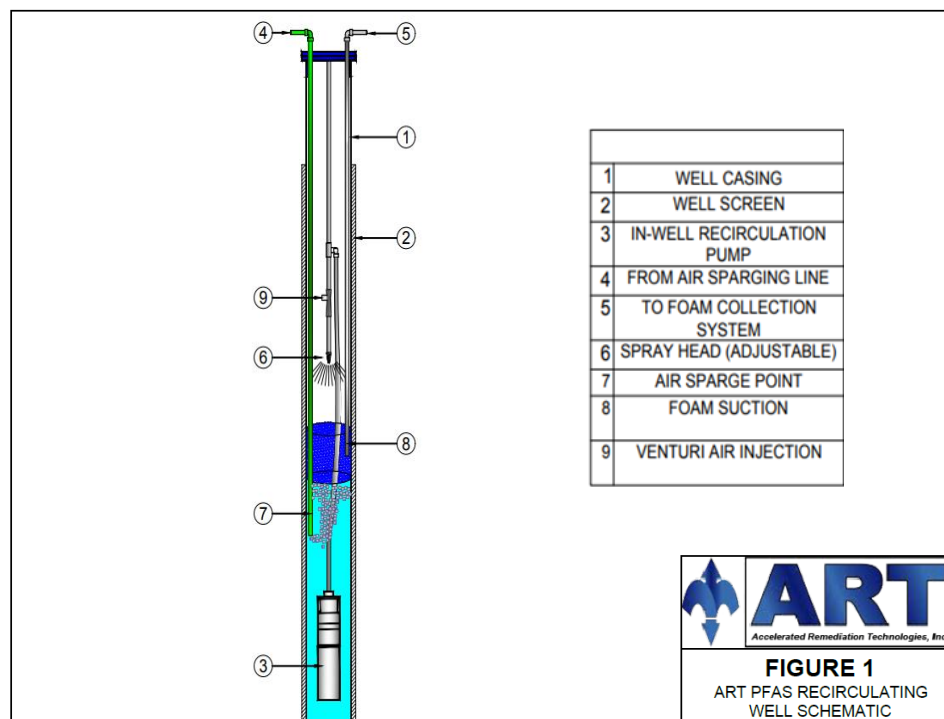
THE ART PFAS TECHNOLOGY

Accelerated Remediation Technologies, inc. (ART) has developed the ART in-well remediation technologies combining in-situ air stripping, air sparging, soil vapor extraction and other processes. The ART system has been implemented at more than 6,000 installations worldwide. This experience resulted in perfected design and modifications to address different contaminants including PFAS compounds

In response to challenges and elevated risks to human health and the environment presented by PFAS constituents in the subsurface, ART experts developed the ART-PFAS technology. ART experts built on the well-established and recognized circulating well concepts of the ART In-Well Technologies, with adaptations for the unique characteristics and chemical properties of PFAS compounds.

Remedial efforts in the **ART-PFAS** technology rely on:

- **Fractionation** - Increasing the production of foam in the ART well, followed by extraction to the surface. Only foam and vapors are extracted for disposal or treatment, eliminating the need for pumping large volumes of water as is the case with ex-situ foam recovery processes. See attached photo obtained from within an operating ART PFAS well.
- **Volatilization** – Some non-ionic PFAS have a tendency to volatilize from aqueous solutions and it increases with higher temperature and lower pH. Mass of PFAS volatilization as two and three carbon-chain can be significant



Different from the traditional ART Integrated Technologies, remedial efforts in the ART- PFAS alternatively rely on increasing the production of foam in the ART well (fractionation), followed by extraction of foam to the surface for collection. It should be noted that with the ART-PFAS approach, *only* foam is recovered and extracted to the surface for disposal or treatment. This eliminates the need to pump large quantities of water to the surface as is the case with other foam recovery processes.



FIGURE 2: ART PFAS - In Well PFAS Fractionation

Several ART-PFAS systems have been installed and operated with impressive results. PFAS concentrations in recovered foam have significantly exceeded subsurface water concentrations in the general area.