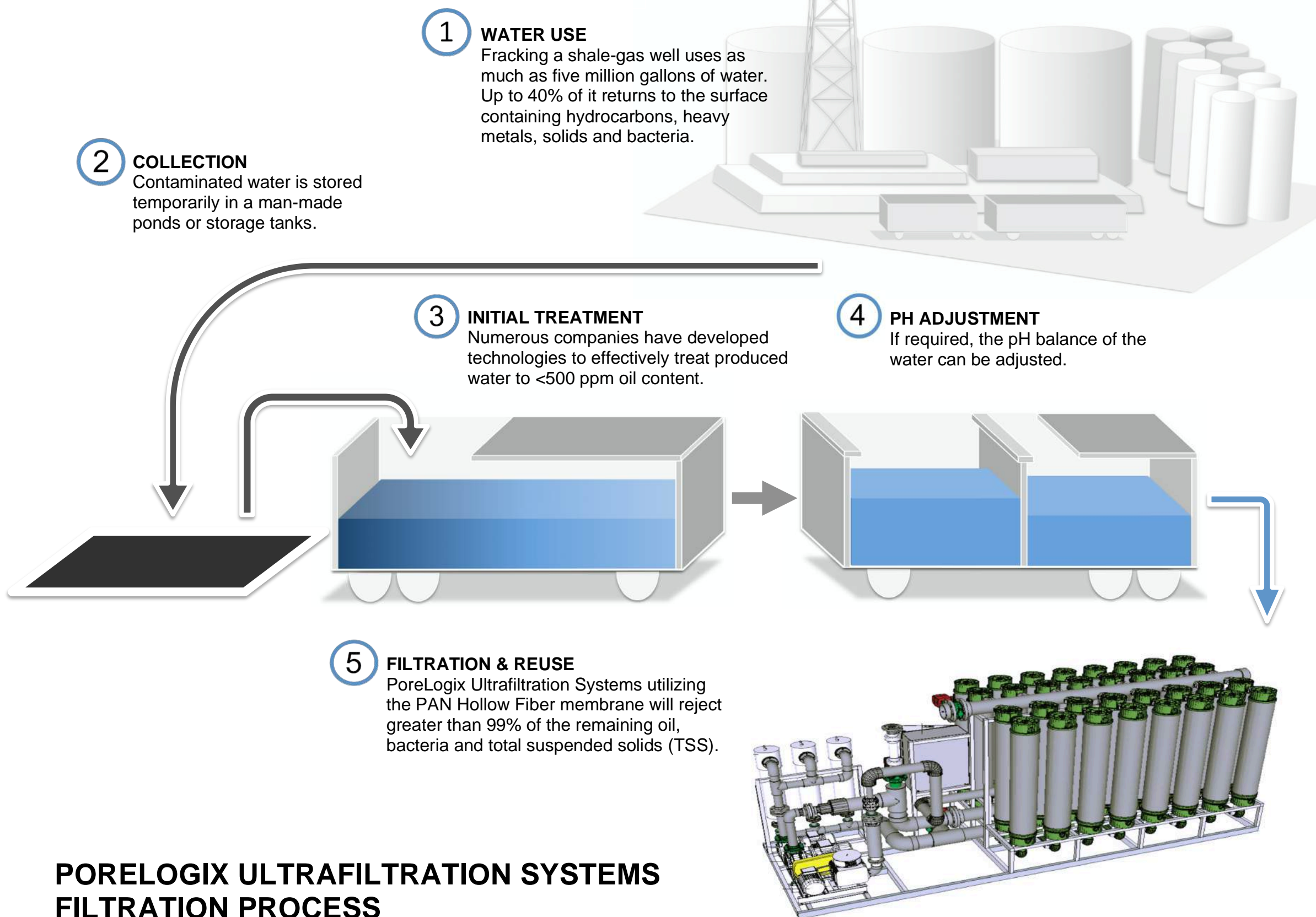


Recycling Frac Water with PoreLogix Ultrafiltration Systems

Coupled with proper pretreatment technology, PoreLogix Ultrafiltration systems with PAN Hollow Fiber membranes consistently provide the highest quality permeate.



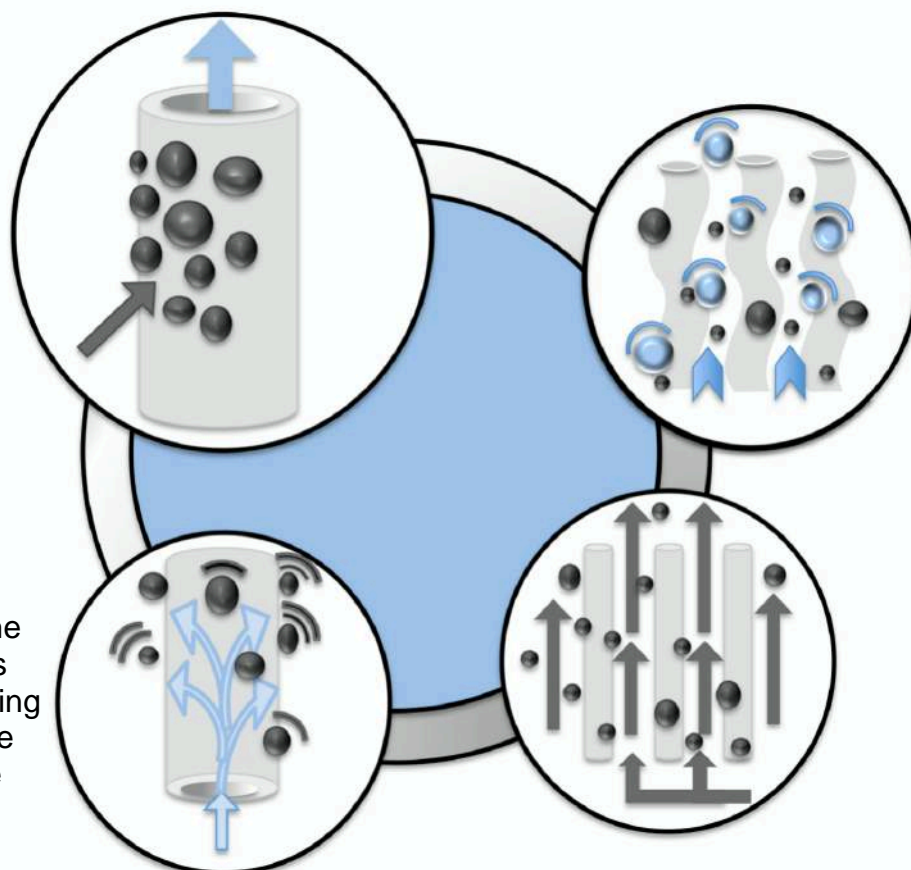
PORELOGIX ULTRAFILTRATION SYSTEMS FILTRATION PROCESS

FILTRATION PROCESS (OUT – IN FLOW)

Filtration process is via an Out-In flow configuration where feed water is in contact with the exterior of the fibers and the filtrate (product water) is drawn from the inside of the hollow fibers (lumen). This configuration has the distinctive advantage of a larger membranes surface area, which translates to a higher flow.

BACK FLUSH

After the Forward Flush process has removed the majority of the solids from the cartridge, Porelogix Ultrafiltration systems will engage in a Back Flush process utilizing filtrate to Back Flush from the inside of the hollow fibers, hence dislodging any of the remaining solids attached to the outer surface of the fiber.



AIR SCOURING

During both the Forward Flush and Back Flush process, air bubbles are injected into the cartridge dislodging suspended solids from the hollow fiber membrane. This enables the Forward and Back Flush process to effectively remove the solids from the cartridge to prevent build-up.

FORWARD FLUSH

On a preset time frame or upon reaching a predetermined transmembrane pressure (TMP), Porelogix Ultrafiltration systems will engage in a regeneration process. Beginning with the Forward Flush process, 95% of the solids are removed with the feed water without TMP constriction.