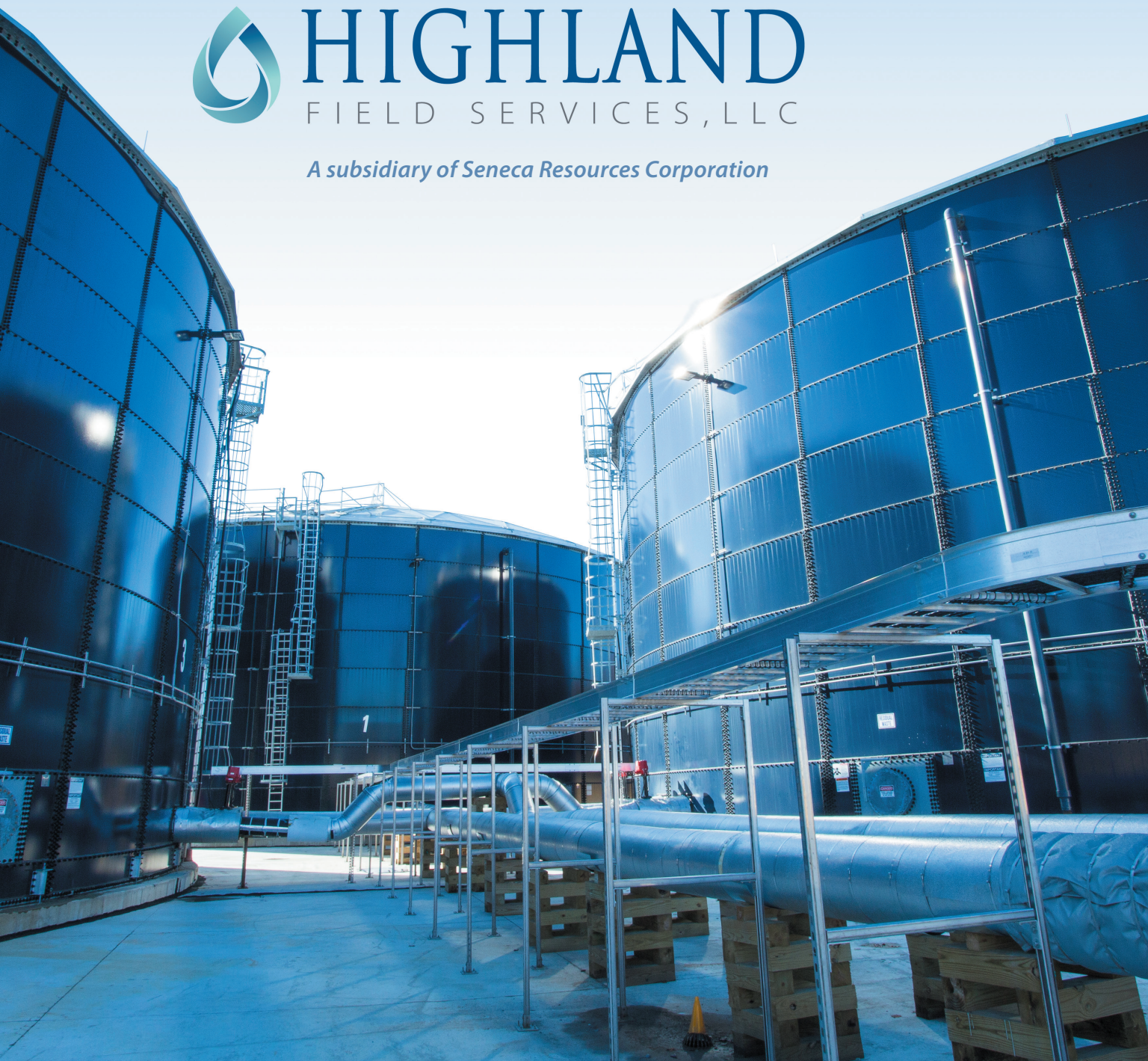




# HIGHLAND

FIELD SERVICES, LLC

*A subsidiary of Seneca Resources Corporation*







**Highland Field Services, LLC (HFS)**, a subsidiary of Seneca Resources Corporation, was established in 2015 to address the water management needs for Seneca Resources and other oil and gas companies in the Appalachian basin.

HFS currently operates two facilities in Pennsylvania - a water treatment plant in Kane, Pa. (Sergeant Township, McKean County) and the Clermont Storage Facility (CSF) in Shippen Township, Cameron County. The facilities are located near the heart of Seneca's operations with quick access to major state and US highways and have the capability to handle any fluid wastes from both the Marcellus and Utica Shale plays, as well as conventional gas and oil fields.

HFS utilizes a zero liquid discharge process to manage, store, and transport oil and gas liquid waste for reuse during drilling and hydraulic fracturing. This procedure reduces the impact on natural water resources by minimizing the need for freshwater. Through HFS, Seneca currently recycles 100% of the company's produced water and accepts additional third-party water for beneficial reuse by Seneca and other E&P companies.

The HFS Kane wastewater treatment facility near Mt. Jewett has a four-bay, covered truck off-loading and loading area designed for maximum receiving efficiency and convenience. The facility has two, 550,000-gallon storage tanks and uses physical and chemical treatment technologies to manage a broad range of the industry's needs, including flowback and produced fluids, drilling and completion wastes, pipeline pigging and compressor wastes, and tank and pond sludges.

The Clermont Storage Facility operates 24 hours a day, seven days a week through secured access to meet the variable schedule of our third party suppliers. The facility is staffed at all times to provide assistance when needed. Three, two-million gallon, above-ground, storage tanks are located at the facility and are monitored onsite as well as remotely via an automated system. Six covered bays are available for loading and unloading of water.

Aspects of HFS's fluid management strategies are used by a handful of other entities across the Appalachian basin, but HFS has quickly become one of the industry's leaders in this field. HFS consistently manages upwards of 35,000 bbl of fluid per day through their beneficial reuse facilities that are then used primarily in completion operations. In addition to reusable fluids for shale operations, the facility is expected to produce marketable byproducts with commercial value from the various minerals naturally occurring in brine water. HFS has strong relationships with regional solid waste disposal facilities to handle residual wastes that can result from these processing and mineral recovery activities.



Responsible disposal options are sometimes necessary to maintain shale operations. HFS is permitting wells in PA and Ohio for underground injection of produced brines as another means of comprehensively and responsibly managing the fluid needs of the industry. HFS and Seneca have invested over \$20 million in this and other beneficial reuse infrastructure, including a pipeline delivery network to handle beneficial reuse waters in an environmentally safe and economic manner. Highland Field Services will continue to create innovative and cost-effective technologies to improve the operational and economic needs of the energy sector associated with water management. Through recycling and proven water management solutions, we are creating a more sustainable management plan that supports local economies as well as protects the environment.





**Highland Field Services, LLC**, a subsidiary of **Seneca Resources Corporation** uses an innovative strategy for managing shale gas wastewater and residuals. Located in McKean County, Pa., the company provides unique water resource and recycling solutions to upstream and midstream operators by creating incremental value from traditional waste streams. Highland manages the operational and economic needs of the energy sector in an environmentally responsible manner, advancing recycling and reuse rather than disposal.

**Seneca Resources Corporation**, the exploration and production segment of **National Fuel Gas Company**, headquartered in Houston, Texas, explores for, develops and produces natural gas and oil reserves in California and the Appalachian Region including the Marcellus and Utica Shales.