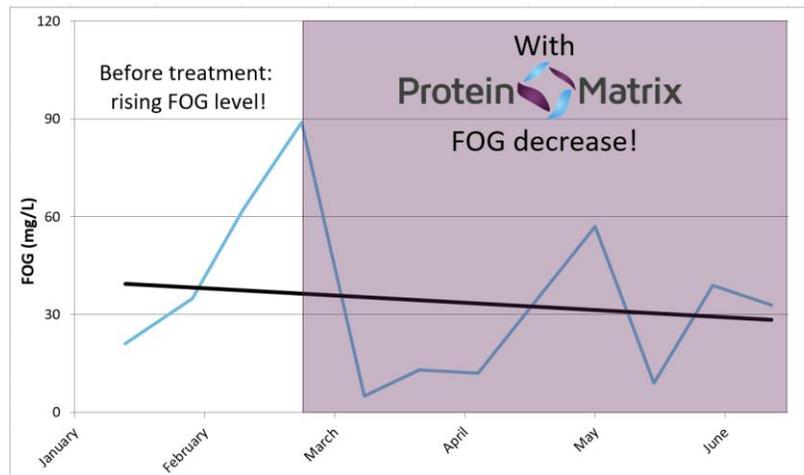


## Protein Matrix Study Report: Fast Food Restaurant

On the heels of a successful collaboration with Aqua America, during which Protein Matrix maintained several lift stations free and clear of fat, oil, and grease (FOG), Aqua (a \$4b water treatment company) recommended Protein Matrix Eliminator to the owners of local fast food franchise that was experiencing significant FOG buildup and, in turn, regulatory violations due to the eventual release of this accumulated FOG from their gravity grease interceptor (GGI). To this end, the owners had installed a second 1,500-gallon GGI at the restaurant in the hopes that the additional capacity would alleviate non-compliance. Despite these efforts, FOG buildup was still extensive and non-compliance still an issue. Even with two 1,500-gal GGI operational and cleanouts occurring twice as often as is required by most FOG abatement legislation, effluent FOG levels remained greater than the compliance limit of 100 mg/L nearly 20% of the time.

At the start of treatment, each interceptor was professionally cleaned by a grease hauling service and the dose of Protein Matrix Eliminator adjusted over time to determine the amount needed to maintain this level of cleanliness (see figures on following page). Three months after the GGI were pumped, the interceptors were opened and only liquid byproduct of the Protein Matrix Eliminator reaction with FOG was present - no buildup at all. This compelling result is most evident in the linked videos showing the stirring of the FOG-free liquid contents of each interceptor three months after the initial cleanout. While prior to the pilot, four cleaning events would have been needed during this period, it is evident that the GGI are as clean as when the study was initiated.

In addition, the use of Eliminator led to a marked increase in the restaurant's compliance with effluent quality limits. Most importantly, the FOG readings consistently decreased when Protein Matrix was applied, never approaching the compliance limit of 100 mg/L (see figure below). In addition, less than one month after the Eliminator treatment concluded, we received word from Aqua America that the upstream waste treatment facility again noted elevated FOG concentrations in the waste stream from the restaurant.



While FOG readings normally increase as grease accumulates in GGI (Jan-Mar), the use of Protein Matrix Eliminator at the FSE resulted in a decrease in effluent FOG (Mar-June).

	GGI 1 (Inlet)	GGI 1 (Outlet)	GGI 2 (Inlet)
One month of grease buildup			
Three months with <b>ELIMINATOR</b> <small>COMMERCIAL GREASE TRAP CLEANER AND MAINTAINER</small>	<a href="#">Video</a> 	<a href="#">Video</a> 	<a href="#">Video</a> 

While one month of FOG accumulation from the restaurant resulted in solid grease buildup (top), three months of Protein Matrix Eliminator treatment led to clean interceptors containing only flowable liquid (bottom).