



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

OFFICE OF WATER MANAGEMENT

April 20, 2010

Integrated Water Technologies
150 Clove Road
Little Falls, NJ 07424

Dear Mr. DiTommaso:

The Department of Environmental Protection (DEP) has received and reviewed your "Wastewater Treatment Demonstration Final Report" dated January 2010. The demonstration test of this state of the art treatment system for Marcellus Shale frac wastewater was authorized by Water Quality Management Permit 2610201 issued out of the Southwest Regional Office on January 22, 2010. The four-phase treatment technology, FRAC-PURE, produces clean water distillates from both the distillation and crystallization steps which is ideally suitable as a source of frac water or as a surface water discharge under a National Pollutant Discharge Elimination System (NPDES) permit which would meet all of DEP's proposed requirements in the Chapter 95 regulatory package currently being prepared for the Environmental Quality Board. This approach will not only treat the wastewater to an acceptable level for reuse or discharge, and for reuse of the byproducts, it will inherently reduce the demand for stream withdrawals.

This is the first frac-wastewater treatment system that has been successfully demonstrated for the treatment of the Marcellus Shale frac wastewater. The clean water distillates, produced from the treatment process, contain total dissolved solids at less than 300 mg/l; barium and strontium at less than 0.01 mg/l; and chlorides and sulfates were at nondetectable levels. The removal of the impurities such as barium, strontium, and sulfates prior to the distillation step clearly improves the quality of the final salt product enhancing its reuse potential.

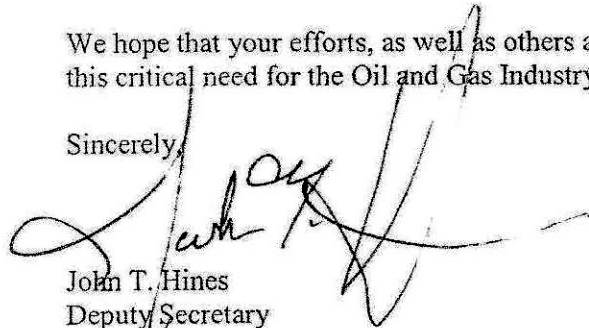
It was encouraging to learn that your company is in the process of completing permitting applications for a 1.0 to 2.5 MGD fixed site facility in Pennsylvania and that you are also in the process of applying for a statewide residual waste general permit for a mobile facility, currently under construction.

Another hurdle your company seems to have been able to overcome is the critical component of what to do with the salts generated at the end of the process. According to the report, markets have already been established for the reuse of this material, significantly benefiting the economic feasibility of the process.

April 20, 2010

We hope that your efforts, as well as others across this Commonwealth are successful in serving this critical need for the Oil and Gas Industry.

Sincerely,

A handwritten signature in black ink, appearing to read "John T. Hines", is written over the typed name and title. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John T. Hines
Deputy Secretary
Office of Water Management

cc: Dr. Hugh Archer