

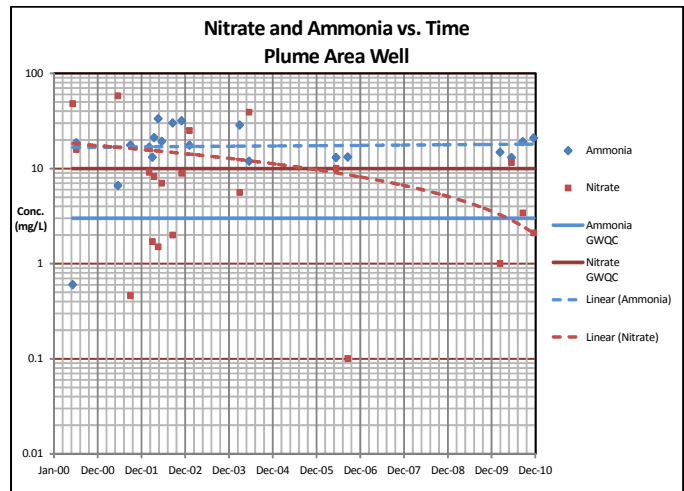


Many sites undergoing remediation in New Jersey have been stuck in a state of suspended animation. In some cases, years have elapsed while project workplans awaited regulatory approval, and in this time, sites could literally self-remediate. Meanwhile, limitations in the regulatory guidance and inconsistent enforcement have sometimes made it difficult to bring to closure even sites with minor remaining groundwater contamination and no impact or threat to receptors. With the passage of the Site Remediation Reform Act (SRRRA) and transition to site management by Licensed Site Remediation Professionals (LSRPs), those days are on the way out. New Jersey's site remediation program is evolving rapidly, and the changes offer some new opportunities to apply technically supported, sensible solutions.

One such provision allows the LSRP to issue a Limited Restricted Use Response Action Outcome (RAO) when groundwater contamination remains at low concentrations above remediation standards, but poses no risk to human health and the environment, and the responsible party is unable to demonstrate a decreasing trend in the concentration of contaminants in the groundwater. Another favorable development is NJDEP's "compliance assistance" approach, including Technical Consultation meetings. These consultations are intended to provide the opportunity to discuss technical issues related to the remediation of a site with NJDEP, allowing LSRPs and responsible parties to move forward with confidence.

Investigation and remediation initiated in 1996 resulted in regulatory closure for 26 Areas of Concern (AOCs) at an industrial site in New Jersey by 2002. Groundwater impact persisted in the vicinity of a septic system decommissioned in the mid-1980s (nitrate, ammonia, volatile organic compounds (VOCs)). At the time, it was not possible to use Monitored Natural Attenuation (MNA) as a remedy due to restrictive procedures for definition of decreasing contaminant concentration trends in NJDEP's MNA guidance. Options for active source remediation were therefore evaluated and field tested.

During the course of the ISRA project (which included a three-year review of a remediation plan), the applicable groundwater quality standard for ammonia increased six-fold and the standard for chloroform (present in another site area) increased more than ten-fold. These changes and actual decreasing contaminant concentrations allowed regulatory closure for the chloroform impacted area and substantially reduced the level of contaminant reduction needed to meet ammonia standards at the former septic leachfield area onsite.



Based on groundwater monitoring data obtained during the ISRA program and provisions in Attachment 2 of NJDEP's *Guidance for the Issuance of Response Action Outcomes*, Princeton Geoscience plans to employ MNA as the final groundwater remedy, despite the lack of a documented statistically-significant decreasing trend of contaminant concentrations. This is allowable under the guidance because i) no receptors are impacted or threatened, ii) sources of groundwater contamination have been remediated, iii) the site meets other requirements for MNA, including plume delineation and sentinel well placement, iv) groundwater data reflects changes related seasonal, tidal and other temporal effects, and v) a minimum of eight rounds of post-source removal groundwater monitoring have been completed attempting to demonstrate a decreasing contaminant trend. The plan will be confirmed during a Technical Consultation with NJDEP. Upon favorable outcome of the consultation, we will apply for a Groundwater Remedial Action Permit. After the permit and a revised monitoring program are in place, we will issue a Limited Restricted Use RAO for this area.

