

## LSRP's Professional Judgment Closes Arsenic Case

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Arsenic has an epic history as a toxin. From the poisoning of Napoleon by the British during his exile on the island of Elba to its use as an agricultural pesticide, this naturally occurring element is common to New Jersey and is often a confounding factor in environmental projects.

Pennjersey Environmental Consulting (PEC) came to represent the owner of a former gasoline service station where - long after the closure of the underground storage tanks - the groundwater contaminants related to the gasoline were not declining as expected to allow the case to be closed. This on-going situation was preventing the sale of the property

PEC's Licensed Site Remediation Professional (LSRP) directed the investigation and found that there was contaminated soil remaining in the subsurface that was a continuing source of the groundwater plume. Additional subsurface soil and concrete debris remaining from the original UST excavation was easily removed, resulting in the immediate improvement in groundwater quality. Once the petroleum contaminants met the NJDEP groundwater standards; however, arsenic remained above the groundwater standard even though it did not exceed the impact to ground water soil screening level.

Traditionally (that is, before the LSRP program was created), the responsible party and its consultant would have presented the case to NJDEP and waited for a response for an extended period of time with no real idea of the likely contents of the Department's response. In this particular situation, that uncertainty would have had one or more of several negative effects: cancellation of the transaction, a significant reduction in the property value, or that the posting of a large escrow. Needless to say, none of these options appealed to the property owner.

Reaearch into the matter by PEC identified literature to suggest that naturally occurring arsenic that is normally bound to the soil and unavailable for transport could be mobilized by the changes in geochemistry resulting from a petroleum spill, and that once the petroleum constituents are eliminated, the arsenic can revert to its less available form. PEC's LSRP was able to use professional judgment to show multiple lines of evidence and assert that:

- Arsenic was naturally occurring in the soil and underlying geological formation,
- Arsenic was not used or discharged on the property,
- The geochemistry resulted in arsenic dissolution because of the petroleum presence; and
- The arsenic remained above the NJDEP standard, even after remediating the petroleum.

Therefore, the LSRP concluded that arsenic was a natural background condition in the groundwater and that no additional remediation was necessary. The facts and conclusion were reported in a Remedial Action Report without NJDEP pre-approval and memorialized in an unrestricted use, area-of-concern-specific Response Action Outcome that was immediately effective and allowed the transaction to proceed without further complication.

As an epilogue, several months later, the NJDEP completed its review of the RAO package without comment or complaint.