



CASE HISTORY

Residential Heating Oil Remediation Salem, New Jersey

Project Location:

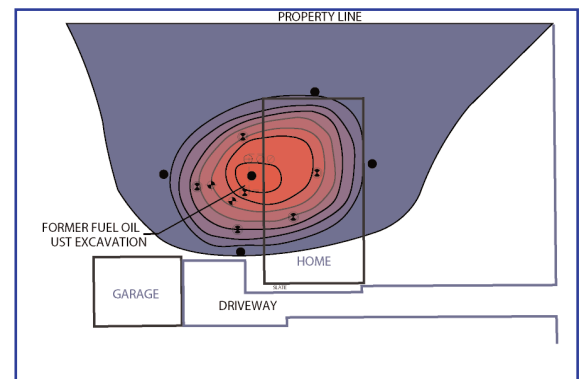
- The site is a residential property in Salem, Salem County, New Jersey.
- Leaking 550 Gallon heating oil UST.
- Geology- fine to coarse sands with silt and gravel from 0 to 28 feet below grade.
- The groundwater is unconfined at 19.0 to 20.5 feet below grade.
- A septic field in the backyard about 25-30 feet from former UST area.

Conceptual Site Model:

- TPH impacted soils (18,200 mg/kg) in the former heating oil UST area and slightly under the basement of the house.
- No groundwater impacts above NJDEP standards.
- Hydraulic conductivity = 28 ft/day.
- Oxygen demand -> NOD = 109 mg/kg 5,500 mg/kg.

Regulatory Framework:

- Project regulated under NJDEP MOU consistent with the NJDEP Tech Regs.
- Standards for soil were 10,000 mg/kg for TPH as long as these concentrations don't adversely affect the groundwater above the NJ Ground Water Quality Standards.
- The case has been closed and an NFA was issued by the NJDEP.



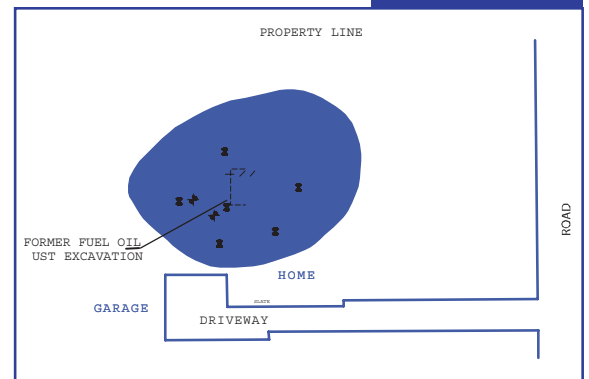
Remedial Action:

- **RemedOzone™** and the proposed remedial approach combines the effects of pulsed ozone gas injection, vapor extraction and bioremediation.
- 2 vertical and 2 angled ozone gas injection points 15 to 25 feet below grade using microporous diffusers.
- 2 vertical and 1 angled SVE wells.
- 2 months duration of 8 daily **RemedOzone™** gas injection events.



Results:

- pH fluctuated between 4.97 SU and 8.04 SU.
- ORP remained positive throughout the applications, ranging between 104 mV and 255 mV.
- TPH concentrations sorbed to soils were reduced from 18,200 mg/kg to 317 mg/kg.
- No other COCs were detected in soil or groundwater above NJDEP standards.



Time:

This project was completed during two months of field remedial activities.

Project Costs:

The total price for BLUE's remedial efforts were \$ 42,375 including some additional remedial investigation and all remedial installation and operation of **RemedOzone™** equipment and technology.

