

GASOLINE REMEDIATION WINOOSKI, VERMONT

R.E.A. provided design and installation oversight for a corrective action plan that involved subsurface oxygen injection at a gasoline release site at a busy downtown gasoline retail kiosk. The system incorporated a small remediation trailer housing the oxygen generator and 16 oxygen injection points strategically located within the dissolved-phase contaminant plume that extended beneath a busy roadway.



Figure 1. Trenching for installation of the subsurface conveyance piping.

Oxygen injection is an in-situ technology that effectively creates optimal conditions for the native bacteria to breakdown petroleum hydrocarbons and oxygenates. One of the primary advantages of using oxygen injection is that it does not generate waste products that require disposal or additional treatment.



Figure 2. Installation of oxygen injection points using a Geoprobe®



Figure 3. Oxygen Injection System

Key Features

- Achieved up to an 80% reduction in dissolved-phase contaminant concentrations within the first six months of operation.
- Since installation of the oxygen injection system, contaminant levels have decreased by up to 95% in individual wells.
- Dissolved oxygen levels increased from 0.1 to 18 milligrams per liter in select wells after implementation.
- Effective remedial solution for treating dissolved-phase plume beneath a busy roadway.
- Routine operation & maintenance of the oxygen injection system is relatively easy and straightforward.

