

# Max-Ox<sup>®</sup> Remediation Technologies



Testing • Evaluation • Design • Remediation • Optimization • Monitoring • Closure.

GES' Max-Ox<sup>®</sup> technologies and specialty services are designed to accelerate your project to achieve site remediation goals — safely and economically — by aggressively remediating soil and groundwater impacts.

To determine the right technology for your site, we begin by using our mobile DAPL unit (short for “data acquisition and processing laboratory”) to conduct real-time, multi-technology feasibility testing. An enhanced feasibility test evaluates at least three different technologies on site for one or two days. This test will provide the information needed to determine the most appropriate site-specific remediation solution while also collecting important design information for the selected technology.

If chemical oxidation or reductive remediation is selected for your site, we have options. We evaluate conditions at each site to identify the most appropriate oxidants, activation chemistry, and implementation methodology to meet project goals.

## Red-duc<sup>®</sup>

Red-Duc is a reductive remediation technology that uses nitrogen gas combined with liquid amendments. Nitrogen injection may also take place weeks after injection of a liquid amendment to enhance the process.

### Highlights

- Expanded radius-of-influence
- Turbulently mixes reductive material in the subsurface

- Lower ORP
- Limited oxygenation
- Reactivates liquid amendments after initial injection

## HypeAir<sup>®</sup>

- HypeAir is a short-term chemical oxidation technology for remediation of soil and groundwater. Injection events typically last between two and five days.

### Highlights

- Oxidizers are ozone and hydrogen peroxide and/or sodium persulfate.
- Hydroxyl radicals, formed by the combination of hydrogen peroxide and ozone, dramatically increase effectiveness.
- Additional catalysts can advance oxidation and/or supplements can enhance natural bioremediation.
- Injection wells optimize oxidant delivery, mixing, and radius-of-influence.

## HypeAir-Ex<sup>®</sup>

HypeAir-Ex is a oxidation technology that operates continuously, 24/7, to aggressively remediate sites with large subsurface plumes in several months. Full-scale operation typically lasts from three to 24 months.

### Highlights

- In-situ and ex-situ applications offered.
- Max-Ox nested stainless steel injection points maximize mixing and dispersion of gas (ozone/oxygen/air) and hydrogen peroxide.
- Dissolved oxygen promotes aerobic degradation of contaminants beyond area of ozone influence