ERM Contaminated Land Management Services

ERM's site investigation & risk assessment services help clients make smarter and faster decisions about contaminated sites and risk management activities, allowing organizations to reduce risk, mitigate future liability, safeguard their reputation, manage costs, and satisfy stakeholders. ERM's remediation management services help clients resolve their soil and groundwater liabilities by meeting regulatory obligations and optimizing remedial strategies.

ERM is a world leader in helping global companies address their most challenging contaminated sites throughout the remediation life cycle. For over 40 years we have helped leading companies across the globe develop pragmatic remediation strategies and execute them cost-effectively.

From single sites to widespread global portfolios, our contaminated land management services minimize clients' financial exposure to contaminated land liabilities. We drive projects with clear exit strategies, seeking to extract as much real estate value as possible from impaired properties and achieve remedial end points for less than the reserved amounts.

Contaminated site cleanup can be complex and costly. Even organizations with well-established remediation management systems and processes frequently experience increased costs due to unanticipated issues. A key element is a successful investigation that produces high-quality data for use in risk assessments, clear and innovative risk management options and strategies, and realistic long-term environmental reserve estimates. However, site investigation programs are often unnecessarily protracted when traditional tools and techniques are used. For the site owner, this means higher costs, greater disruption, and less reliable results.

In response to these challenges, ERM uses the latest technologies to create the key building blocks for sound decisions—a robust conceptual site model that evaluates contaminant sources and identifies affected human health and ecological receptors. We achieve this through contemporary approaches to field evaluations, modeling, and risk assessment. Increasingly, we collect data in the field faster and evaluate it more efficiently through database applications and 3D visualization, allowing us to rapidly assess and solve client problems.

ERM Services

High-Resolution Site Characterization

ERM is a leader in using high-resolution site characterization to develop a rigorous conceptual site model, which allows us to accurately define the problem and evaluate potential risks. In cases where risk is identified, we can cost-effectively address the risk through active remediation; and in cases where there is no risk, we can use the conceptual site model to justify a passive site management strategy.

Modeling and Visualization

ERM's modeling experts and remediation engineers focus on helping our clients determine the most cost-effective remedial solutions for their sites. By simulating different remedies and comparing their relative effectiveness and costs, clients can confidently select optimal solutions that maximize mass removal/destruction and minimize mass discharges. This ultimately translates into reduced risks and costs, leading to shortened site closure timeframes.

Emerging Contaminants

We stay abreast of changes around programs addressing emerging contaminants (e.g., 1, 4-dioxane and PFAS), including changes in toxicity assessments and regulatory requirements. The Stockholm Convention and individual countries are expanding the list of assessed chemicals, which could potentially re-open site evaluations as new toxicity data are identified and accepted. As the list of emerging chemicals increases and existing chemical remediation levels change, additional investigations and liabilities are likely to arise. ERM is closely monitoring these potential changes as a means to influence the process and identify any new chemical issues for our clients.

Stakeholder Management

Informing stakeholders of site information and modeling results is often a difficult and complex process. A critical business objective for our site investigation & risk assessment service is to convince regulators and the public that our clients' site management strategies are safe and based on sound risk-based cleanup goals. By clearly understanding and managing potential exposures, it is

possible to reduce or eliminate risk, thereby limiting the amount or necessity of extensive remediation. Using this approach, ERM enables clients to effectively work with regulatory and community stakeholders, building trust that our clients' assessments are appropriate. Any remedial strategy needs the active engagement of stakeholders to succeed, including regulators, workers, and/or local residents. ERM's remedial strategists work closely with our communications teams to support clients in reaching agreements with these groups.

Optimizing Remedial Strategies

We recommend and implement optimal remediation strategies that consider human health and environmental risk, sustainability, costs/benefits, and regulatory approvals. Our remedial decision framework is built on sound conceptual site models that allow us to target our remedies to the most impacted zones in the subsurface. Our global teams assist our clients to adjust and refine their strategies to accommodate regulatory changes.

Sustainable Remediation

ERM encourages the use of sustainable remediation based on assessing environmental, economic, and social indicators. We ensure the benefit of undertaking remediation is greater than its impact and that the optimal remediation solution is selected through the use of a balanced decision-making process broadly following SURF principles.

In-situ Remediation

We are a leader in applying in-situ remediation technologies, including biological treatment and oxidation/reduction technologies. We also apply a variety of thermal remedies including steam, conductive, and electrical resistive heating approaches. These technologies are generally more sustainable than traditional pump and treat, excavation or disposal remedies. Thermal remediation can quickly and more permanently remediate challenging sites, allowing properties to be rapidly closed, transferred, and resolved.

Construction Management

We provide turnkey services to manage all remediation activities and drive the work to a desired outcome. We have served as the general contractor on a number of complex remediation and brownfield projects, returning these properties to beneficial use. We are willing and able to act as a client's representative, providing oversight of the client's contractors to assure that the remediation proceeds safely and as planned.

Turnkey Approach

ERM aligns turnkey services to achieve our clients' objectives, control costs, and reduce the risk associated with remediation and decontamination, decommissioning and demolition projects. We can manage the project design, schedule, contractor performance, regulatory compliance, health and safety, and potential off-site waste impacts.

ERM's turnkey process is a structured approach to define the project scope and requirements:

- Pre-Bid Engineering and Bidder Qualification
- Bid Review and Recommendation
- Planning and Mobilization
- Remediation, Decommissioning/Decontamination/Demolition
- Documentation

Business Outcomes

Our goal is to help clients resolve their soil and groundwater liabilities as favourably as possible, driving global portfolios or single sites to resolution (closure/ sale/liability transfer/long-term monitoring):

- Our portfolio dashboards track remedial action progress across our client's footprint. Benefits include risk prioritization of issues/sites, improved cash-flow management, maintaining a focus on exit strategies, and leveraging best practices from site to site.
- Our insights into emerging regulations and contaminants help clients proactively manage current and potential future liabilities.
- Our in-depth knowledge of toxicology combined with global regulatory experience allows us to develop and defend realistic, risk-based clean-up goals.
- We use advanced remedial technologies, including thermal remediation, in-situ stabilization, oxidation, and bio-remediation.
- We apply sustainability principles and Net Environmental Benefits Analysis to evaluate the environmental costs of intensive remediation alternatives against less invasive and more cost-effective options.
- We use visualization, risk, and mass flux reductions to demonstrate the effectiveness of remedial solutions.
- We provide environmental liability management, including litigation support and expert testimony to help resolve Natural Resource Damage claims.

Our extensive benchmarking of key performance indicators, reserve processes, and portfolio reviews help our clients leverage the best practices and successful outcomes of their industry peers.

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