Containment, Caps & Liners

While excavation and treatment are common solutions for many soil and groundwater remediation projects, containment can sometimes be a more appropriate — and more economical — alternative.

Creamer Environmental, Inc. has installed many types of capping and containment systems:

- steel and plastic sheeting
- above-ground retaining walls
- below-ground slurry walls
- cut-off walls and trenches
- horizontal and vertical HDPE and geotextile liners and membranes
- vapor barriers
- soil, clay, stone, and asphalt caps

Our crews are experienced in utilizing the specialized construction equipment necessary to construct containment systems in precarious and difficult-to-access locations. CEI has performed containment activities in and adjacent to water bodies, under structure footings and foundations, and within environmentally sensitive areas. On one site, we installed a vertical barrier similar to the sound wall systems normally used on highway construction projects, to serve as a vertical cut-off wall. This, along with a soil cap, kept landfill debris from eroding into an adjacent river.

We have capped and contained sites contaminated with both organic and inorganic compounds including chromium, lead, arsenic, coal tar, and BTEX. In each case, CEI delivered the safe, sound, and cost-effective solutions our clients required.

Installation of footings for an above ground vertical containment wall

Installation of a water-tight sheet pile cut-off wall

Installation of perimeter sheeting around an excavation

Installation of a 60 mil HDPE welded liner at a former MGP site

Creamer Environmental

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Decontamination & Demolition

The removal of contaminated structures demands the right combination of technology and know-how. Creamer Environmental has extensive experience decontaminating and demolishing all types of buildings, gas holders, steel tanks, API separators, transformers, chemical processing equipment and pipelines.

After decontamination and demolition, CEI seeks to recycle nearly every waste stream generated, from the residual products in the tanks and piping to the concrete and steel.

Leading-edge technology is critical to safe, environmentally sound decontamination and demolition projects. Creamer Environmental owns a full range of specialized industrial cleaning equipment including water blasters, steam cleaners, wash heads, and vacuum trucks.

CEI is experienced in both the chemical and mechanical decontamination of underground and aboveground piping. We have removed oils, PCBs, and chemical residuals from interior pipe walls utilizing pigging, solvent cleaning, grinding, vacuum, and pressure technologies. In addition to our pipe cleaning capabilities, we can often inspect and repair underground pipe breaches with little or no excavation.

Demolition of a chemical plant

Demolition of API tar separators at a former MGP site

Demolition of a gas distribution building at a former gas plant

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Manufactured Gas Plant Experience

From the early 1800s through the mid-1900s, manufactured gas plants (MGPs) around the world processed oil and coal to produce gas for cooking, heating, and lighting. This gas manufacturing process yielded by-products — including tars, sludges, arsenic, cyanides, and phenols — that now require remediation.

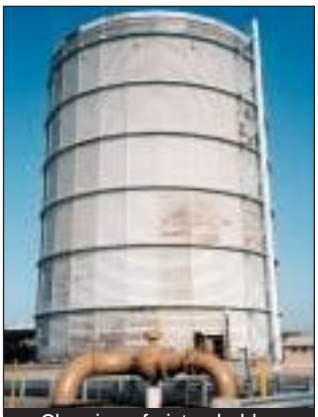
Creamer Environmental is one of the nation's leaders in the remediation of former manufactured gas plants. We are experienced in every phase of the work — from the cleaning and demolition of gas holders and tar separators to the remediation of contaminated soil, sediment, and groundwater.

Our capabilities span a full range of remediation services including:

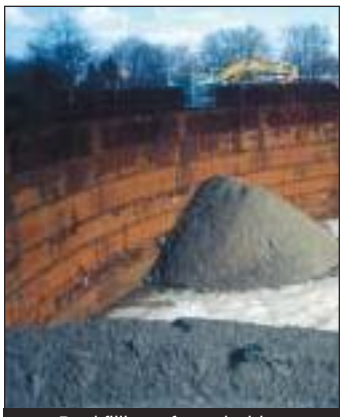
- Cleaning and disposal of MGP residuals in above- and below-ground holders of all types as well as in separators, tar wells, and soils
- Physical decommisioning and demolition of standing gas holders and gas plants
- Excavation of impacted subsurface soils, both in the open and under temporary structures
- Temporary dewatering and on-site water treatment in areas adjacent to water bodies and with high water tables
- In- and ex-situ stabilization of saturated soils
- Odor management
- Installation of permanent ground-water and soil treatment systems
- Removal of MGP impacted sediments in and along water bodies
- Construction of cut-off walls and caps
- Final site restoration

Whether an Interim Remedial Measure (IRM) or Final Remedy, CEI has the solution for complex MGP remediation projects.

Lowering excavator to base of gas holder 35' below grade



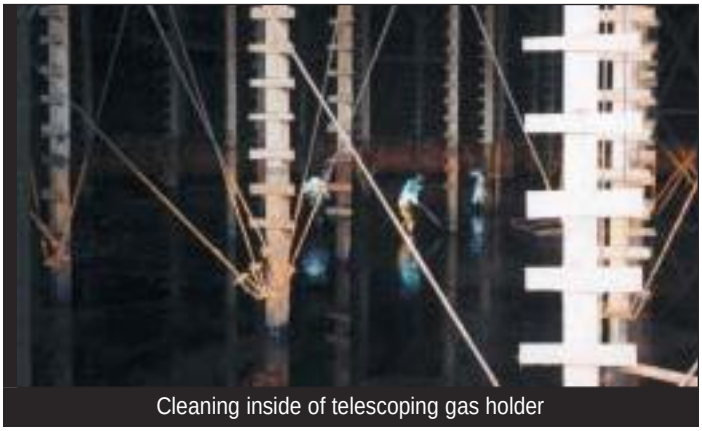
Cleaning of piston holder 360' tall



Backfilling of gas holder

Excavating MGP soils under a temporary structure

Residue from API tar separator to be decontaminated



Cleaning inside of telescoping gas holder

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Site Remediation

Soil and groundwater remediation are major components of site restoration — and a specialty for Creamer Environmental. Our team of experts has completed soil remediation projects at a wide variety of industrial, commercial and residential sites — including landfills, buried drum disposal sites, chemical manufacturing and processing plants, paper mills, bulk storage and petroleum refining facilities, former manufactured gas plants, and operating power plants. We have worked in lagoons, wetlands and streambeds, and have successfully remediated numerous Brownfields sites for redevelopment.

CEI's experience with advanced and innovative construction techniques enables us to deliver the best remediation solution for each specific site. Our specialized construction equipment lets us work safely and efficiently in even the hardest-to-access areas. We are experienced with the latest soil and groundwater treatment technologies and with a wide range of conventional and innovative disposal options. Our expert team has handled many thousands of tons of hazardous and non-hazardous soils containing contaminants such as chromium, PCBs, arsenic, lead, solvents, and petroleum. We regularly perform work in levels D, C and B.

Our site remediation experience is unmatched in the industry and includes:

- Work on sites with unknown contaminants including buried drums and cylinders
- Construction of temporary containment buildings over sensitive areas so that remediation work and associated odors are not apparent to the general public
- Sediment, surface water, and groundwater remediation projects
- Construction of DNAPL and LNAPL recovery systems
- Installation of numerous temporary and permanent water treatment plants
- Surface water body cleanups, including ponds, streams, and intake flumes

This breadth of experience makes CEI the right choice for the most knowledgeable and effective site remediation solutions.

Excavation of contaminated sediments

Remediation of a #6 oil spill

Screening contaminated soils in a temporary structure

Application of odor control foam

Remediation of a kerosene spill below a pile supported foundation

MGP soil excavation

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Tank Services

Creamer Environmental offers comprehensive above- and below-ground tank management services — including cleaning, maintenance, installation, and closure.

CEI has cleaned, installed, and removed tanks containing a wide range of products such as fuels, tars, waxes, solvents, alcohols, and specialty chemicals. Our expert staff is trained in confined space work and can perform the largest tank cleaning and removal jobs in the industry.

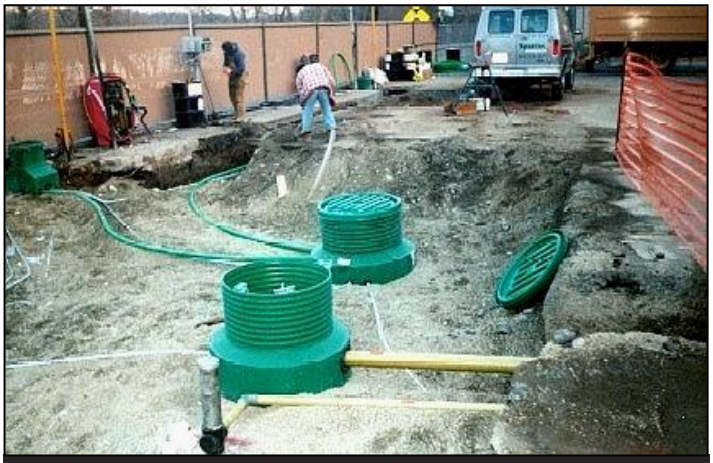
CEI has experience working with steel, plastic, fiberglass, and composite tanks and separators, as well as experience with a variety of specialty piping. We can efficiently install, repair, abandon, or remove entire tank systems — including the associated piping — regardless of the composition or size of the individual vessel.

Whenever possible, CEI recycles the waste streams generated during tank cleaning operations. Solvents, oily sludge, tars, and waxes are often recovered as fuels, caustics and corrosives are reclaimed or neutralized and wash water is treated for discharge.

By putting our knowledge, experience, and specialized equipment to work, CEI has compiled an impressive track record for tackling and resolving even the most challenging tank projects.

Removal of an underground storage tank system

Installation of chemical storage tanks



Underground storage tank testing

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Treatment Technologies

Restoring a contaminated site requires creativity, ingenuity, and technical expertise. Creamer Environmental's scientists and engineers are constantly developing and evaluating new technologies and processes to enhance our site remediation capabilities.

To facilitate site clean ups, CEI has studied and implemented many of the latest remediation technologies including:

- soil stabilization
- sludge solidification
- dewatering via centrifuging
- chemical oxidation
- thermal desorption
- air sparging
- soil vapor extraction
- bioremediation

We have developed proprietary technologies for temporary water treatment for use during dewatering projects. In most cases, these technologies enable us to treat water to meet "discharge to surface water" or POTW criteria.

These innovative technologies have allowed CEI to minimize or eliminate hazardous wastes that would otherwise be generated during remediation activities, to expedite remediation timeframes, and to remediate inaccessible areas. Substantial cost and time saving are often realized compared with traditional remediation methods.

Soil stabilization utilizing pugmill and screening technologies

Centrifuging of sludges

Bioreactor System

Temporary water treatment system

Construction of a temporary dewatering system

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