



The Remediation of Brownfield Sites

Cleaning sites for reuse can be a rewarding experience and will help to save public health and improve safety as well as improving aesthetics.

>> BY SAVANNAH COOPER, WRITER AT WORLDWIDE RECYCLING EQUIPMENT SALES LLC

Around the United States, many lands lie abandoned and wasted because potentially hazardous contaminants may be present in the soil or groundwater. But hope of reinvestment is not lost for lands such as these, known as brownfields. In Pittsburgh, for example, many former steel mill sites have been converted into high-end residential, shopping and business areas. One area in Pittsburgh, known as Nine-Mile Run, was formerly a dumping area for industrial slag, a waste product of steel processing. The Pittsburgh Urban Redevelopment Authority (URA), with help from the EPA, assessed and redeveloped Nine-Mile Run and another smaller tract of land into valuable residential property.

Papa John's Stadium in Louisville, Ky., was constructed on a 92-acre former industrial site that was contaminated

with chemicals and petroleum during almost a century of use as a railroad repair yard. One hundred cubic yards of soil were contaminated with polychlorinated biphenyls (PCBs), and 47 constituents were addressed, including lead, arsenic and chromium. The initial estimated cost of the remediation was \$40 million, but the final cost was just under \$7 million, after a risk assessment and the implementation of a cleanup and containment plan.

Similarly, the Jenkins Valve Site in Bridgeport, Conn., was once an abandoned 18-acre area with industrial contamination. In 1994, the city used a brownfield pilot assessment grant from the EPA to evaluate the extent of the contamination at the site. Today, the former brownfield is now Harbor Yard, a sports complex with a 5,500-seat baseball park, an indoor ice skating rink, an arena and a museum.

Above: Remediation gear can sometimes be delivered in modules that are quick to stage at the brownfield site.



Above is a look at the inside of a typical indirect fire thermal desorption unit with vapor recover unit from Vulcan.

All over the country, there are brownfield sites waiting to be cleaned up and reused. The EPA estimates that there are more than 450,000 brownfields in the U.S. alone. Most commonly found in urban areas, brownfield sites are contaminated properties that have previously been used for industrial or commercial purposes. Brownfields can be abandoned factories, mills, foundries and even gas stations. Brownfield land is often contaminated by low concentrations of hazardous wastes, such as hydrocarbons, pesticides or heavy metals, such as lead.

In the U.S., the investigation and cleanup of brownfield sites is regulated by state environmental agencies in cooperation with the federal EPA. The EPA often provides technical help and some funding for the assessment and cleanup of brownfield sites. Through the Business Liability Relief and Brownfields Revitalization Act, funds from the federal government help with the cost of cleaning up these sites.

Numerous organizations may play a part in the cleanup and redevelopment of a brownfield site. State environmental agencies, community groups, technical consultants, legal counsel, investors, real estate professionals and federal government agencies, such as the EPA, are just a few of the groups that may be

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involved in the remediation of brownfields.

The actual cost of the cleanup is dependent on a variety of factors, including the level, type, amount and extent of contamination in the soil or groundwater. For example, if the groundwater beneath the site is also contaminated, the cost of cleanup will likely be higher. Similarly, the time it takes to clean the site varies. Brownfield sites with extensive contamination that will be reused for residential purposes will take longer to clean than sites with minimal

contamination that will be reused for industrial purposes.

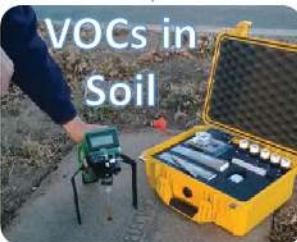
There are many advantages for property owners who clean up and reuse their brownfield properties. Often, it is borderline impossible to sell a brownfield site as is or even to receive a bank loan with a brownfield site as security. Cleaning up brownfields helps property owners avoid potential environmental enforcement actions by regulatory agencies – actions that could result in high penalties and expensive cleanups. Also, there are often tax benefits for cleaning up and reusing contaminated properties, as well as increased returns from the revitalized property, which is more valuable and marketable. Remediating brownfield sites reduces the potential contamination of adjacent properties or groundwater, decreasing the likelihood of additional cleanup costs in the future. The cleanup and redevelopment of brownfield sites can encourage higher property values and stimulate job growth, as well as have a positive impact on the local economy by creating safer, healthier urban spaces. 🍀

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