

Chapter 4

Conducting an Environmental Site Investigation

This Chapter is intended to provide a brief introduction to the steps often taken to evaluate and remediate a former gas station site. The actual work outlined here should be supervised by an engineer, geologist or other qualified environmental professional. See [Appendix D](#) for guidelines on selecting a contractor. Before undertaking a Phase I and/or Phase II Assessment, we recommend gathering preliminary information on the site as discussed in [Chapter 2](#). If a professionally conducted Phase I is not affordable, much of the information normally included in a Phase I can be gathered without professional assistance although this chapter is not meant as a guide on how to do that.

Step 1: Phase One Environmental Site Assessment (Phase I)

The first step in evaluating a potentially contaminated property is to conduct a Phase I Environmental Site Assessment. As used in this context, a Phase I is a search for historical records that document prior activities at the site in order to identify uses that may have caused contamination and warrant further investigation. Normally, it is prepared by an engineering consulting firm or other firm experienced in conducting Phase I investigations. The firm will review all prior building permits, underground tank permits, Sanborn Fire Insurance maps, state and federal lists of contaminated properties, etc. A Phase I also normally includes a visual examination on the property to look for indications of potential contamination. The firm will also make recommendations regarding next steps.

Normally, a Phase I is part of an investigation preceding the purchase of a property or the granting of a loan on a property. If a property was previously occupied by a gas station, that in itself indicates possible contamination and the need for further investigation because of the use of gasoline and motor oil which are toxic substances. A Phase I of a former gas station site will often identify when USTs were installed, where they may be located, whether and when they were permitted and/or removed, whether the removal was conducted under a permit, who owned the property and operated the USTs, and if there are previous indications of identified leaks from USTs or other contamination.

It is important to review records not only from the current agency regulating USTs but also all agencies that had that responsibility in the past. It may be useful to identify all prior owners that may be responsible or able to pay for the removal of tanks and cleanup of contamination. Building department records will often include the names of prior owners but if an owner never took out a permit, their name would not be included in these records. Therefore, consider asking for a Historical Chain of Title Report including certificate of occupancy permits to be included in the Phase I to identify prior owners.

Step 2: Phase Two Environmental Site Assessment (Phase II)

A Phase I Assessment that discovers potential environmental concerns will recommend that a Phase II be conducted. A workplan for the Phase II should be based on the findings of the Phase I and should confirm the locations of any USTs and piping. A Phase II is an onsite investigation that may involve activities such as: sampling and testing soil on the surface and/or beneath the surface through borings, sampling and testing of soil gases from beneath the surface (soil gas survey), sampling and testing groundwater beneath the surface (if it is present at shallow depths), and using instrumentation to locate USTs. The exact plan for the Phase II depends on a number of site-specific variables, including depth to groundwater, location of the USTs, and piping.

When planning a Phase II, consider whether to do the Phase II testing first to see if there is contamination (usually from leaking USTs) or combine the tank removal with the soil testing. Conducting both activities at the same time allows the sampling of soil under where the tank was located which is less costly than soil borings from above. Deciding on which approach to use depends on the circumstances. For example, if an agency identifies a former gas station site for which the owner cannot be located, the agency may want to test for contamination first to see if the site will qualify for EAR Account funding. Identifying a mechanism to allow legal access to the site should be considered. See [Chapter 6](#) on obtaining access.

On the other hand, if the priority is on keeping costs down, performing the activities together may be the least expensive. If contamination is discovered, it is sometimes cheaper and less disruptive for the current occupant's business to remove contaminated soil when the hole is open rather than by other means once the hole is filled. The California Petroleum Cleanup Fund will not pay to remove USTs but will pay for some testing and cleanup of contamination to qualifying owners. We advise site owners to retain a consultant knowledgeable about this Fund prior to removing the USTs so that proper procedures can be followed to enhance the likelihood that cleanup can be conducted as tanks are removed and costs will be reimbursable by the Fund. If the site owner qualifies for Fund reimbursement, some consultant costs are covered. See [Appendix E](#) for more information on the California Petroleum UST Fund. [Appendix A](#) lists a web site that has information on the UST Fund.

Site owners should obtain the appropriate UST removal permits and excavation permits (if needed). The UST regulating agency may be required to be onsite to observe the removal and order soil testing and possibly soil removal if indicated. Consultation with local air quality control district personnel is also recommended as they may also require a permit.

Site Remediation

If contamination is discovered, the agency that regulates USTs will direct further action. Remediation could be as simple as removing and properly disposing of extra dirt under direction of the UST regulating agency. If contamination of groundwater is discovered, the site will usually be referred to the Regional Water Quality Control Board for further oversight. A site with significant soil contamination may get referred to the Department of Toxic Substances Control (DTSC). If contamination is extensive, one of these agencies will request that a workplan for cleanup be submitted. The workplan would be prepared by an environmental

consulting firm and submitted to the appropriate agency. When the workplan is approved, work begins. Again, owners seeking UST Fund reimbursements should work closely with a consultant expert in the UST Fund to assure that correct procedures are followed to ensure reimbursement if the owner is otherwise eligible.

Each regulating agency sets its own procedures for site remediation so it would not be useful to discuss those in detail here. But some of the procedures that may be required would be removal of gasoline floating on groundwater, excavation of contaminated soil, removal of soil gases with a vapor extraction system, and removal and treatment of groundwater. In rare cases, the Water Board only requires testing be conducted to identify the location of contamination in the groundwater to verify that drinking water sources are not impacted, followed up by quarterly monitoring for a period of time. It may be possible to proceed with development of the site after surface contamination is removed and a cleanup or monitoring plan is approved.