

# Staged Assessment of Buried Waste

Kleinfelder was engaged by a client to assess a historic landfill containing hazardous wastes, including potentially buried drums of a highly odourous, toxic, and explosive gas, as well as asbestos, hydrocarbons, and other municipal wastes.

## PROJECT RESULTS

*Based on the results of the investigation, it was concluded that the suspected drums containing highly odorous, toxic, and explosive substances were not present, and the buried waste did not present an unacceptable risk to human health or the environment and could be appropriately managed in-situ. The novel investigation methods designed by Kleinfelder on the project saved the client over \$1M in active remediation costs.*



## PROJECT OVERVIEW

Kleinfelder developed and engineered a method to investigate a landfill suspected to contain buried drums of mercaptan, as well as other hazardous material. Kleinfelder completed four stages of investigation to continually refine the conceptual site model and were able to demonstrate to stakeholders that risks had been adequately mitigated. A customised field apparatus was designed and built by Kleinfelder, incorporating a spark-resistant tip and a sealed system to prevent the release of gases into the atmosphere, allowing field technicians to precisely and incrementally advance the soil vapour probe into the landfill to assess the presence of mercaptan drums while mitigating potential uncontrolled releases.

## ADOPTION OF NOVEL INVESTIGATION METHODS

Following a detailed review of historical documents, electromagnetic and resistivity surveys were performed to determine the depth of metallic anomalies and the extent of the waste area. Data from the surveys informed locations where soil vapour probes should be advanced to target drums, and avoid noxious chemicals. Following the intrusive vapour assessment, non-destructive digging techniques were employed to uncover, observe, and document the buried waste within the landfill.



### Location:

South Australia

### Owner:

Confidential Client

