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Lead-Acid Battery Recovery Facility

A former metal recovery facility was located in the town of Mojave, California. The facility operated a small smelter to recover aluminum from old cans, copper from wire and pipes, silver from used photographic film, and lead from lead-acid car batteries.

As part of the recovery operations, used car batteries were placed in piles on an open parcel of land, covered with petroleum, and set on fire. The fires would burn off much of the plastic-rubber battery housing, leaving the metallic core for recycling. However, residual metals and dioxins/furans remained in the areas where such practices occurred.

An emergency order was issued by the California Department of Toxic Substances Control (DTSC) to sample on-site soils. An extensive on-site shallow (<3-inch depth) soil sampling program was conducted for lead, other metals, and dioxins/furans. Due to elevated contaminant concentrations, all work had to be performed in Level B personal protective equipment (PPE), i.e. sealed tyvek suits, steel-toed boots, nitrile gloves, and full-face respirators. To exacerbate the conditions, the initial sampling was performed during the summer and daytime temperatures reached 40°C (110°F). Therefore, sampling crews could only work in 20-minute shifts.

The sampling indicated that extensive lead contamination was present in shallow soils (up to 4% by weight). In addition, dioxins and furans were also present in shallow soils at high concentrations. Further, the facility is located in an area with high desert winds. Subsequent off-site investigations revealed that lead and dioxin/furan contamination had dispersed over a wide area across the parcel and beyond to neighboring properties.

The facility was subsequently closed and all site structures demolished. An initial removal action was implemented to address the battery burn areas. Ongoing investigations are being performed under the oversight of the DTSC, and a remedial action plan has been developed to address on-site soil contamination.