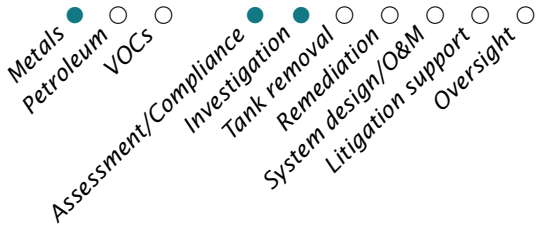
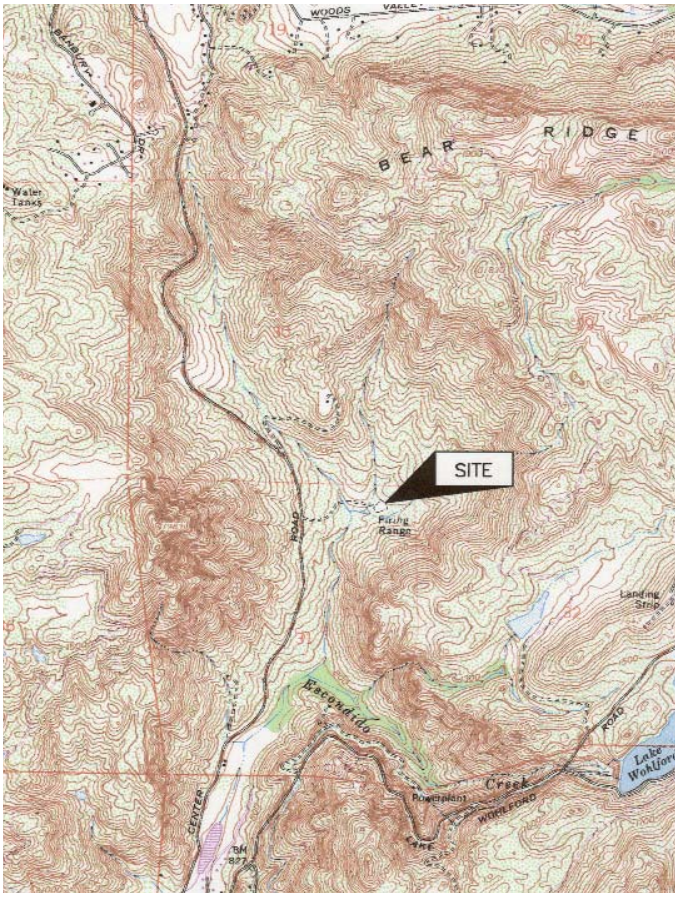
Former Firing Range

Escondido, California



Period 1999–2000
Contaminants TPHg, MTBE
Media Antimony, arsenic, chromium, copper, lead, vanadium, and zinc
Agency Soil and groundwater



Since 1962, the city police department used the site for target practice. The site included small buildings, a short-range embankment, and a long-range embankment. Target shooters discharged firearms at targets located on the embankments. Approximately 120,000 rounds of ammunition were fired and deposited annually until 1999. The city was redeveloping the site into a larger, expanded firing range and requested an investigation and risk assessment.

- Reviewed data for elevated metals concentrations previously detected in an onsite well and developed an investigation program to evaluate the source of the metals. Collected grab groundwater samples around the well and the site. Determined that the elevated metals concentrations were not leaching from the embankments but were caused by corrosion of the well and downhole components.
- Drilled 28 soil borings and collected and analyzed 77 soil samples to evaluate the metals concentration in onsite soils in and around the embankments and firing areas. Encountered elevated concentrations of the following metals in shallow soil samples: antimony, arsenic, chromium, copper, lead, vanadium, and zinc.
- Prepared a risk assessment to evaluate risks to human health and the environment. Identified transport media including soil/dust, surface water, and groundwater. Selected exposure pathways and receptors including ingestion and dermal contact for firing range users, workers, offsite residents, and offsite recreational users.

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- Performed a toxicological assessment including carcinogenic and non-carcinogenic effects for lead. Conducted a risk characterization and calculated an increased cancer risk to the receptor populations of less than 1 in 1,000,000.
- Established facility operational activities to reduce exposure of firing range users and workers. The activities included (1) implementing an erosion control plan; (2) establishing a notification program; (3) documenting user activity; and (4) preparing a written policy for procedures, protective equipment, and monitoring of ground maintenance workers.