Hewlett-Packard
Palo Alto, California
Region 9
CAD980884209

Site Exposure Potential

The Hewlett-Packard site is in Palo Alto, California (Figure 1), on land leased from Stanford University since 1964. Hewlett-Packard Optoelectronics Division used the facility for research and production operations until 1986. There are currently no operations at the site. In July 1981, it was discovered that a 3,800-liter underground waste storage tank had leaked 1,100 liters of waste solvents. The waste chemicals typically stored in the tank included 1,1,1-trichloroethane, trichloroethene, toluene, xylene, alcohols, and other chemicals used in manufacturing processes at the site. The leaking tank and 76.5 m^3 of contaminated soil were subsequently excavated on July 29, 1981, and removed from the site (EPA 1987).

The site is 600 meters west of Matadero Creek, which becomes Matadero Canal. Matadero Canal flows for 5 km before discharging into San Francisco Bay.

Depth to the groundwater is six meters near the site. Of the two aquifers under the site, the first has a thickness of 13 meters. The depth to the second aquifer is 21 to 24 meters. Groundwater in both aquifers flows in a northeasterly direction (McLaren Environmental Engineering 1986).

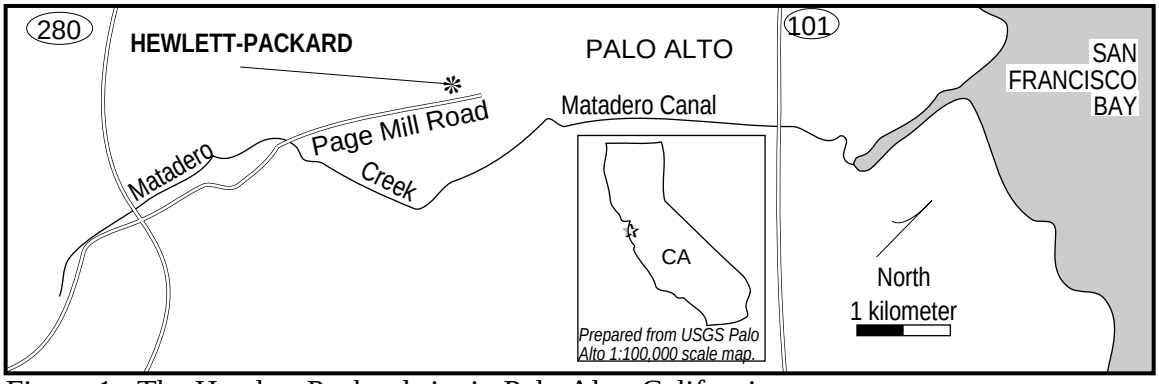

Figure 1. The Hewlett-Packard site in Palo Alto, California.

A possible contaminant migration pathway to NOAA trust resources is groundwater flow to the Matadero Canal.

Site-Related Contamination

Chemical contaminants detected in soil and groundwater on the Hewlett-Packard site include VOCs (Table 1). 1,1,1-trichloroethane and trichloroethene were detected in high concentrations in soil samples from near the tank excavation area. Monitoring well sampling detected VOCs in the upper aquifer at levels that exceed LOEL. Contaminant concentrations in the lower aquifer were much lower than in the upper aquifer (EPA 1987).

Table 1. Maximum concentrations of selected contaminants at the Hewlett-Packard site (EPA 1987); LOEL (EPA 1986); concentrations in soil in mg/kg and in water in μg/l.

Contaminant	Soil	Upper Aquifer	Lower Aquifer	LOEL Acute	LOEL Chronic
1,1,1-trichloroethane	2,200,000	304,000	270	18,000	N/A
trichloroethene	7,900,000	240,000	870	45,000	21,900
1,1-dichloroethane	N/A	28,000	45	N/A	N/A
trans-1,2-dichloroethylene	N/A	35,000	4.5	11,600	N/A
toluene	N/A	3,600	3.1	17,500	N/A
total xylenes	N/A	14,000	2.1	N/A	N/A
2-propanol	N/A	4,800,000	ND	N/A	N/A

N/A: Not available

NOAA Trust Habitats and Species in Site Vicinity

Matadero Creek and south San Francisco Bay are habitats of concern to NOAA (Table 2). Matadero Creek is an urban creek affected by non-point source pollution. The creek becomes the channelized Matadero Canal within the city of Palo Alto before flowing through flood gates into San Francisco Bay. The discharge levels in Matadero Creek/Canal fluctuate due to concrete channeling, infrequent but occasionally heavy rainfall, and the increase in impervious surfaces in nearby drainage areas. Matadero Creek provides limited aquatic and riparian habitat near the site due, in part, to the concrete channeling. The tide gates at the mouth of the flood basin only open during high flows, restricting fish migration at all other times. The Santa Clara County Water Department uses flow-restricting baffles to retain water in the system during low-flow conditions (Goldner 1989).

Table 2. Selected NOAA trust resource use of of Matadero Creek and south San Francisco Bay (USFWS 1981).

Aquatic resources	Matadero Creek	South San Francisco Bay
INVERTEBRATES		
bay shrimp		A,N,R,C
common little neck		A,N,S
soft-shell clam		A,N,S
FISH		
chinook salmon		M
steelhead trout	M,N,S	M
striped bass		A,N,R
sturgeon		A,R
MAMMALS		
harbor seal		A,N,S

A: adult habitat N: nursery grounds M: migration corridor
S: spawning/mating R: recreational fishery C: commercial fishery

During high flows, steelhead trout use the headwaters of Matadero Creek for spawning. The run size has not been determined, but the potential run is limited because of physical and environmental constraints. Chinook salmon have also been observed in Matadero Creek, but it is believed that the fish were strays from other, more viable creeks. It is not known whether chinook salmon have spawned in Matadero Creek (Ulmer 1989).

South San Francisco Bay supports a diverse marine/estuarine community. Sturgeon, striped bass, and shrimp are a few of the species recreationally harvested in this area. Bay shrimp are commercially harvested. The network of deltas and their adjoining wetlands near the mouth of Matadero Creek and in the greater south bay area are a refuge for the juvenile development of harbor seals, shrimp, and several fish species (Ulmer 1989).

Response Category: State Fund Lead

Current Stage of Site Action: Remdial Investigation is nearing completion. Record of Decision is expected by fourth quarter of FY90.

EPA Site Manager

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References

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EPA. 1987. Hazardous Ranking Score Worksheets and Documentation for Hewlett-Packard (620-40 Page Mill Rd), Palo Alto, CA. San Francisco: U.S. Enviromental Protection Agency, Region 9.

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USFWS. 1981. Pacific coast ecological inventory: San Francisco, California. Washington, D.C.: U.S. Fish and Wildlife Service. 1:250,000 scale. 37122-A1-E1-250.

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