STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION X
ID# 2314

Occidental Chemical Corporation

Tacoma, WA
(Signed July 15, 1992)

Facility/Unit Type: Inorganic chemical production plant
Contaminants: Chlorinated organic compounds
Media: Ground water, soil, sediment
Remedy: Ground-water extraction and treatment

FACILITY DESCRIPTION

In November 1988, EPA and the Washington Department of Ecology jointly issued a RCRA permit to Occidental Chemical Corporation (OCC) pursuant to RCRA and the Washington Administrative Code. Corrective action conditions under the permit require ground-water remediation, long term monitoring of ground water, sediment sampling, surface run-off monitoring, and seep monitoring along the adjacent waterway.

The 33-acre facility is located in the industrial port area of Tacoma, Washington, adjacent to the Hylebos Waterway. The facility, which began operations in 1929, produces many inorganic chemicals including chlorine caustic, calcium chloride, hydrochloric acid, and ammonia. Between 1947 and 1973, trichloroethylene and perchloroethylene were also produced at OCC.

During 1979 and 1980, an on-site investigation conducted by OCC revealed that soil and ground water beneath the site were contaminated with solvents. More than 10,000 cubic yards of contaminated soil were removed by the facility in 1981 and 1982. Other areas of soil contamination were paved in order to minimize exposure.

Ground-water use in the area includes drinking water and production water. Residents located within a 3-mile radius of the OCC facility (100-200 people) obtain their drinking water from the City of Tacoma's reservoir system located more than 3 miles from the site, and a city of Tacoma well (referred to as the Tideflats well) located 3,000 feet southeast of the site. The Tideflats well is supplied by artesian aquifer zones at depths of 450 to 780 feet below ground surface. Laboratory testing has not detected contamination in the Tideflats well.

Ground water flow directions are tidally dominated, reversing on a daily basis. During low tides, ground water flows in a northerly direction toward the Hylebos Waterway. The Hylebos Waterway discharges to Commencement Bay, which has been classified a National Priorities List (NPL) Superfund site.

Soils underlying the site consist of silty sand and sandy gravel extending 200 feet below ground surface. The sand is underlain by a confining layer of glacial till.

EXPOSURE PATHWAYS

The potential for human exposure via contact with contaminated soil has been eliminated through excavation or asphalt capping of contaminated soil. Ground water and surface water are the primary contaminant migration pathways for human and ecological receptors.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (µg/l)	Action Level	Cleanup Goal (µg/l)	Revised* Cleanup Goal (µ/l)
groundwater	N/A	Methylene Chloride	25,000	Not given	5.0	16.0
		Trans-1,2-dichloroethylene	241,000		5.0	5.0
		Trichloroethylene	790,000		5.0	81.0
		1,1,2,2-Tetrachloroethane	23,200		5.0	11.0
		Tetrachloroethylene	110,000		7.0	9.0
		Carbon tetrachloride	1,350		5.0	7.0
		1,1-Dichloroethylene	6,870		5.0	5.0
		Chloroform	350,000		6.0	16.0
		1,1,2-Trichloroethane	2,210		6.0	42.0
		Vinyl chloride	26,000		10.0	525.0

* If it is demonstrated by OCC that there are no human uses of ground water which are likely to be adversely impacted by contamination from the facility, the revised cleanup goals, which are based on Water Quality Criteria for ingestion of fish, will become effective.

* The point of compliance for the specified cleanup goals include all on and off-site monioring locations within and at the edge of the plume,

SELECTED REMEDY

A ground water extraction and treatment system will be installed on site. The ground water treatment system will consist of steam stripping and carbon adsorption, with catalytic oxidation of off-gases. It is anticipated that the system will be operational in 1994. The total capital and O&M costs for remediation are estimated to be $1.8 million.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

The public comment period began on June 30, 1988 and closed on August 15, 1988. No significant comments were received and no public meeting was held.

NEXT STEPS

Sediment contamination characterization information will be used for a future determination of the need for corrective action in the Hylebos Waterway.

KEY WORDS

ground water, sediments, soil; ingestion; organics; on-site treatment; pump and treat, carbon adsorption

CONTACT

Catherine Massimino
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101
(206)553-4153