STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION IX
ID # 8025
CAD 008 488 025

Phibro-Tech., Inc.
Santa Fe Springs, California
(Signed June 30, 1995)

Facility/Unit Type:	**Production of inorganic chemicals; storage, treatment and recycling of off-site generated inorganic hazardous wastes**
Contaminants:	**Arsenic, Cadmium, Chromium, Hexavalent chromium, Copper, Lead, Nickel, Zinc, Polychlorinated biphenyls (PCBs), Benzene, Toluene, Ethylbenzene, Xylenes, Tetrachloroethene (PCE), Trichloroethene (TCE), 1,1-Dichloroethene (1,1-DCE), 1,1-Dichloroethane (1,1-DCA), 1,2-Dichloroethane (1,2-DCA), Trans-1,2-Dichloroethene (1,2-DCE), Carbon tetrachloride, 1,1,1-Trichloroethane (1,1,1-TCA), Methylene chloride, and Petroleum hydrocarbons**
Media:	**Groundwater, Soil**
Remedy:	**Groundwater pump and treat system, soil vapor survey and possible extraction, bioventing system, groundwater monitoring, vadose zone monitoring, repair and expansion of existing site cover, and a deed notice**

FACILITY DESCRIPTION

The Phibro-Tech., Inc. (PTI) facility is located at 8851 Dice Road in Santa Fe Springs, California (Los Angeles County). It occupies 4.8 acres of land in a predominantly industrial area, with the closest residential area approximately 800 feet to the northwest. The facility is mostly paved and is surrounded by other industrial facilities. Past uses of the property include a railroad switching station and foundry casting facility (1950's). There has been chemical manufacturing on the site since approximately 1957.

PTI produces a variety of inorganic chemicals on the site, including copper compounds and specialty products used in the aerospace and electronics industries. Specialty products include etchants, solder strippers, brighteners, and conditioners. Other products include copper oxide, copper sulfate, and ferric chloride.

PTI also treats and recycles a variety of inorganic hazardous wastes, which are generated primarily in the electronics and aerospace industries. Wastes are treated through precipitation/ neutralization to generate new products for sale, wastewaters, and metal-containing sludges. Process units include settling tanks, holding tanks, wastewater treatment tanks, filter presses, multistage clarifiers, process and storm drain sumps, drum storage areas, and drum and truck washing areas. PTI discharges treated aqueous wastes to the sanitary sewer pursuant to a permit from the Los Angeles County Sanitation District. Sludges generated by the facility are transported to a heavy metal smelter for recycling.

Soils under the facility are stream and flood plain deposits consisting of interbedded silts and sands with some clayey sequences. Although groundwater is now encountered at a depth of approximately 52 feet below ground surface in the Hollydale Aquifer (the uppermost saturated zone beneath the facility), it is overlain by the currently unsaturated Gage Aquifer and an intermediate low permeability zone. The Hollydale Aquifer is approximately 30 to 40 feet thick and is considered a "leaky" confined aquifer. Groundwater flow direction in the Hollydale Aquifer is toward the south-southwest. No definite vertical gradients were determined for this site.

Although the Hollydale Aquifer is separated from the deeper Jefferson Aquifer by a low permeability clay zone of unknown variable thickness, this zone is not continuous across the site (not found in southwest corner). This suggests that the Hollydale Aquifer and the Jefferson Aquifer, which is currently used as a source of drinking water,

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration	Federal/ State MCL/Action Level (μg/l)	MCL Cleanup Goal (μg/l)	Point of Compliance
Groundwater	Unknown	Cadmium	860 μg/l	5/10	5	Throughout the plume
		Hexavalent Chromium	59,000 μg/l	100/50	50	
		Chromium (total)	400,000 μg/l	100/50	50	
		Benzene	0.88 μg/l	5/1	None	
		Toluene	57,000 μg/l	1,000/UR	None	
		Ethylbenzene	15,000 μg/l	700/680	None	
		Total Xylenes	40,000 μg/l	10,000/1,750	None	
		Trichloroethene (TCE)	1,100 μg/l	5/5	5	
		1,1,-Dichloroethene	59 μg/l	7/6	6	
		1,2,-Dichloroethane	23 μg/l	5/0.5	0.5	
Soil	Unknown	Arsenic	95 mg/kg	Not applicable	Not applic-able	Not applicable
		Cadmium	161 mg/kg			
		Hexavalent Chromium	1,160 mg/kg			
		Chromium (total)	37,000 mg/kg			
		Copper	23,100 mg/kg			
		Nickel	28,400 mg/kg			
		Lead	19,100 mg/kg			
		Zinc	40,100 mg/kg			
		Benzene	3 mg/kg			
		PCB	1,500 mg/kg			
		Trichloroethene (TCE)	110 mg/kg			
		Ethylbenzene	37 mg/kg			
		Toluene	5 mg/kg			
		Total Xylenes	310 mg/kg			

ND = Not Detected
UR = Unregulated

may be in direct contact at this location.

PTI installed 7 wells and began groundwater monitoring at the facility in 1985, as requested by the Los Angeles Regional Water Quality Control Board and California Department of Health Services. Sampling confirmed the presence of cadmium, chromium, aromatic volatile organic compounds (VOCs), and halogenated VOCs in the groundwater. In 1987, U.S. EPA contractors conducted a RCRA Facility Assessment of the site to determine where the potential for chemical releases was significant. Identified areas included regulated areas, solid waste management units, and areas of concern where hazardous materials were used or stored.

In September 1988, the California EPA, Department of Toxic Substances Control (DTSC), and EPA modified and approved a closure/post closure plan for Pond 1 (a regulated unit) at the facility. The closure of Pond 1 was to be conducted in conjunction with the provisions of a RCRA 3008(h) consent agreement signed by EPA and PTI in December of 1988. The consent agreement required PTI to conduct a Pre-Investigation Evaluation of Corrective Measures, RCRA Facility Investigation, and Corrective Measures Study.

Removal of two 10,000 gallon underground fuel storage tanks (USTs) in July, 1989, revealed a release of fuel hydrocarbons to subsurface soils. The state and federal agencies involved agreed that this release would be incorporated into the existing RFI. RFI

field work and draft report development took place in two phases between 1990 and 1993. In July 1991, PTI received similar federal and state permits to treat and store hazardous waste.

EXPOSURE PATHWAYS

Soil and groundwater are the two potential pathways for environmental exposure. Both ingestion and dermal contact to contaminants are potential exposure pathways.

SELECTED REMEDY

Groundwater in the Hollydale Aquifer contains elevated levels of: 1) heavy metals, including chromium and cadmium; 2) halogenated VOCs, including trichloroethene (TCE) and 1,2,-dichloroethane (1,2,-DCA); 3) aromatic VOCs, including benzene, toluene, ethylbenzene, and xylenes; and 4) chlorides. The selected groundwater remedy is to pump and treat contaminated groundwater in the Hollydale and Jefferson Aquifers and monitor the Gage Aquifer for the presence of groundwater.

Soils at the facility contain elevated levels of: 1) heavy metals, including lead, cadmium, chromium, copper, and zinc; 2) halogenated VOCs, including TCE, 1,2-DCA and tetrachloroethene (PCE); 3) aromatic VOCs, including benzene, toluene, ethylbenzene, and xylenes; 4) polychlorinated biphenyls (PCBs); 5) petroleum hydrocarbons, including diesel fuel, gasoline and unidentified heavy hydrocarbons (possibly crude oil); and 6) chlorides. The Gage Aquifer is affected by site-derived soil contaminants. Upon resaturation, water in the Gage Aquifer would be impacted from the site-derived soil contaminants.

The remedy for soils includes in-situ bioventing for hydrocarbon contamination in the former UST area, and a soil vapor survey and possible installation and operation of a soil vapor extraction system for halogenated VOC contamination. The remedy includes containment measures, deed restrictions, vadose zone monitoring, revision of the existing facility closure plan, and surface water monitoring.

INNOVATIVE TECHNOLOGIES CONSIDERED

Other groundwater remedies considered, but not selected, include natural restoration and injection of treated groundwater. The only innovative soil remedies considered were in-situ bioventing and soil vapor extraction. Both innovative soil remedies were selected.

PUBLIC PARTICIPATION

EPA and DTSC conducted a public comment period from November 13, 1994, to December 30, 1994, and a public hearing on December 13, 1994, to inform the community about the remedial alternatives. EPA Region 9 and DTSC jointly issued a fact sheet describing the proposed action in both English and Spanish. EPA and DTSC prepared a Response to Comments document to address 125 questions and comments received during the public comment period, and to summarize the changes made as a result of the public comments.

NEXT STEPS

EPA Region 9 and DTSC finalized the soil and groundwater remedy for the Phibro-Tech., Inc. facility on June 30, 1995. Phibro-Tech., Inc. subsequently appealed the permit modification and remedy selection. The permit modification appeal is currently under review in California at DTSC Headquarters.

KEYWORDS:
groundwater, soil; dermal contact, ingestion; cadmium, hexavalent chromium, chromium (total), benzene, toluene, ethylbenzene, xylenes (total), trichloroethylene, 1,1,-dichloroethene, trans-1,2,-dichloroethene, 1,2,-dichloroethane; arsenic, copper, nickel, lead, zinc, PCB, 1,1-dichloroethane, trichloroethene, acetone, methylene chloride; containment (physical), extraction, in-situ treatment, institutional controls (deed restrictions), monitoring (groundwater, soil), venting.

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