

**Tex-Tin Corporation
Texas City, Texas
Region 6
TXD062113329**

Site Exposure Potential

The Tex-Tin site is an active tin smelter operating in an industrial area of Texas City, Texas (Figure 1). The facility was constructed by the U.S. Government during World War II. Wah Chang Corporation purchased the facility after the war and sold it in 1970 to Gulf Chemical and Metallurgical Company, which changed the name to Tex-Tin Corporation in 1985. In 1985, EPA issued an Administrative Order under the Clean Water Act charging Tex-Tin with violating a permit issued under the National Pollutant Discharge Elimination System (EPA 1987).

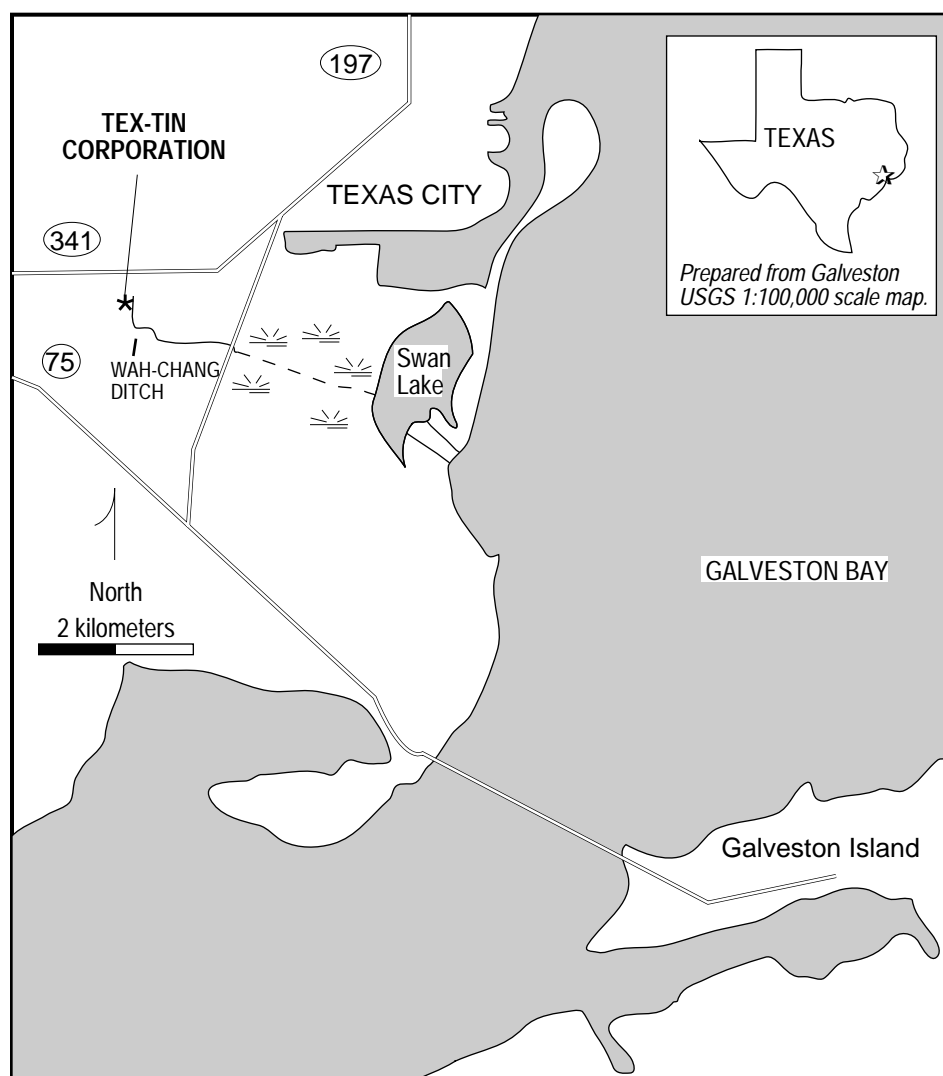


Figure 1. The Tex-Tin Corporation site in Texas City, Texas.

The site occupies 52 hectares of flat land and consists of numerous buildings, five wastewater treatment ponds, a slurry pond, open and closed acid ponds, three inactive

impoundments, slag piles, and a permitted, inactive landfill containing radioactive wastes (EPA 1987).

Surface waters of interest include the Wah Chang Ditch, which receives treated effluent from the facility (EPA 1987). This ditch runs south along the eastern side of the site and discharges into an unnamed intermittent stream. This stream flows for 3 km through a coastal wetland and into Swan Lake. Swan Lake empties directly into Galveston Bay, 5 km from the site. The groundwater is shallow and flows south toward the bay area.

Contaminant migration pathways of concern to NOAA include surface water runoff and groundwater flow to Swan Lake and Galveston Bay.

Site-Related Contamination

Contaminants of concern to NOAA at the Tex-Tin facility include a number of trace metals associated with the smelting process (Table 1). The majority of contaminants detected in water samples from the Wah Chang Ditch exceeded AWQC for the protection of saltwater aquatic life, with concentrations of copper, lead, and nickel especially high. Concentrations of copper, manganese, nickel, and tin were also high in the groundwater at the site (EPA 1987). No soil or sediment data were reported.

Table 1. Maximum concentrations of selected contaminants (EPA 1987) observed at the Tex-Tin Corporation site; AWQC for the protection of saltwater aquatic life (EPA 1986); concentrations in µg/l.

Contaminants	Wah Chang	Groundwater	AWQC	
	Ditch		Acute	Chronic
cadmium	383	N/A	43	9.3
chromium	274	N/A	1100	50
copper	15,000	365,000	2.9	2.9
lead	16,000	N/A	140	5.6
manganese	N/A	357,000	N/D	N/D
mercury	3.0	N/A	2.1	0.025
nickel	1,610	4,700	75	8.3
silver	245	N/A	2.3	N/D
tin	<20	85,000	N/D	N/D

N/A: Not available
N/D: Criteria not determined

NOAA Trust Habitats and Species in Site Vicinity

The habitats of interest to NOAA include Swan Lake, its associated wetland, and Galveston Bay. Swan Lake is a shallow estuarine system with a maximum depth of one meter. The lake supports diverse habitats and is generally considered to be of good water quality. Swan Lake and the associated saltwater marsh are strongly tidal due to the proximity of Galveston Bay. Swan Lake serves as a nursery area for eastern oyster, white shrimp, and brown shrimp. It is presently prohibited to take shellfish from this lake due to high fecal coliform levels (Guillen 1988). Swan Lake is used for other forms of recreational fishing. The saltwater wetland area surrounding the lake is also important since many species use this area for foraging during periods of high water (Johns 1988). Many NOAA trust resources use Galveston Bay as nursery, breeding, and foraging habitat. Galveston Bay is an important area for both recreational and commercial fishing (Table 2).

Table 2. NOAA trust resource use of Swan Lake and Galveston Bay (USFWS 1981; Guillen 1988).

Species	Swan Lake	Galveston Bay
INVERTEBRATES		
blue crab		A, R, C
brown shrimp	N	M, R, C
eastern oyster	N	B, N, C
white shrimp	N	M, R, C
FISH		
Atlantic croaker	A, R	B, A, R, C
black drum	A, R	B, M, A, R
Florida pompano		N, C, R
gulf kingfish		C, R
ladyfish		B, N, R
menhaden		N
red drum	A, R	B, M, A, R
sand seatrout		B, C, R
sea catfish		B, N, R, C
sheepshead	A, R	M, A, R, C
southern kingfish		C, R
southern flounder	A, R	N, M, A, C
spotted seatrout	A, R	B, A, R, C
spot	A, R	A, R, C
striped mullet		N, C, R
N: Nursery area; B: Breeding area; M: Migratory route; A: Adult concentration R: Recreational Fishery; C: Commercial Fishery		

Response Category : Federal Enforcement Lead

Current Stage of Site Action : RI/FS Workplan

EPA Site Manager

Ruth Izraeli 214-655-6735

NOAA Coastal Resource Coordinator

Sharon Christopherson 206- 526-6829

References

EPA. 1986. Quality Criteria for Water. Washington, D.C.: Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-86-001.

EPA. 1987. Hazardous Ranking System Package. Tex-Tin Corporation, Texas City, TX. Dallas: U.S. Environmental Protection Agency, Region 6.

Guillen, G., Supervisor, Biology Section, Texas Water Commission, Deer Park, Texas, personal communication, 1988.

Johns, M., Research Specialist, Texas Parks and Wildlife, La Porte, Texas, personal communication, 1988.

USFWS. 1981. Gulf coast ecological inventory: Galveston Bay, TX. Washington, D.C.: U.S. Fish and Wildlife Service.