

**Woodbury Chemical Company
Princeton, Florida
Region 4
FLD004146346**

Site Exposure Potential

The Woodbury Chemical Company site is located on one hectare in Princeton, Florida (Figure 1). Woodbury bought the site in 1975 and is uses its six buildings and several above-ground storage tanks primarily for mixing of technical-grade materials to produce pesticides and fertilizers (EPA 1987).

The site is in the Sandy Flatlands area, which is characterized by little to no relief at an average elevation of 1.2 meters above mean sea level. The majority of the storage tanks are diked and most of the facility is paved. Drainage from the site flows to an on-site sump and is then absorbed directly into the soil. Canal C102, 700 meters northeast of the site, discharges into Biscayne Bay 10 km from the site. Regional groundwater flow is southeast towards the canal and the sea (EPA 1987).

Possible contaminant migration pathways to NOAA trust resources are groundwater and surface water flow to Biscayne Bay.

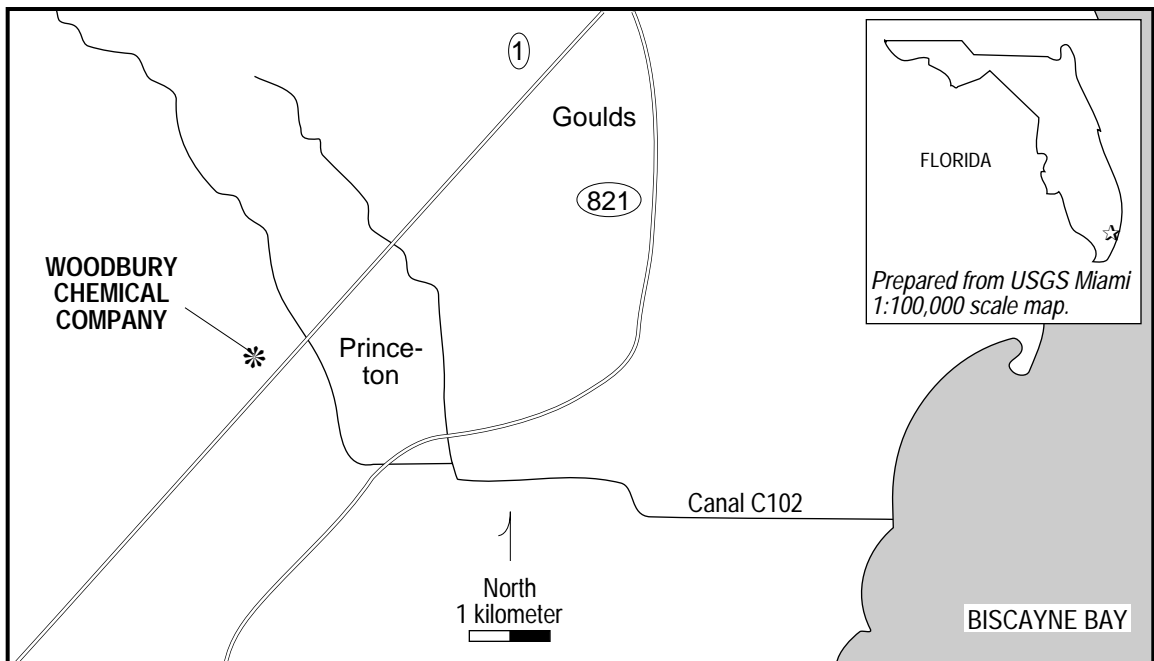


Figure 1. The Woodbury Chemical Company site in Princeton, Florida.

Site-Related Contamination

The contaminants of primary concern to NOAA are pesticides, trace metals, and VOCs. Aldrin, dieldrin, and toxaphene were measured in on-site groundwater at concentrations that exceeded AWQC for the protection of saltwater aquatic life (Table 1). In addition, seven trace metals were observed in groundwater or on-site standing surface water at levels that exceeded AWQC. Ethylbenzene was measured in groundwater at concentrations

exceeding LOEL (EPA 1985, 1986). Although extremely high concentrations of trace metals were reported in the information reviewed, these data were not included in Table 1 because the concentrations were unreasonably high and the sampling locations were not available (OHM/NUS 1985).

Table 1. Maximum concentrations of selected contaminants observed at the Woodbury Chemical site (EPA 1985); AWQC for the protection of saltwater aquatic life (EPA 1986); concentrations in soil in mg/kg and in water in µg/l.

Contaminant	Soil	Groundwater	On-Site Standing Surface Water	AWQC	
				Acute	Chronic
ORGANIC COMPOUNDS					
<u>Volatiles</u>					
ethylbenzene	82.5	8,700	N/A	430*	N/D
total xylenes	N/A	5,000	N/A	N/D	N/D
<u>Pesticides</u>					
aldrin	33	60	N/A	1.3	N/D
chlordane	130	N/A	N/A	0.09	0.004
dieldrin	69	1	N/A	0.71	0.0019
endrin	18	N/A	N/A	0.037	0.0023
gamma-BHC	N/A	0.25	N/A	0.34*	N/D
toxaphene	48	110	N/A	0.21	0.0002
INORGANIC SUBSTANCES					
<u>Trace Metals</u>					
arsenic	24	12	140	69	36
cadmium	5.3	30	N/A	43	9.3
chromium	55.6	110	148	1,100	50
copper	50	62	92	2.9	2.9
lead	677	11	N/A	140	5.6
nickel	16.8	477	N/A	75	8.3
zinc	250	570	N/A	95	86
<u>Other</u>					
cyanide	3.3	N/A	140	1.0	1.0
N/A: Not available; N/D: Criteria not developed; * LOEL					

NOAA Trust Habitats and Species in Site Vicinity

The canal that drains the Princeton area is 20 to 35 meters wide and is an average of five meters deep. The substrate consists of sand with patches of gravel and rocks. The water quality in the canal is good. The lower stretch of the canal flows through a beach face covered with mangrove into Biscayne Bay, a large embayment on the southeastern coast of Florida (USFWS 1982; Shafland 1989).

American eel use the canal near the site as adult habitat. NOAA trust resources, including dolphin and sea turtles, use Biscayne Bay. The Kemp's Ridley, leatherback, and green sea turtles are federally designated endangered species in Florida. The loggerhead turtle is a federally designated threatened species. Some euryhaline fish species, including snapper, ladyfish, crevalle jacks, and tarpon, may stray up the canal (Table 2) (USFWS 1982; Shafland 1989).

Table 2. NOAA trust resource use of the C102 Canal and Biscayne Bay (USFWS 1982; Shafland 1989).

Species	Canal C102	Biscayne Bay
INVERTEBRATE		
spiny lobster		S,N,A,C,R
stone crab		S,N,A,C,R
FISH		
American eel	A	A,M
Atlantic spadefish		S,N,A,R
bluefish		S,N,A,R
bonefish		S,N,A,R
crevalle jack	A	N,A,R
Florida pompano		S,N,A,R
grouper		S,N,A,R
grunt		S,N,A,R
ladyfish	A	N,A,R
mullet	A	S,N,A,C,R
permit		N,A,R
pigfish		N,A,R
red drum		S,N,A,R
silver perch		S,N,A,R
snapper	A	S,N,A,R
snook	A	S,N,A,R
Spanish mackerel		N,A,R
spotted seatrout		S,N,A,C,R
tarpon	A	N,A,R
MISCELLANEOUS		
Atlantic bottlenose dolphin		A
green turtle		A
Kemp's Ridley sea turtle		A
leatherback sea turtle		A
loggerhead sea turtle		A
S: Spawning area; N: Nursery; A: Adult area; M: Migration route; C: Commercial fishery; R: Recreational fishery		

Response Category: Federal Fund Lead

Current Stage of Site Action: RI/FS Workplan

EPA Site Manager

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NOAA Coastal Resource Coordinator

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References

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