

HEALTH CONSULTATION  
TAYLOR ROAD LANDFILL  
SEFFNER, HILLSBOROUGH COUNTY, FLORIDA  
CERCLIS NO. FLD980494959

Date of first draft	September 11, 1995
Current draft date	September 11, 1995

Prepared by

Florida Department of Health and Rehabilitative Services  
Under Cooperative Agreement with the  
Agency for Toxic Substances and Disease Registry

## Background and Statement of Issues

The Florida Department of Health and Rehabilitative Services (Florida HRS) has prepared this health consultation to examine the public health aspects of a draft Record of Decision (ROD) issued by the U.S. Environmental Protection Agency (EPA) regarding proposed remediation methods for the Taylor Road Landfill site near Seffner, Hillsborough County, Florida (1). On July 27, 1995, EPA held a public meeting to present their proposal and receive comments and community concerns about cleanup alternatives for the landfill. EPA's preferred remediation alternative includes: institutional controls to restrict construction of new potable water wells near the site, periodic monitoring of wells surrounding the site, and provision of public water to residences within a designated distance from the site. Also included are provisions to expand the network of monitoring wells and pump-and-treat the groundwater should contamination in the initial set of monitoring wells exceed Florida drinking water standards.

EPA has provided Florida HRS with sampling data of the surface water, sediment, groundwater and leachate associated with the landfill. EPA believes the preferred cleanup alternative will be protective of public health. We have reviewed the environmental sampling data and the proposed remediation alternatives for the site to comment on the public health impact of the activities outlined in the plans. The interpretation, advice, and recommendations presented in this report are based on the data and information referenced. Our conclusions and recommendations are situation-specific and should not be considered applicable to any other situations.

The Taylor Road Landfill site is in eastern Hillsborough County, Florida about seven miles east of Tampa near the town of Seffner (Fig. 1). The site consists of three landfills on 252 acres owned by the county--the Taylor Road Landfill (42 acres), the Hillsborough Heights Landfill (64 acres), and the Florida Department of Transportation (FDOT) Borrow Pit Landfill (10.6 acres). The site is bordered on the north by Pruett Road, on the east by Taylor Road, on the south by Interstate 4, and on the west by State Road 579 (Mango Road) (Fig. 2) (2).

Taylor Road Landfill, originally an FDOT borrow pit, was permitted as a solid waste landfill in 1975. Hillsborough County operated the landfill from 1975 until 1980. There are

undocumented reports of some uncontrolled dumping at the landfill. The Taylor Road Landfill reached its capacity in 1980 and a new landfill was opened on an adjacent 10.6 acre former FDOT borrow pit. This landfill operated from February 1980 until October 1980 when the 64 acre Hillsborough Heights Landfill opened, operating from November 1980 until October 1984 (2).

All three landfills are currently closed. The site is enclosed by a three-strand barbed wire fence on the south and east, and by chain-link fence on the north and west. Hillsborough County has constructed a landfill cap, cover, and drainage system for each landfill and continues to perform maintenance and control methane gas from the landfills. Recently the County has improved the drainage and landfill gas control systems at the Taylor Road Landfill. However, no major changes have occurred at the site since about 1992 (2).

The area around the Taylor Road Landfill site is mostly rural residential. North of the site across Pruett Road is undeveloped land and a borrow pit. East and west of the site are residential neighborhoods and south of the site is Interstate 4, beyond which are more residences and a few small farms.

About 5,000 people live within one mile of the site and the nearest residences are adjacent to the landfill on the east, north and west sides. The population within one mile of the site is middle income and about 87.9% white, 7.5% black, and 4.5% hispanic (3). There is a playground within one-quarter mile of the site. There are 2 adult congregate living facilities, 13 daycare centers, 5 foster homes, 4 public schools, and 2 private schools within about one mile of the site. There are over 200 private domestic wells within about one-half mile of the site (2).

EPA placed the Taylor Road Landfill site on the National Priorities List of superfund sites on August 9, 1983. In September of that year, Hillsborough County entered into a Consent Decree with EPA under which it agreed to perform maintenance and environmental monitoring, control methane gas, and construct a landfill cap, cover, and drainage system at the landfill. In addition, the County installed a public water supply system for residents in an area south of the site (2). Contractors for the County have conducted a Remedial

Investigation and Feasibility Study. This investigation included on-site sampling of groundwater, air, and landfill leachate, and off-site sampling of sediments, surface water, and groundwater (2, 4-21). Tables 1-5 present a summary of the results for all off-site media sampled.

## **Discussion**

### Sediment

Sediments in the off-site stormwater collection basins contain vinyl chloride at a level above the ATSDR screening value. The estimated daily dose of vinyl chloride exceeds ATSDR's chronic oral Minimal Risk Level (MRL) (22). However, daily exposure to these sediments is not likely since access to the basins is restricted. Therefore, we do not expect any adverse health effects from this exposure. Vinyl chloride is a known human carcinogen. However, there would be no apparent increase in the risk of liver cancer from exposure to vinyl chloride in these sediments. Lead concentrations in off-site sediments are below EPA cleanup levels. However, we do not have enough information about what lead levels in sediments may be safe for humans (23). Therefore, we do not know if exposure to lead in off-site sediments could have any adverse health effects.

### Surface Water

Surface water in the stormwater collection basins contains lead, manganese and vinyl chloride at levels above their ATSDR screening values. However, the estimated daily dose of lead from drinking this water is less than the dose that would be received by drinking water at the Florida Maximum Contaminant Level. The estimated daily dose of manganese is less than the EPA oral reference dose (RfD) (24) and the estimated daily dose of vinyl chloride is equal to the ATSDR chronic oral MRL (22). Therefore, we do not expect any adverse health effects from ingestion of surface water in the collection basins.

### Shallow Groundwater

Shallow groundwater off-site is contaminated with 1,1-dichloroethene, lead, manganese, methylene chloride, and tetrachloroethene at levels above their ATSDR screening values. However, shallow groundwater is not used for any domestic purpose. Although this contamination may migrate to the deeper

aquifer, no exposure or adverse health effects are currently likely.

#### Deep Groundwater

Deep groundwater in monitoring wells off of the site contains all seven contaminants of concern. Since water in the monitoring wells is not used for consumption, no adverse health effects are likely.

#### Private Wells

Off-site private wells are contaminated with 1,1-dichloroethene, lead, manganese, methylene chloride, nitrate, tetrachloroethene, and vinyl chloride at levels above their ATSDR screening values.

The estimated daily dose of 1,1-dichloroethene is less than ATSDR's chronic oral MRL (25). Therefore, we do not expect any non-carcinogenic adverse health effects. However, 1,1-dichloroethene is a possible carcinogen. We estimate that lifetime exposure to this contaminant in drinking water may result in a moderate increase in the risk of kidney cancer.

The estimated daily dose of lead exceeds the dose that would be received by drinking water at the Florida MCL. Therefore, slowed growth and adverse neurological effects may occur in young children who consume this water (23).

The estimated daily dose of manganese is greater than EPA's RfD for children, but not for adults. No ATSDR oral MRL is available for manganese (24). Exposure to this level of manganese may cause neurological symptoms such as weakness and muscle stiffness.

The estimated daily dose of methylene chloride is less than ATSDR's chronic oral MRL (26). Therefore, we do not expect any adverse health effects from this exposure. Methylene chloride is a probable human carcinogen. However, exposure to the levels found in off-site private wells would result in a negligible increase in the risk of cancer.

The estimated daily dose of nitrate exceeds the EPA RfD for only one sample (27). Therefore, we do not expect any adverse health effects from nitrate exposure in private well water.

The estimated daily dose of tetrachloroethene is less than the ATSDR intermediate oral MRL. No chronic oral MRL is available (28). Therefore, we do not expect any non-carcinogenic adverse health effects from exposure to tetrachloroethene in private well water. Tetrachloroethene is a probable human carcinogen, although it has only been shown to cause liver and kidney cancer in animals. Lifetime exposure to tetrachloroethene in private well water may result in a low increase in these types of cancer.

The estimated daily dose of vinyl chloride exceeds ATSDR's chronic oral MRL (22). Exposure to vinyl chloride in private well water for longer than one year may adversely affect the liver. Vinyl chloride is a known human carcinogen. Lifetime exposure to vinyl chloride in private well water may result in a low increase in the risk of liver cancer.

### **Conclusions**

Based upon the information reviewed, we conclude that EPA's preferred alternative for addressing contamination at the Taylor Road Landfill site in the 1995 ROD is protective of public health. Exposure to contaminants in private well water in the past may have adversely affected public health. However, deep groundwater contamination near the site appears to be decreasing and residences with contaminated private wells have public water available. Therefore, current adverse health effects are unlikely. Groundwater in the deep aquifer at the site remains contaminated. This contamination may migrate to nearby private wells in the future. Remedial action will be necessary to ensure that public health is protected should further contamination occur. If additional information becomes available indicating exposure at levels of concern, Florida HRS will evaluate that information to determine what actions, if any, are necessary.

### **Recommendations**

Florida HRS recommends that:

1. Hillsborough County maintain site security to restrict access to the Taylor Road Landfill site.

2. EPA implement site remediation measures as soon as possible to ensure the protection of public health from exposure to groundwater contamination.

3. Hillsborough County conduct periodic monitoring of wells around the site as proposed in the preferred cleanup alternative to ensure discovery of any future contamination.

4. Hillsborough County provide an alternative drinking water source to any residences where contamination is found in private wells in the future.

## References

1. EPA. Draft Record of Decision, Taylor Road Landfill Superfund Site. August 1995.
2. ERM-South, Inc. Final Remedial Investigation Report, Taylor Road Landfill Study Area, Hillsborough County, Florida. May 1995.
3. Bureau of the Census. 1990 Census Data Files, U.S. Department of Commerce, Washington, DC.
4. Geraghty & Miller, Inc. Ground-Water Quality Assessment at and in the Vicinity of the Taylor Road Landfill, Seffner, Florida. February 1981.
5. Geraghty & Miller, Inc. Groundwater Monitoring Results, Taylor Road Landfill. March 8, 1984.
6. ERCO. Groundwater Monitoring Results, Taylor Road Landfill. April 30, 1985.
7. ERCO. Groundwater Monitoring Results, Taylor Road Landfill. May 16, 1985.
8. County of Hillsborough. Groundwater Monitoring Results, Taylor Road Landfill. June 14, 1985.
9. ERCO. Groundwater Monitoring Results, Taylor Road Landfill. July 19, 1985.
10. ERCO. Groundwater Monitoring Results, Taylor Road Landfill. October 21, 1985.
11. ENSECO, Inc. Groundwater Monitoring Results, Taylor Road Landfill. January 10, 1986.
12. County of Hillsborough. Groundwater Monitoring Results, Taylor Road Landfill. February 21, 1986.



13. Geraghty & Miller, Inc. Report on Data Collection Activities in the Vicinity of the Hillsborough Heights and Taylor Road Landfills. March 1986.
14. SCS Engineers and Geraghty & Miller, Inc. Investigation of Ground-Water Contamination in the Vicinity of the Hillsborough Heights Landfill. July 3, 1986.
15. Geraghty & Miller, Inc. New Sampling Period Water Quality Data for the Taylor Road Landfill in Hillsborough County, Florida. August 1986.
16. Camp, Dresser & McKee, Inc. Final Report for Taylor Road Site, Seffner, Florida, Forward Planning Study. October 17, 1986.
17. DHRS Office of Laboratory Services. Private Well Samples Report, Taylor Road Landfill Vicinity. March 1987.
18. Geraghty & Miller, Inc. Data Collection Activities in the Vicinity of the Taylor Road and Hillsborough Heights Landfills, March 1987 through December 1987. March 1988.
19. Hillsborough County Department of Solid Waste. 1990 Ground-Water Data-Collection Activities in the Vicinity of the Taylor Road and Hillsborough Heights Landfills, Hillsborough County, Florida. March 1991.
20. PBS & J Environmental Laboratories. Report of Analysis for Hillsborough County Solid Waste Department for Hillsborough Heights/Taylor Road Monitoring Wells. December 1991.
21. PBS & J Environmental Laboratories. Report of Analysis for Hillsborough County Solid Waste Department for Hillsborough Heights/Taylor Road Leachates. December 1991.
22. Agency for Toxic Substances and Disease Registry. Toxicological Profile for Vinyl Chloride. Atlanta. ATSDR, April 1993.
23. Agency for Toxic Substances and Disease Registry. Toxicological Profile for Lead. Atlanta. ATSDR, June 1990.

24. Agency for Toxic Substances and Disease Registry.  
Toxicological Profile for Manganese. Atlanta. ATSDR, July 1992.
25. Agency for Toxic Substances and Disease Registry.  
Toxicological Profile for 1,1-Dichloroethene. Atlanta. ATSDR,  
May 1994.
26. Agency for Toxic Substances and Disease Registry.  
Toxicological Profile for Methylene Chloride. Atlanta. ATSDR,  
April 1993.
27. Agency for Toxic Substances and Disease Registry. Case  
Studies in Environmental Medicine: Nitrate/Nitrite Toxicity.  
October 1991.
28. Agency for Toxic Substances and Disease Registry.  
Toxicological Profile for Tetrachloroethylene. Atlanta. ATSDR,  
April 1993.

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CERTIFICATION

This Taylor Road Landfill Health Consultation was prepared by the Florida Department of Health and Rehabilitative Services under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.

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The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation, and concurs with its findings.

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Table 1. Maximum Concentrations in Off-Site Sediment

Contaminants of Concern	Maximum Concentration (mg/kg)	Total # Exceeding Comparison Value/ Total # samples	Back-ground Concentration (mg/kg)	Comparison Value	
				(mg/kg)	Source
1,1-Dichloroethene	ND	0/5	NA	1	CREG
Lead	55.6	-/5	NA	NONE	CARCIN
Manganese	71.6	0/5	NA	300	RMEG
Methylene chloride	37	0/5	NA	90	CREG
Nitrate	NA	NA	NA	3000	RMEG
Tetrachloroethene	ND	0/5	NA	10	CREG
Vinyl chloride	103	5/5	NA	0.04	EMEG

Source: (2)

Table 2. Maximum Concentrations in Off-Site Surface Water

Contaminants of Concern	Maximum Concentration (µg/L)	Total # Exceeding Comparison Value/ Total # samples	Back-ground Concentration (µg/L)	Comparison Value	
				(µg/L)	Source
1,1-Dichloroethene	ND	0/1	NA	0.06	CREG
Lead	24.1	1/1	NA	15	FLMCL
Manganese	81.6	1/1	NA	50	RMEG
Methylene chloride	ND	0/1	NA	6	CREG
Nitrate	NA	NA	NA	10000	FLMCL
Tetrachloroethene	ND	0/1	NA	0.7	CREG
Vinyl chloride	129	1/1	NA	0.2	EMEG

Source: (2)

**Table 3. Maximum Concentrations in Off-Site Shallow Groundwater**

Contaminants of Concern	Maximum Concentration (µg/L)	Total # Exceeding Comparison Value/ Total # Samples	Back-ground Concentration (µg/L)	Comparison Value	
				(µg/L)	Source
1,1-Dichloroethene	100	2/3	NA	0.06	CREG
Lead	270	20/40	NA	15	FLMCL
Manganese	100	2/3	NA	50	RMEG
Methylene chloride	84	1/3	NA	6	CREG
Nitrate	NA	NA	NA	10000	FLMCL
Tetrachloroethene	11	1/3	NA	0.7	CREG
Vinyl chloride	ND	0/3	NA	0.2	EMEG

Source: (14), (16)

**Table 4. Maximum Concentrations in Off-Site Deep Groundwater**

Contaminants of Concern	Maximum Concentration (µg/L)	Total # Exceeding Comparison Value/ Total # samples	Back-ground Concentration (µg/L)	Comparison Value	
				(µg/L)	Source
1,1-Dichloroethene	69	222/723	NA	0.06	CREG
Lead	1000	51/601	NA	15	FLMCL
Manganese	59000	15/96	NA	50	RMEG
Methylene chloride	450	41/703	NA	6	CREG
Nitrate	25000	64/348	NA	10000	FLMCL
Tetrachloroethene	172	267/905	NA	0.7	CREG
Vinyl chloride	81	149/674	NA	0.2	EMEG

Source: (2), (4) - (20)

Table 5. Maximum Concentrations in Off-Site Private Wells

Contaminants of Concern	Maximum Concentration (ug/L)	Total # Exceeding Comparison Value/ Total # samples	Background Concentration (ug/L)	Comparison Value	
				(ug/L)	Source
1,1-Dichloroethene	210	35/479	NA	0.06	CREG
Lead	480	14/187	NA	15	FLMCL
Manganese	200	10/171	NA	50	RMEG
Methylene chloride	39	5/479	NA	6	CREG
Nitrate	18200	1/11	NA	10000	FLMCL
Tetrachloroethene	166	9/476	NA	0.7	CREG
Vinyl chloride	37	14/215	NA	0.2	EMEG

Source: (4), (17)

NA - not analyzed  
 ND - not detected  
 mg/kg - milligrams per kilogram  
 ug/L - micrograms per liter  
 CREG - ATSDR Cancer Risk Evaluation Guide  
 RMEG - ATSDR Reference Dose Media Evaluation Guide  
 EMEG - ATSDR Environmental Media Evaluation Guide  
 CARCIN - Carcinogen  
 FLMCL - Florida Maximum Contaminant Level  
 SDWS - Florida Secondary Drinking Water Standard

Figure 1. State Map Showing Location of Hillsborough County





Figure 2. General Location of Taylor Road Landfill Site

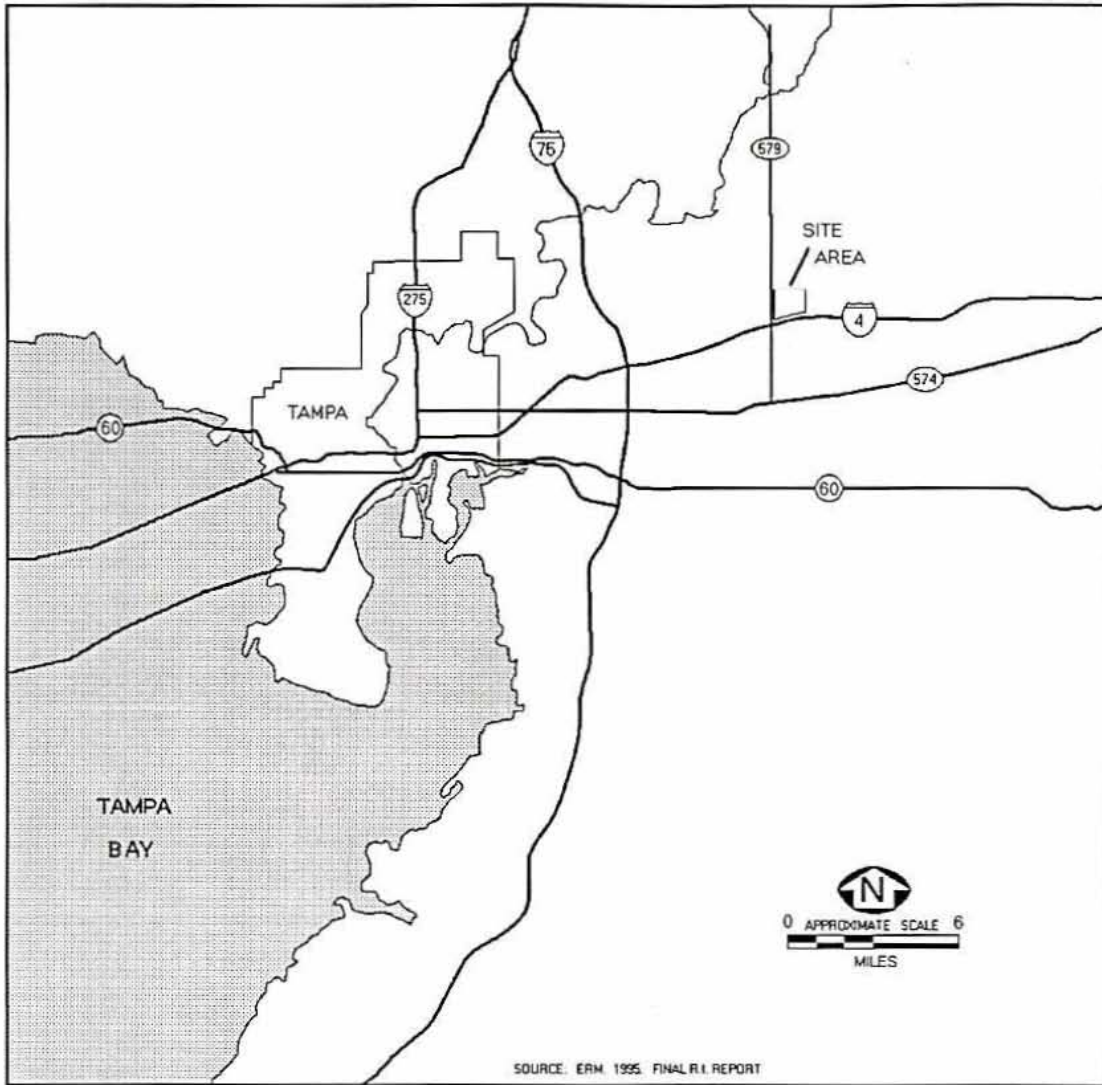


Figure 3. Location of Off-site Environmental Samples

