National Priorities List

Superfund hazardous waste site listed under the
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended in 1986

ABC ONE HOUR CLEANERS
Jacksonville, North Carolina

ABC One Hour Cleaners has operated at 2127 Lejeune Boulevard, Jacksonville, Onslow County, North Carolina, since 1954. The site consists of three buildings joined to form one complex, situated on 1 acre.

Tetrachloroethylene, a dry-cleaning solvent, was stored in a 250-gallon aboveground tank in the rear building. Spent solvent is reclaimed by a filtration-distillation system, also in the rear building. Still bottoms generated from the recycling are the only known hazardous waste generated at the site. Until about 1985, they were buried on the site. Currently, they are transported to a hazardous waste facility regulated under Subtitle C of the Resource Conservation and Recovery Act. A septic tank-soil absorption system, also in the rear building, consists of an underground concrete tank with a concrete lid. It has always been used for storage of waste water.

In 1984, the nearby Camp Lejeune Marine Corps Base collected samples from 40 community supply wells (the base is also being proposed for the NPL in June 1988). Organic contaminants were detected in three wells near two off-base dry-cleaning facilities. Since both cleaners, ABC One Hour Cleaners and Glam-O-Rama Dry Cleaners, were potential sources, the Marine Corps requested assistance from the North Carolina Department of Natural Resources and Community Development (NRCD). NRCD drilled three monitoring wells to help define the source of contamination. Tetrachloroethylene was detected in the monitoring wells and the three nearby community wells. Levels in a monitoring well at ABC--12,000 parts per billion (ppb)--and two community wells southeast of the site--1,580 and 132 ppb--were significantly higher than the 2.2 ppb found in a monitoring well at Glam-O-Rama. NRCD inspected the area where the solvent is stored and determined that it enters the septic tank-soil absorption system. From the study, NRCD concluded that ABC One Hour Cleaners is the source of tetrachloroethylene in ground water. Trichloroethylene, trans-1,2-dichloroethylene, vinyl chloride, benzene, and toluene were also detected at low levels in some of the wells. An estimated 41,000 people obtain their drinking water from three public well systems within 3 miles of the site.

Facility name: ABC One Hour Cleaners

Location: 2127 Lejeune Blvd. Jacksonville, N.C. 28540

EPA Region: IV

Person(s) in charge of the facility: Milton Melts, Owner

909 Clyde Drive

Jacksonville, N.C. 28540

Name of Reviewer: Cheryl A. McMorris Date: May 26, 1987

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

ABC One Hour Cleaners, a dry cleaning facility, uses tetrachloroethylene to dry clean clothes. Tetrachloroethylene is also stored and recycled on the site. In 1985 a groundwater pollution study suggested that ABC One Hour Cleaners was the source of tetrachloroethylene contamination to a community well field. It was-shown that tetrachloroethylene entered groundwater via a septic tank-soil absorption system, on the site. The contaminated community wells were

Scores: S_M = 29.11 (S_{gw} = 50.00 S_{sw} = 6.06 S_a = 0.00)

S_{FE} = Not scored

S_{DC} = Not scored

FIGURE 1
HRS COVER SHEET

part of the Tarawa Terrace well field, which furnish drinking water to 6274 people in the area. In February 1985, the two highest contaminated wells were disconnected from the system. A water line from the Holcomb Boulevard system was connected to the Tarawa Terrace system to supplement the water supply.

Charles A. Bissell
8/28/87

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 (12) 15 18	1	12	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			13	26	
5 Targets					3.5
Ground Water Use	0 1 2 (3)	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 (40)	1	40	40	
Total Targets Score			49	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			28665	57.330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	50.00		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

CM
4/28/87

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 2 (3)	1	3	3	
Distance to Nearest Surface Water	0 1 (2) 3	2	4	6	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			10	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 (12) 15 18	1	12	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			13	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 (2) 3	2	4	6	
Population Served/Distance to Water Intake Downstream	(0) 4 8 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			10	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			3900	84,350	
7 Divide line 6 by 84,350 and multiply by 100		S_{SW} = 6.06			

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

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Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S_a = 0.00			

FIGURE 9
AIR ROUTE WORK SHEET

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	S	S^2
Groundwater Route Score (S_{gw})	50.00	2500.00
Surface Water Route Score (S_{sw})	6.06	36.72
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2536.72
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		50.37
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		29.11

WORKSHEET FOR COMPUTING S_M

CM 9/28/

Not Rated

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} = 0.00			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

CAS 8/28/

Not Rated

Direct Contact Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0	45	1		45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2						
2 Accessibility	0 1 2 3		1		3	8.2
3 Containment	0	15	1		15	8.3
4 Waste Characteristics Toxicity	0 1 2 3		5		15	8.4
5 Targets						8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5		4		20	
Distance to a Critical Habitat	0 1 2 3		4		12	
Total Targets Score					32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5					21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 0.00			

FIGURE 12
DIRECT CONTACT WORK SHEET

cas
8/28/15

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: ABC One Hour Cleaners

LOCATION: 2127 Lejeune Boulevard, Jacksonville, N.C.

DATE: 26 May 1987

PERSON SCORING: Cheryl A. McMorris

PRIMARY SOURCE(S) OF INFORMATION (e.g., EPA region, state FIT, etc):

N.C. CERCLA files

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

Air-no observed release known or reported.
Direct Contact-remedial action on a community well field due to groundwater contamination from the site, (February, 1985).
Fire and Explosion-not rated. Tetrachloroethylene (PCE) is only known chemical used at the site. PCE is nonflammable, has a b.p. of 121°C, and no flash point (Ref #9).

COMMENTS OR QUALIFICATIONS:

CBS
8/28/87

GROUNDWATER ROUTE

1. **OBSERVED RELEASE** Assigned Value = 45 (ref. 8).

Contaminants detected (5 maximum):

Tetrachloroethylene was detected in the ABC well (NRCD Well 6 in Ref 3) at a concentration of 12,000 ug/l (see Ref 2, Table 4, sample b1 collected 9/25/85). The background well, NRCD #3 (Ref 3) contained a concentration of 0.43 ug/l. (See also sample b3, Ref 2, Table 4, collected 9/25/85). A site sketch is contained in Ref 2, Fig. 1. Well data is contained in Ref 2, Table 2. A sketch depicting probable plume location is contained in Ref 2, Fig. 4. Please note that units are different in Fig. 4 and Table 4 of Ref 2. Data in table 4 presents the correct units.

Rationale for attributing the contaminants to the facility:

ABC One Hour Cleaners, located at 2127 Lejuene Boulevard, has been operating at this site since 1954. The company has always used tetrachlorethylene (PCE) in the dry cleaning process on the site (Ref 1, 2 p8). PCE is stored in a 250 gallon tank in the rear building of the facility. This building is also where PCE is used to dry clean clothes and is recycled. A septic tank-soil absorption system (ST-SAS) is located in this building also. The ST-SAS consists of an underground concrete tank with a concrete lid, situated within four feet of the TCE tank. The facility has always used the ST-SAS for the disposal of waste water and sewage (Ref. #1,2).

In 1984 the U.S. Marine Corps collected samples from 40 community supply wells. Organic contaminants were detected in three wells located near two off-base dry cleaning facilities. Since both cleaners, ABC One Hour Cleaners and Glam-o-rama Dry Cleaners, were potential sources, the Marine Corps requested assistance from North Carolina Department of Natural Resources and Community Development (NRCD), Ref 2 p2. NRCD drilled three monitoring wells in addition to the three community supply wells to help conduct a groundwater pollution study to define the source of contamination. Tetrachloroethylene was detected in all six wells. PCE levels were significantly higher in a monitoring well at the ABC site (12,000 ppb) (NRCD #6) and a community well southeast of the site (1100 ppb at NRCD #1), than PCE levels found in a monitoring well at the Glam-o-rama site (2.2 ppb) (Ref #3). In addition, PCE odor was detected at the monitoring well on the ABC One Hour Cleaners site. Groundwater flow in the area of the site is southeast (Ref. #2,4). From the study, NRCD was able to conclude that ABC One Hour Cleaners was the source of tetrachloroethylene contamination to groundwater, (Ref. #2). Trichloroethylene, 1,2-trans dichloroethylene, vinyl chloride, benzene, and toluene were also detected at low levels in some of the wells, (Ref. 2,3).

CMS 8/28/

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:
See page 3-A.

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

Depth from the ground surface to the lowest point of waste disposal/storage:

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Name/description of aquifer(s) of concern (continued from p 2):

The aquifers of concern are the surficial sands, or water table, aquifer and the Castle Hayne Limestone, or tertiary aquifer (Ref 2, Figure 2; Ref. 10, p.67). The top of the water table aquifer lies approximately 15 feet below the surface throughout Onslow County (Ref 10, p.67), and ranges in thickness from about 20 feet in northwestern Onslow County to around 80 feet in the eastern part (Ref 25, pp 242 & 251). This aquifer consists of sand, silt, limestone, and small amounts of clay (Ref 26, p 5-13). The water table aquifer is underlain by the Castle Hayne Limestone (Ref 25, pp 242 & 251) which varies in thickness from approximately 100 feet to more than 200 feet and consists of shell, limestone, marl, calcareous sand and clay (Ref 26, pp 5-7). A third aquifer, the Peedee Formation, underlies the Tertiary aquifer, however, this aquifer is usually brackish (refs. 25, pp. 242 & 251, and 26, p. 5-11).

Wells within a three mile radius of the site draw water from both the water table aquifer and from the Tertiary aquifer. A case in point is the Tarawa Terrace well field, whose use was discontinued in 1985 due to PCE contamination from the site. This well field has two wells completed in the water table aquifer and one completed in the Tertiary aquifer. All three wells became contaminated with PCE in 1985 (Ref. 4,2). Although a cross section of the hydrogeology underneath well b-2 (ref. 2) shows a confining layer between the water table aquifer and the Tertiary aquifer (Ref. 2, figure 2)) the fact that contamination was found in wells drawing from either aquifer indicates the confining layer is not totally continuous between the two aquifers.

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. 3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence — Assigned Value = 12 (ref. # 8,9)

Compound(s) evaluated:

Tetrachloroethylene

Compound with highest score:

Tetrachloroethylene — Toxicity/Persistence = 12 (ref. 8,9)

Hazardous Waste Quantity — Assigned Value = 1 (ref. #8)

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Basis of estimating and/or computing waste quantity:
Because the actual amount of tetrachloroethylene that entered the septic tank and later groundwater is unknown, and the amount of still bottoms buried on the site is unknown, a hazardous waste quantity of one (the default value) has been assigned to the site.

CWS 8/28/87

5. TARGETS

Ground Water Use Assigned Value = 3 (ref. #8)

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Groundwater is the only source of drinking water for residents within a 3 mile radius of the site. In this area, groundwater is obtained from either the Surficial or Tertiary limestone aquifers (ref. 4, 10). The Surficial aquifer can be as shallow as 6 ft. bls (ref. 10, pg. 72 well # 56. The Tertiary limestone aquifer is approximately 58-73 ft. bls (ref. 10, pg. 69, well #54). The confining layer between these two aquifers is not continuous throughout a three mile radius of the site. Wells in the area are drilled into both aquifers (Ref.2, p. 4).

Northeast Creek, approximately 4400 feet southeast of the site, transects a three mile radius of the site. However, the creek is not considered a groundwater divide. The deepest portion of the creek is only 9 ft. deep (ref. #11). Since the Tertiary limestone aquifer is approximately 58-73 feet bls, the creek is not a discontinuity for this much deeper aquifer.

For residents of the City of Jacksonville, groundwater is the sole source of drinking water (Ref. 12, 13, 140). Because the City of Jacksonville's water supply wells are not located within a three mile radius of the site, the population obtaining water from these wells were not included in the population target score.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Nearest well (NRCD #1) is TT-26, located 975 feet southeast of ABC (Ref 2, Fig 1). This well served the Tarawa Terrace Community until February, 1985, when its use was discontinued, because of PCE contamination from the site. TT-26 is also depicted as well "b1" in Fig 3 of Ref 2 and NRCD #1 in Ref 3. TT-25, located 1575 feet southeast of ABC was also closed in February 1985, for the same reason as well TT-26 (Ref. 2, P. 4).

Distance to above well or building: Assigned Value = 4 (ref. #8).

Since on-site wells contain contaminants, the distance to the site is zero. (Ref. 2, Fig 1)

CW 8/28/87

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Within a three mile radius of the site there are 3 community well systems; Tarawa Terrace, Hadnot Point, and Holcomb Boulevard. These well fields furnish drinking water to approximately 41,000 residents, many of whom live outside of the three mile limit (ref. 4, 16).

The population for each system is listed below:

System	Pop. Served	Ref.
Tarawa Terrace	6274	4, 16, 17
Hadnot Pt.	27,000	4, 16
Holcomb Blvd.	7900	4, 16
Total	41,174	

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversation to population (1.5 people per acre):

None identified.

-

-

Total population served by ground water within a 3-mile radius:

Total population served by groundwater is approximately 41,000 (ref. 12, 13, 14, 17).

Total Matrix Value = 40

8/28/87

SURFACE WATER ROUTE

1 OBSERVED RELEASE Assigned Value = 0 (ref. #8)

Contaminants detected in surface water at the facility or downhill from it (5 max.):

No release observed

Rationale for attributing the contaminants to the facility:

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain Assigned Value = 0 (ref. #8)

Average slope of facility in percent:

The facility slope is less than 1%. There is no evidence of elevation change expressed on the topographic map (ref. #11) nor was any observed during the site visit (ref.2). The site is a small building behind the cleaners.

Name/description of nearest downslope surface water:

The nearest downslope surface water to the site is Northeast Creek. Northeast Creek is southeast of the site and flows in a southweswardly direction into New River (ref. #11).

Average slope of terrain between facility and above-cited surface water body in percent:

Average slope of terrain between facility and Northeast Creek is 0.68% (ref. #11). Change in elevation = 30, divided by distance of Northeast Creek to the site = 4400 ft. = 0.68% as average slope of terrain.

CWS 8/28/

Is the facility located either totally or partially in surface water?
No. (ref. #11).

Is the facility completely surrounded by areas of higher elevation?

No. (ref. #11)

1-Year 24-Hour Rainfall in Inches Assigned Value = 3 (ref. #8)

The one-year 24 hour rainfall is 3.5 inches (ref. #8).

Distance to Nearest Downslope Surface Water Assigned Value = 2 (ref. #8).

Northeast Creek is approximately 44000 feet southeast of the site (ref. #11)

Physical State of Waste Assigned Value = (ref. #8)

Tetrachloroethylene in its normal state is a liquid (b.p. 121 c; f.p.-22.4 c), (ref. #9).

***

3 CONTAINMENT Assigned Value = 3 (ref. #8).

Method(s) of waste or leachate containment evaluated

In the past, still bottoms generated from the spent tetrachloroethylene recycling process were disposed of on the site (ref. #1). The on-site disposal of still bottoms as pot hole fillers is evaluated as uncovered, unconsolidated waste piles with no containment.

Method with highest score:

In Reference 1, the Manager of ABC One Hour Cleaners indicates that "small spills" of tetrachloroethylene may have occured. In addition, still bottoms from the solvent recycling process were used to fill pot holes on the site. Hence, the contaminants present in the still bottoms are available to the surface water route, and are evaluated as piles not covered, wastes unconsolidated and no containment.

CWS 8/26/81

4. WASTE CHARACTERISTICS Assigned Value = 12 (ref. #8, 9)

Toxicity and Persistence

Compound(s) evaluated

Tetrachloroethylene.

Tetrachloroethylene -Toxicity/Persistence = 12 (ref. #8,9).

Hazardous Waste Quantity Assigned Value = 1 (ref. #8)

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even it quantity is above maximum):

Unknown.

Basis of estimating and/or computing waste quantity:

If an unknown quantity of waste is present on the site, the Hazard Ranking System allows that a default score of one (1) may be assigned ~~if contaminants are present on the site~~. The manager of ABC One Hour Cleaners indicates that tetrachloroethylene was present on the site and available to the surface water pathway (as the surface spills and pot holes fillers) (Ref. 1). The assigned value of 1 may be found in Ref 8.

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5. TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Neither Northeast Creek nor New River are used for water supply; however within three downstream miles of the site, swimming, water skiing, boating, fishing (recreational and commercial) occur on both water bodies (ref. #19, 20, 21).

Is there tidal influence?

yes (ref. 22)

Distance to a Sensitive Environment — Assigned Value = 2 (ref. #8)

Distance to 5 acre (minimum) coastal wetland, if 2 miles or less:

Estuary wetlands are located approximately 3200 feet southeast of the site, along Northeast Creek (ref. #11). The wetlands are greater than five acres (ref. #4), and are at the probable point of entry that surface run-off from the site would enter into the creek (ref. #11).

Distance to 5 acre (minimum) fresh-water wetland, if 1 mile or less:

None identified (ref. #11).

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

None within 1 mile of the site (ref. #23, 11).

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

The nearest surface water intake (upstream or downstream) is located on the Cape Fear River in Pender County, approximately 55 miles southwest of the site (ref. #21).

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Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

None identified.

Total population served: Assigned Value = 0 (Ref. #8)

The nearest surface water intake is 55 miles southeast of the site, therefore total population served by a surface water intake 3 downstream (or upstream) miles of the site = 0 (ref. #8, 21).

Name/description of nearest of above water bodies:

Not applicable.

Distance to above-cited intakes, measured in stream miles.

There are no surface water intakes within 3 miles downstream of the site (ref. 21).

8/28/85

HRS REFERENCES
ABC One Hour Cleaners
NC D024644494

1. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Victor Melts, Manager, ABC One Hour Cleaners, on 13 May 1987.

2. Shiver, Rick, Regional Hydrogeologist, NC DEM, "Draft Summary Report: Investigation to Define the Source(s) of Tetrachloroethylene that have contaminated three community water supply wells at Tarawa Terrace".

3. Summary of Laboratory Analyses, Table 1. On groundwater samples collected in the vicinity of the ABC One Hour Cleaners site during 1985.

4. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Rick Shiver, Regional Hydrogeologist, NC DEM, on 12 May 1987.

5. McMorris, Cheryl A., Environmental Chemist, telephone conversation with John Neal, Chemist, NC State Laboratory of Public Health, on 19 May 1987.

6. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Dr. Michael Overcash, Professor of Environmental Engineering, North Carolina State University, on 20 May 1987.

7. Deleted.

8. Uncontrolled Hazardous Waste Site Ranking System; A User's Manual, (HW-10). US EPA, 1984, Federal Register, Vol. 47, No. 137, 16 July 1982, p. 31180.

9. Sax, N.I., Dangerous Properties of Industrial Materials, 6the Edition, Van Nostrand Reinhold Company, New York, 1984.

10. LeGrand, H.E., Geologist, U.S. Geological Survey, Geology and Ground-Water Resources of the Wilmington-New Bern Area, Raleigh, NC 1960.

11. USGS, 7.5' Quadrangles: Jacksonville North, NC, 1978; Kellum, NC, 1977; Jacksonville South, NC, 1952 photorevised 1971; Camp Lejeune, NC, 1952 photorevised 1971.

12. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Mr. Frazell, Water Quality, Camp Lejeune, NC ,on 18 May 1987.

13. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Ray Hold, Supervisor, Jacksonville Waste-Water Division, on 18 May 1987.

14. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Bill Harvey, Utilities Director, Onslow County Water System, on 19 May 1987.

8/28/c

15. Figure 4: Map That Shows the Concentration of Tetrachloroethylene on 25 September 1985, Tarawa Terrace I.C.L.M.C.B. Onslow County. From: Draft Summary Report by Rick Shiver (Reference 2).

16. Department of Human Resources, Water Supply Branch, "Active Community PWS".

17. Nicholson, Grover, Geologist, telephone conversation with Rick Shiver, Regional Hydrogeologist, NC DEM, on 15 and 19 August 1986.

18. Preliminary Assessment Report on ABC One Hour Cleaners, NC D024644494. Prepared by Grover Nicholson, NC DHR/DHS, Solid and Hazardous Waste Management Branch, on 18 August 1986.

19. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Dave Cotton, Water Quality, North Carolina Department of Natural Resources and Community Development, on 18 May 1987.

20. McMorris, Cheryl, A., Environmental Chemist, telephone conversation with Rich Carpenter, Marine Fisheries Division, North Carolina Department of Natural Resources and Community Development, on 18 May 1987.

21. McMorris, Cheryl A., Environmental Chemist, memo to file regarding surface water intake points within three downstream miles of the site, on 18 May 1987.

22. McMorris, Cheryl A., Environmental Chemist, memo to file regarding tidal influence in the Jacksonville area, 20 May 1987.

23. McMorris, Cheryl A., Environmental Chemist, telephone conversation with Harry LeGrand, National Heritage Program, Parks and Recreation Division, on 18 May 1987.

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