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August 7, 1992

Mr. A. R. Hanke, Chief
Site Assessment Section
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Work Assignment No. C04119 - Task 5 - ~~Site Inspection~~ Prioritization (SIP) Report -
Dickson County Landfill, Dickson, Dickson County, Tennessee
EPA ID No. TND981467673
WasteLan No. 4205
Document Control No. C04119-SIP-LC-096

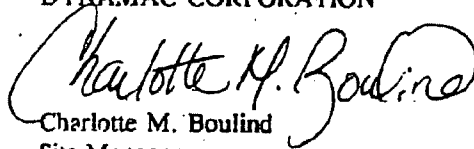
Dear Al:

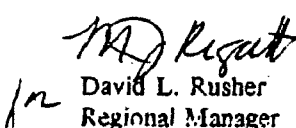
Enclosed please find the Site Inspection Prioritization (SIP) Report for the Dickson County Landfill in Dickson, Dickson County, Tennessee. This report has been developed to fulfill the requirements for Task 5 of the TES VIII Work Assignment No. C04119. This submittal also includes site maps, supporting reference materials and a CERCLA Eligibility Form.

If you have any questions, please contact us at (404) 681-0933.

Sincerely,

DYNAMAC CORPORATION


Charlotte M. Boulind
Site Manager


for David L. Rusher
Regional Manager

Enclosures

cc: Ken Meyer, EPA Region IV Project Officer (w/o enclosures)
Dennis Escher, Dynamac TES Program Manager (w/o references)
Deborah Vaughn-Wright, EPA Region IV Work Assignment Manager
Katharine Siders Franklin, Dynamac Work Assignment Manager (w/c references)
TES WA File

TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
DICKSON COUNTY LANDFILL
DICKSON, DICKSON COUNTY, TENNESSEE
EPA ID NO. TND981467673
WASTELAN NO. 4205

SEA
f. Law
2/2/93

EPA REGION: IV
CONTRACT NO.: 68-W9-0005; TES VIII
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DOCUMENT CONTROL NO. C04119-SIP-LC-096

Submitted to

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV

by

DYNAMAC CORPORATION

August 7, 1992

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TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
DICKSON COUNTY LANDFILL
DICKSON, DICKSON COUNTY, TENNESSEE
EPA ID NO. TND981467673
WASTELAN NO. 4205

Pathways evaluated using the SI Worksheets were air, soil exposure, surface water and groundwater. The following scores reflect a waste quantity value of 100. The actual quantity of hazardous waste present at the landfill is unknown. There is evidence to suggest that the eastern and western halves of the landfill have received hazardous wastes. Therefore, the waste quantity value was determined based on the acreage of the working area of both halves. This was calculated by subtracting the estimated 28 acres of the extension which will not be filled from the total area of the landfill, which is approximately 74 acres. However, the waste quantity score would not increase if the entire property is considered. The overall site score in Scenario I is limited by a low waste quantity value, a low Level I population value for the groundwater pathway and the lack of observed release to a perennial surface water body.

Scenario I

- Hazardous Waste Quantity value of 100
- Level I observed release of TCE to a drinking water well

$$\begin{array}{l} S_{rw} = 29.65 \quad 3161 \\ S_{sw} = 7.68 \\ S_{so} = 2.96 \\ S_{air} = 1.52 \quad \underline{\hspace{1cm}} \\ \hspace{10em} 24.07 \end{array}$$

OVERALL SCORE 15.40

In order to support the score presented in Scenario I, further investigation of the types of wastes that were disposed in the landfill, and the depth of the monitoring well where the background sample was collected is needed. Sampling results from the SI indicated that a drinking water well is contaminated with TCE. However, TCE was not found in any surficial or subsurface soil samples. According to the former superintendent of the landfill, waste solvents used to degrease automotive parts from Shraders Automotive Group were disposed of at the landfill. Shraders Automotive Group did dispose of trichloroethylene waste offsite but documentation stating that trichloroethylene waste was disposed of at the landfill could not be found. It is not clear whether the monitoring well where the background sample was collected and the contaminated well were completed in the same aquifer. If they were not completed in the same aquifer, a sampling comparison will not be valid.

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TES VIII WORK ASSIGNMENT NO. C04119
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WASTELAN NO. 4205
(CONCLUDED)

If both wells were completed in the same aquifer and Shraders Automotive Group did dispose of trichloroethylene waste at the landfill, the contamination of the drinking water well can be attributable to the landfill. However, even if a Level I observed release to a drinking water well can be documented, the overall site score is below the cutoff score of 28.5 because of the limited number of people utilizing the well for drinking water.

Scenario II

- Hazardous Waste Quantity value of 100
- Level II observed release of manganese to a fishery

$$S_{rw} = 29.65$$

$$S_{rw} = ~~29.64~~$$

$$S_{ss} = 2.96$$

$$S_{air} = 1.52$$

Bioacc. Factor $MN = .5$
- SCORE NOT VALID

OVERALL SCORE ~~51.04~~ ~~29.75~~

RC 4/1/73

In order to support the score presented in Scenario II, further investigation of the drainage area at the southern end of the landfill is required. During the SI, chlordane was detected in a sample collected from this area. Chlordane was also detected in a subsurface soil sample and a leachate sample collected at the landfill. However, since the available file material did not contain any information about the area and it is not depicted on the topographic map, the perennial or nonperennial status of the drainage area is not known. According to SI personnel, this area represents a perennial creek which flows into Baker Branch. However, all attempts that were made to determine if the "creek" is harvested for human consumption were unsuccessful. Therefore, a site reconnaissance, which would determine whether the "creek" is perennial and harvested for human consumption, is recommended. The validity of Scenario II can then be determined based on evaluation of this information.

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenario I & II

GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
1. Observed Release	550	<u>550</u>
2. Potential to Release		
2a. Containment	10	<u>-</u>
2b. Net Precipitation	10	<u>-</u>
2c. Depth to Aquifer	5	<u>-</u>
2d. Travel Time	35	<u>-</u>
2e. Potential to Release [(lines 2a x (2b + 2c + 2d))]	500	<u>-</u>
3. Likelihood of Release (higher of lines 1 and 2e)	550	<u>550</u>
<u>Waste Characteristics</u>		
4. Toxicity/Mobility	a	<u>10,000</u>
5. Hazardous Waste Quantity	a	<u>100</u>
6. Waste Characteristics	100	<u>32</u>
<u>Targets</u>		
7. Nearest Well	50	<u>1500</u> 50
8. Population		
8a. Level I Concentrations x 10	b	<u>60</u>
8b. Level II Concentrations x 1	b	<u>0</u>
8c. Potential Contamination x 1/20	b	<u>29</u>
8d. Population (lines 8a + 8b + 8c)	b	<u>89</u>
9. Resources	5	<u>0</u>
10. Wellhead Protection Area	20	<u>0</u>
11. Targets (lines 7 + 8d + 9 + 10)	b	<u>139</u> / 8
<u>Ground Water Migration Score for an Aquifer</u>		
12. Aquifer Score [(lines 3 x 6 x 11) / 82,500]	100	<u>29.65</u> 3
<u>Ground Water Migration Pathway Score</u>		
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)	100	<u>29.65</u>

Site Name: Dickson County Landfill
 Location: Dickson, Dickson County, Tennessee

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Scenario 1

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
DRINKING WATER THREAT		
<u>Likelihood of Release</u>		
1. Observed Release	550	<u>550</u>
2. Potential to Release by Overland Flow		
2a. Containment	10	<u>-</u>
2b. Runoff	25	<u>-</u>
2c. Distance to Surface Water	25	<u>-</u>
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	<u>-</u>
3. Potential to Release by Flood		
3a. Containment (Flood)	10	<u>-</u>
3b. Flood Frequency	50	<u>-</u>
3c. Potential to Release by Flood (lines 3a x 3b)	500	<u>-</u>
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	<u>-</u>
5. Likelihood of Release (higher of lines 1 and 4)	550	<u>550</u>
<u>Waste Characteristics</u>		
6. Toxicity/Persistence	a	<u>5x10⁶</u>
7. Hazardous Waste Quantity	a	<u>100</u>
8. Waste Characteristics	100	<u>32</u>
<u>Targets</u>		
9. Nearest Intake	50	<u>1</u>
10. Population		
10a. Level I Concentrations	b	<u>0</u>
10b. Level II Concentrations	b	<u>0</u>
10c. Potential Contamination	b	<u>5</u>
10d. Population (lines 10a + 10b + 10c)	b	<u>5</u>
11. Resources	5	<u>0</u>
12. Targets (lines 9 + 10d + 11)	b'	<u>6</u>

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenario 1

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
DRINKING WATER THREAT (Concluded)		
<u>Drinking Water Threat Score</u>		
13. Drinking Water Threat Score (lines 5 x 8 x 12)/82,500, subject to a maximum of 100)	100	<u>1.28</u>
HUMAN FOOD CHAIN THREAT		
<u>Likelihood of Release</u>		
14. Likelihood of Release (same value as line 5)	550	<u>550</u>
<u>Waste Characteristics</u>		
15. Toxicity/Persistence/Bioaccumulation	a	<u>5x10¹⁰</u>
16. Hazardous Waste Quantity	a	<u>100</u>
17. Waste Characteristics	1,000	<u>320</u>
<u>Targets</u>		
18. Food Chain Individual	50	<u>0</u>
19. Population		
19a. Level I Concentrations	b	<u>0</u>
19b. Level II Concentrations	b	<u>0</u>
19c. Potential Human Food Chain Contamination	b	<u>3</u>
19d. Population (lines 19a + 19b + 19c)	b	<u>3</u>
20. Targets (lines 18 + 19d)	b	<u>3</u>
<u>Human Food Chain Threat Score</u>		
21. Human Food Chain Threat Score (lines 14 x 17 x 20)/82,500, subject to a maximum of 100)	100	<u>6.40</u>

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenario 1

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
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ENVIRONMENTAL THREAT

Likelihood of Release

22. Likelihood of Release (same value as line 5)	550	<u>550</u>
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ENVIRONMENTAL THREAT (Concluded)

Waste Characteristics

23. Ecosystem Toxicity/Persistence/ Bioaccumulation	a	<u>500</u>
24. Hazardous Waste Quantity	a	<u>100</u>
25. Waste Characteristics	1,000	<u>100</u>

Targets

26. Sensitive Environments		
26a. Level I Concentrations	b	<u>0</u>
26b. Level II Concentrations	b	<u>0</u>
26c. Potential Contamination	b	<u>0</u>
26d. Sensitive Environments (lines 26a + 26b + 26c)	b	<u>0</u>
27. Targets (value from line 26d)	b	<u>0</u>

Environmental Threat Score

28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60	<u>0</u>
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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED

29. Watershed Score ^a (lines 13 + 21 + 28, subject to a maximum of 100)	100	<u>7.68</u>
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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE

30. Component Score (S_w) ^a (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100	<u>7.68</u>
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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenario II

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors Maximum Value Value Assigned

DRINKING WATER THREAT

Likelihood of Release

1.	Observed Release	550	<u>550</u>
2.	Potential to Release by Overland Flow		
2a.	Containment	10	<u>-</u>
2b.	Runoff	25	<u>-</u>
2c.	Distance to Surface Water	25	<u>-</u>
2d.	Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	<u>-</u>
3.	Potential to Release by Flood		
3a.	Containment (Flood)	10	<u>-</u>
3b.	Flood Frequency	50	<u>-</u>
3c.	Potential to Release by Flood (lines 3a x 3b)	500	<u>-</u>
4.	Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	<u>-</u>
5.	Likelihood of Release (higher of lines 1 and 4)	550	<u>550</u>

Waste Characteristics

6.	Toxicity/Persistence	a	<u>5x10⁴</u>
7.	Hazardous Waste Quantity	a	<u>100</u>
8.	Waste Characteristics	100	<u>32</u>

Targets

9.	Nearest Intake	50	<u>1</u>
10.	Population		
10a.	Level I Concentrations	b	<u>0</u>
10b.	Level II Concentrations	b	<u>0</u>
10c.	Potential Contamination	b	<u>5</u>
10d.	Population (lines 10a + 10b + 10c)	b	<u>5</u>
11.	Resources	5	<u>0</u>
12.	Targets (lines 9 + 10d + 11)	b	<u>6</u>

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenario II

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
DRINKING WATER THREAT (Concluded)		
<u>Drinking Water Threat Score</u>		
13. Drinking Water Threat Score ((lines 5 x 8 x 12)/82,500, subject to a maximum of 100)	100	<u>1.28</u>
HUMAN FOOD CHAIN THREAT		
<u>Likelihood of Release</u>		
14. Likelihood of Release (same value as line 5)	550	<u>550</u>
<u>Waste Characteristics</u>		
15. Toxicity/Persistence/Bioaccumulation	a	<u>5x10¹⁰</u>
16. Hazardous Waste Quantity	a	<u>100</u>
17. Waste Characteristics	1,000	<u>320</u>
<u>Targets</u>		
18. Food Chain Individual	50	<u>0</u>
19. Population		
19a. Level I Concentrations	b	<u>0</u>
19b. Level II Concentrations	b	<u>45</u>
19c. Potential Human Food Chain Contamination	b	<u>0</u>
19d. Population (lines 19a + 19b + 19c)	b	<u>45</u>
20. Targets (lines 18 + 19d)	b	<u>45</u>
<u>Human Food Chain Threat Score</u>		
21. Human Food Chain Threat Score ((lines 14 x 17 x 20)/82,500, subject to a maximum of 100)	100	<u>6.40</u>

^a Maximum value applies to waste characteristics category.

^b Maximum value not applicable.

^c Do not round to nearest integer.

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenarios I & II

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors Maximum Value Value Assigned

RESIDENT POPULATION THREAT

Likelihood of Exposure

1. Likelihood of Exposure 550 550

Waste Characteristics

2. Toxicity a 10,000
3. Hazardous Waste Quantity a 100
4. Waste Characteristics 100 18

Targets

5. Resident Individual 50 0
6. Resident Population
6a. Level I Concentrations b 0
6b. Level II Concentrations b 0
6c. Resident Population b 0
 (lines 6a + 6b)
7. Workers 15 5
8. Resources 5 0
9. Terrestrial Sensitive
 Environments c 0
10. Targets (lines 5 + 6c + 7 + 8 + 9) b 5

Resident Population Threat Score

11. Resident Population Threat
 (lines 1 x 4 x 10/82,500) b 49,500

NEARBY POPULATION THREAT

Likelihood of Exposure

12. Attractiveness/Accessibility 100 -
13. Area of Contamination 100 -
14. Likelihood of Exposure 500 -

Waste Characteristics

15. Toxicity a -
16. Hazardous Waste Quantity a -
17. Waste Characteristics 100 -

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenarios I & II

SOIL EXPOSURE PATHWAY SCORESHEET, Concluded

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
NEARBY POPULATION THREAT (Concluded)		
<u>Targets</u>		
18. Nearby Individual	1	<u>-</u>
19. Population Within 1 Mile	b	<u>-</u>
20. Targets (lines 18 + 19)	b	<u>-</u>
<u>Nearby Population Threat Score</u>		
21. Nearby Population Threat (Default Value: 2 points)	b	<u>2</u>
SOIL EXPOSURE PATHWAY SCORE		
22. Soil Exposure Pathway Score ^d (Lines 11 + 21, subject to a maximum of 100)	100	<u>2.96</u>

-
- ^a Maximum value applies to waste characteristics category.
 - ^b Maximum value not applicable.
 - ^c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to maximum of 60.
 - ^d Do not round to nearest integer.

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Site Name: Dickson County Landfill
Location: Dickson, Dickson County, Tennessee

Scenarios I & II

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
1. Observed Release	550	-
2. Potential to Release		
2a. Gas Potential to Release	500	-
2b. Particulate Potential to Release	500	-
2c. Potential to Release (higher of lines 2a and 2b)	500	500
3. Likelihood of Release (higher of lines 1 and 2c)	550	500
<u>Waste Characteristics</u>		
4. Toxicity/Mobility	a	100
5. Hazardous Waste Quantity	a	100
6. Waste Characteristics	100	10
<u>Targets</u>		
7. Nearest Individual	50	20
8. Population		
8a. Level I Concentrations	b	0
8b. Level II Concentrations	b	0
8c. Potential Contamination	b	5
8d. Population (lines 8a + 8b + 8c)	b	5
9. Resources	5	0
10. Sensitive Environments		
10a. Actual Contamination	c	0
10b. Potential Contamination	c	0
10c. Sensitive Environments (lines 10a + 10b)	c	0
11. Targets (lines 7 + 8d + 9 + 10c)	b	25
<u>Air Migration Pathway Score</u>		
12. Pathway Score (S _a) [(lines 3 x 6 x 11)/82,500] ⁴	100	1.52

^a Maximum value applies to waste characteristics category.

^b Maximum value not applicable.

^c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to maximum of 60.

⁴ Do not round to nearest integer.