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HRS DOCUMENTATION RECORD

for

McNabb Flying Service

Brazoria County, Texas

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August 1999

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Protecting Texas
by Reducing and
Preventing Pollution

HRS DOCUMENTATION RECORD

VOLUME I OF I

for

McNabb Flying Service
Brazoria County
TXD981048333
SWR # 81818

Prepared by:

Texas Natural Resource Conservation Commission
Austin, Texas

August 1999

Hazard Ranking System
Documentation Record

McNabb Flying Service
Alvin, Brazoria County, Texas
EPA ID # TXD981048333
TNRCC SWR # 81818

Prepared by

Texas Natural Resource Conservation Commission
Site Evaluation/Restoration/Remediation Section
Superfund Site Discovery & Assessment Program Staff
Austin, Texas

August, 1999

HRS DOCUMENTATION RECORD

McNabb Flying Service

Brazoria County, Texas

EPA ID # TXD981048333
SWR # 81818

SIGNATURE PAGE

Jacqueline S. Hardee

8/23/99

Jacqueline S. Hardee, P.E.
Texas Natural Resource Conservation Commission
Site Evaluation/Restoration/Remediation Section
Section Manager

Date

Wesley G. Newberry

8-6-99

Wesley G. Newberry
Texas Natural Resource Conservation Commission
Superfund Site Discovery & Assessment Program
Team Leader

Date

Marshall A. Cedilote

7/26/99

Marshall A. Cedilote
Texas Natural Resource Conservation Commission
Superfund Site Discovery & Assessment Program
Project Manager

Date

Stephanie Pogue

8/5/99

Stephanie Pogue
Texas Natural Resource Conservation Commission
Superfund Site Discovery & Assessment Program
QA/QC Officer

Date

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REFERENCES

Reference Number	Description of Reference
1.	30 TAC Chapter 335, Subchapter K, Section 335.342, Definitions: U.S. Environmental Protection Agency (USEPA), 40 CFR, Part 300, Hazard Ranking System, Appendix A, Volume 55, Federal Register 51532-51667. December 14, 1990.
2.	USEPA, Superfund Chemical Data Matrix (SCDM). June 1996.
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4.	U.S. Geological Survey. Manvel, Texas 7.5 Minute Topographic Quadrangle.
5.	Brazoria County Deed Records. 4 pages.
6.	USEPA, Potential Hazardous Waste Site Inspection Report. Lisa Arceneaux, Engineering Science, Inc. July 8, 1987. 27 pages.
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8.	USEPA, Potential Hazardous Waste Site Identification and Preliminary Assessment. Charles E. Lanford, Jr. February 3, 1985. 9 pages.
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11.	Texas Natural Resource Conservation Commission (TNRCC), Superfund Site Discovery and Eligibility Determination Checklist and Interoffice Memorandum. From: Steve Hamm, Superfund Coordinator, Region 12 - Houston. To: Ben Wesley, Industrial and Hazardous Waste Liaison. February 22, 1994. 24 pages.
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19.	Texas Department of Water Resources, Climatic Atlas of Texas. December 1983. 151 pages.
20.	Texas Department of Water Resources, Water Well Report. May 21, 1982. 1 page.
21.	TNRCC, Public Water Supply Well Report. June 23, 1998. 24 pages.

HRS DOCUMENTATION RECORD-REVIEW COVER SHEET

NAME OF SITE: McNabb Flying Service

AKAs: None

CONTACT PERSON & PHONE NUMBER: Marshall Cedilote, TNRCC (512) 239-4134

CURRENT SITE OWNER/OPERATOR: Mrs. Esther McNabb
P.O. Box 25
Manvel, Texas 77578

STREET ADDRESS: 1.5 miles northwest of the City of Alvin, approximately 1 mile east of State Highway 6, at the intersection of Brazoria County Roads 146 and 539.

CITY: Alvin
COUNTY: Brazoria
STATE: Texas

LATITUDE: 29° 27' 8" N
LONGITUDE: 95° 17' 30" W

EPA ID# TXD981048333

TNRCC SWR# 81818

TNRCC REGION 12

SITE SUMMARY

GENERAL DESCRIPTION OF THE SITE

The McNabb Flying Service (MFS) site is a residential and primarily undeveloped piece of property located approximately 1.5 miles northwest of the City of Alvin, 1 mile northeast of State Highway 6 at the intersection of Brazoria County Roads 146 and 539. The site is located at Latitude 29° 27' 8" N and Longitude 95° 17' 30" W (Ref. 4). A Site Location Map is provided as Figure 1.

The present owner of the site is Mrs. Esther McNabb (Ref. 5, pp. 1-4).

BACKGROUND AND OPERATING HISTORY

Little is known about the historical operations and waste management practices at the MFS site. Activity at the site began when Esther McNabb's husband, Joel McNabb, opened a flying school (exact date unknown); no pesticides were applied or stored at the site during this time (Ref. 6, p.11). Esther and Joel's stepson, Frank McNabb, was the first to use the site as a base for an aerial pesticide applicator, although the exact dates of his activities are unknown (Ref. 6, p. 11). Frank's son, Toby McNabb, used the site for approximately one year after Frank left the business and applied primarily fertilizer (Ref. 6, p. 11). The exact dates of Toby's activities at the site are unknown. MFS had been inactive for at least ten years when the U.S. Environmental Protection Agency (EPA) and the Texas Water Commission (TWC) began their site investigations.

The MFS site was identified as a potential hazardous waste site by the EPA on 10/20/84 from Texas Department of Agriculture files (Ref. 7, p. 1). A Preliminary Assessment was conducted at the MFS site on January 10, 1985. At that time the site was inactive and containers were observed in the hangars (Ref. 8, p. 5). The following information was obtained during an interview with Mr. Justin K. Davis, former chief pilot for McNabb Flying Service: No mixing of pesticides was done at the MFS site and all empty pesticide containers were returned to the farmer; all rinsate from pesticide containers were added to the aircraft; all application equipment was rinsed out with the last load; pump and spray booms were triple rinsed and the rinsate applied to the same field; no disposal of empty pesticide containers took place at the MFS site (Ref. 8, p. 5).

In a 1987 Tentative Disposition, the EPA recommended further investigation at the MFS site due to the types of chemicals present and the lack of information about site operations (Ref. 9, p. 1). A Site Inspection was performed at the MFS site in 1987. A soil sample collected in the drainage pathway from the operations area showed low levels of methyl parathion and ethyl parathion (0.013 and 0.065 mg/Kg, respectively) and toxaphene at 325 mg/Kg (Ref. 6, p.22). A sample collected from the McNabb ground water well used for drinking water, showed no contamination by pesticides (Ref. 6, p. 21). The EPA issued a Superfund Site Strategy Recommendation in 1988 that no further

remedial action was planned, however the site should be evaluated for a removal action (Ref. 10, p. 1). The MFS site was referred to the Texas Water Commission on September 27, 1988.

On October 8, 1993 TNRCC Region 12 personnel conducted a Superfund Site Discovery Inspection at the MFS site. In hangar #1 there was 1 55-gallon drum of methanol, 1 55-gallon drum of toluene, 1 55-gallon drum of acetone and 4 55-gallon drums of methylene chloride. In hangar #2 there was 1 partially full 55-gallon drum of the herbicide Stam-M4, 2 partially full 55-gallon drums of unknown liquids, 1 4-gallon metal container of toxaphene, 1 4-gallon metal container of methyl parathion, 4 2.5-gallon metal containers of Windfall Adjuvent and triphenyltin hydroxide as well as many empty, badly corroded pesticide and herbicide containers. A drum adjacent to water well #3 had 1 55-gallon drum of Stam-M4 and 2 55-gallon drums (one plastic, one metal) with unknown contents. The metal drum was documented to be leaking (Ref. 11, p. 2). A soil sample collected in hangar #1 showed a toxaphene concentration of 77.2 mg/Kg (Ref. 11, pp. 7, 11, 15). A soil sample collected outside hangar #2 showed a toxaphene concentration of 63.5 mg/Kg (Ref. 11, pp. 7, 12, 16). Based on these results, an NOV was sent to Ms. McNabb on 1/11/94 (Ref. 11, pp. 7, 21-22). A response to the NOV was received on 2/16/94, describing Ms. McNabb's inability to address the violations (Ref. 11, pp. 7, 23).

The MFS site was referred to the Pollution Cleanup Division on April 7, 1994 for appropriate action (Ref. 12, p. 1, 3). A State Superfund Candidate Site Eligibility/Status Sheet was completed on August 15, 1994 in which the MFS site was determined to be an eligible inactive facility (Ref. 13, p. 1).

On April 30, 1997, TNRCC personnel conducted an onsite sampling investigation at the McNabb Flying Service to obtain soil and drinking water samples to support the requirements for scoring the site. Approximately 90 drums, cans, containers, and bottles or jugs were located throughout Hangar No. 2. Five soil samples were collected during the site investigation; analysis indicated the presence of toxaphene and cadmium. Approximately 1,500 square feet of soil are impacted as a result of this contamination (Ref. 14, pp. 001-002).

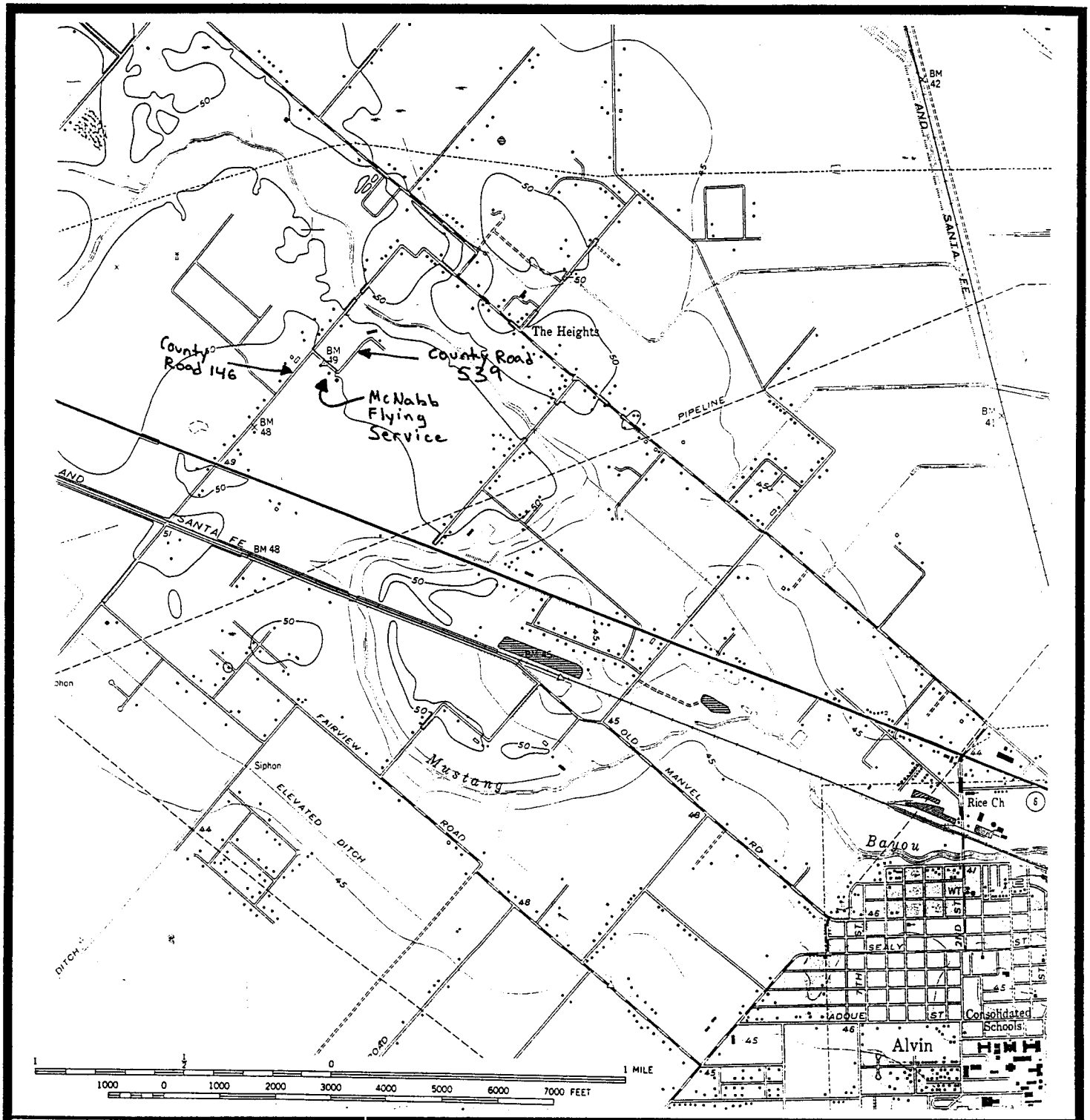

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FIGURE 1: Site Location Map

McNabb Flying Service
TXD981048333

Alvin, Brazoria County, Texas

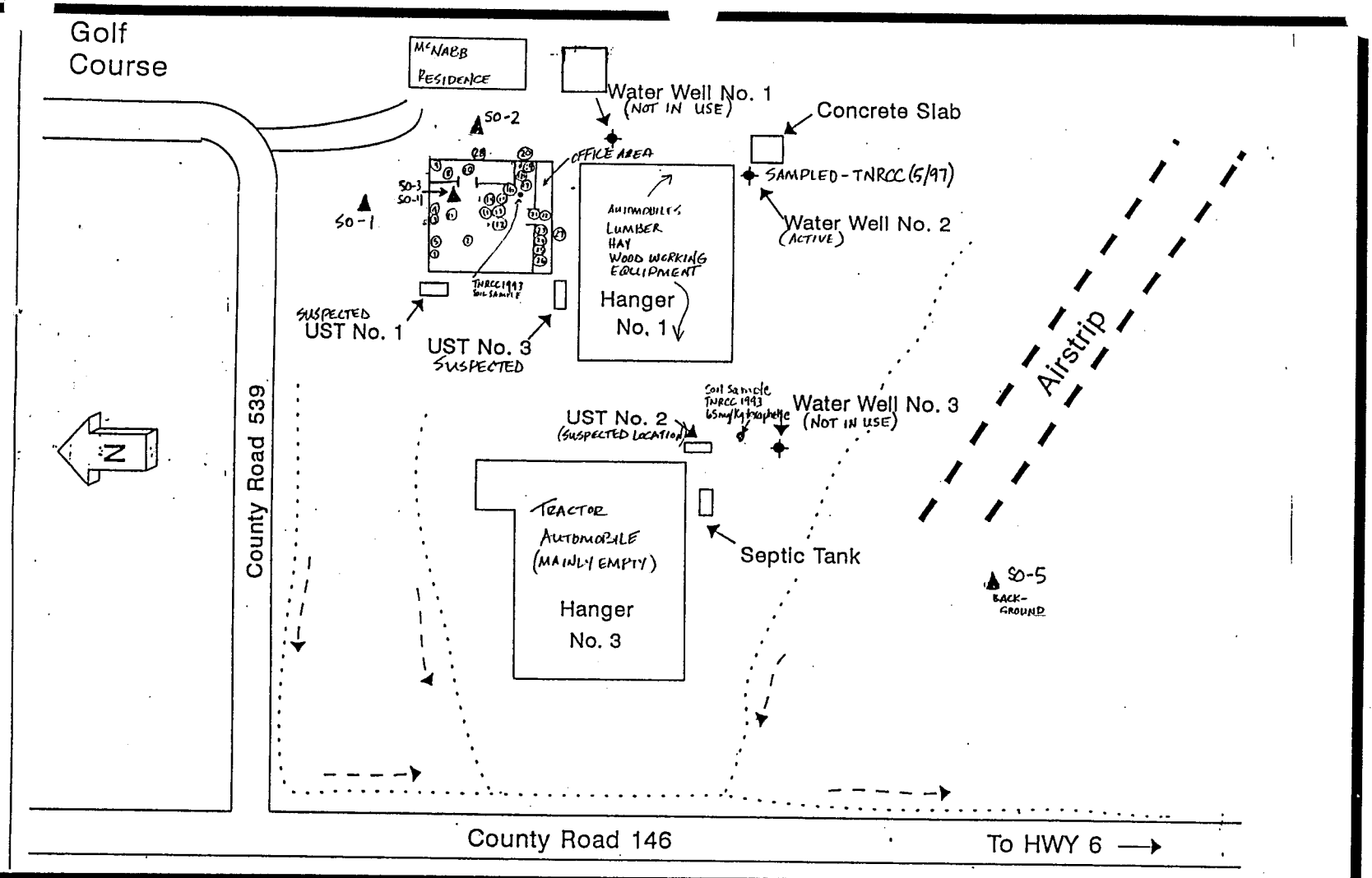

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Figure 2

Site Features Map

McNabb Flying Service

TXD981048333

Alvin, Brazoria County, Texas

SITE SCORING SUMMARY

PATHWAYS, COMPONENTS OR THREATS NOT EVALUATED:

Surface Water Pathway
The Surface Water Pathway was not scored due to the lack of perennially flowing surface water within 2 miles of the site.

Soil Exposure Pathway - Nearby Population Threat
The Soil Exposure Pathway Nearby Population Threat was not scored due to its lack of impact on the site score.

Air Migration Pathway
The Air Migration Pathway was not scored due to the lack of an observed release.

SCORES

Ground Water Pathway (Potential Contamination)	=	**13.89**
Surface Water Pathway	=	**NS**
Soil Exposure Pathway (Residential Population Threat)	=	**9.00**
Air Migration Pathway	=	**NS**

HRS Site Score = 8.27

NS = Not Scored

NOTES TO READER

The State predecessor agencies: Texas Water Quality Board (TWQB), Texas Department of Water Resources (TDWR), Texas Water Commission (TWC), and Texas Air Control Board (TACB), referred to throughout this report are now known as the Texas Natural Resource Conservation Commission (TNRCC). The new agency, TNRCC, became effective September 1, 1993, as mandated under State Senate Bill 2 of the 73rd Regular Legislative Session.

HRS DOCUMENTATION RECORD

WORKSHEET FOR COMPUTING HRS SITE SCORE

		S	S^2
1.	Ground Water Migration Pathway Score (S_{gw}) (from Table 3-1, line 13)	13.89	192.93
2a.	Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	NS	NS
2b.	Ground Water to Surface Water Migration Component (from Table 4-25, line 28)	NS	NS
2c.	Surface Water Migration Pathway Score (S_{sw}) Enter the larger of lines 2a and 2b as the pathway score.	NS	NS
3.	Soil Exposure Pathway Score (S_s) (from Table 5-1, line 22)	9.00	81.00
4.	Air Migration Pathway Score (S_a) (from Table 6-1, line 12)	NS	NS
5.	Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$	273.93	
6.	**HRS Site Score** Divide the value on line 5 by 4 and take the square root.	8.27	

GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors			Maximum Value	Value Assigned	
Likelihood of Release to an Aquifer					
1.	Observed Release		550	NS	
2.	Potential to Release				
	2a.	Containment	10	10	
	2b.	Net Precipitation	10	10	
	2c.	Depth to Aquifer	5	5	
	2d.	Travel Time	35	5	
	2e.	Potential to Release			
		(Lines 2a(2b + 2c + 2d))	500	200	
3.	Likelihood of Release				
	(Higher of Line 1 and 2e)		500		200
Waste Characteristics					
4.	Toxicity/Mobility		*	2000	
5.	Hazardous Waste Quantity		*	10	
6.	Waste Characteristics		100		18
Targets					
7.	Nearest Well		50	20	
8.	Population:				
	8a.	Level I Concentrations	**	NS	
	8b.	Level II Concentrations	**	NS	
	8c.	Potential Contamination	**	288.5	
	8d.	Population (Lines 8a + 8b + 8c)	**	288.5	
9.	Resources		5	5	
10.	Wellhead Protection Area		20	5	
11.	Targets (Lines 7 + 8d + 9 + 10)		**	318.5	
Ground Water Migration Score for an Aquifer					
12.	Aquifer Score				
	((Lines 3 x 6 x 11)/82,500)***		100	13.89	
GROUND WATER MIGRATION PATHWAY SCORE					
13.	Pathway Score (S_{gw}), (Highest value from Line 12 for all aquifers evaluated)***		100		13.89

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors

RESIDENT POPULATION THREAT

		Maximum Value	Value Assigned
Likelihood of Release to an Aquifer			
1.	Likelihood of Exposure	550	550
Waste Characteristics			
2.	Toxicity	*	10,000
3.	Hazardous Waste Quantity	*	10
4.	Waste Characteristics	100	18
Targets			
5.	Resident Individual	50	50
6.	Resident Population:		
6a.	Level I Concentrations	**	10
6b.	Level II Concentrations	**	NS
6c.	Resident Population (Lines 6a + 6b)	**	10
7.	Workers	15	5
8.	Resources	5	NS
9.	Terrestrial Sensitive Environments	***	NS
10.	Targets (Lines 5 + 6c + 7 + 8 + 9)	**	75
Resident Population Threat Score			
11.	Resident Population Threat (Lines 1 x 4 x 10)	**	742,500
NEARBY POPULATION THREAT			
Likelihood of Exposure			
12.	Attractiveness/Accessibility	100	NS
13.	Area of Contamination	100	NS
14.	Likelihood of Exposure	500	NS

* Maximum value applies to waste characteristics category
** Maximum value not applicable
*** No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited maximum of 60
**** Do not round to the nearest integer

NS = Not Scored

SOIL EXPOSURE PATHWAY SCORESHEET

NEARBY POPULATION THREAT (Concluded)

Factor Categories and Factors

		Maximum Value	Value Assigned
Waste Characteristics			
15.	Toxicity	*	NS
16.	Hazardous Waste Quantity	*	NS
17.	Waste Characteristics	100	NS
Targets			
18.	Nearby Individual	1	NS
19.	Population Within 1-Mile	**	NS
20.	Targets (Lines 18 + 19)	**	NS
Nearby Population Threat Score			
21.	Nearby Population Threat (Lines 14 x 17 x 20)	**	NS
SOIL EXPOSURE PATHWAY SCORE			
22.	Soil Exposure Pathway Score *** (S_3)(Lines 11 + 21)/82,500, subject to a maximum of 100)	100	9.00

* Maximum value applies to waste characteristics category
** Maximum value not applicable
*** No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited maximum of 60
**** Do not round to the nearest integer

NS = Not Scored