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HRS DOCUMENTATION RECORD

for

Avinger Development Company
Avinger, Texas

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September 15, 1999

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TNRCC

Protecting Texas
by Reducing and
Preventing Pollution

HRS DOCUMENTATION RECORD

for

Avinger Development Company
Avinger, Cass County, Texas
TXD 000 191 742

Prepared by:

Texas Natural Resource
Conservation Commission
Austin, Texas

September 1999

HRS

DOCUMENTATION RECORD

ADCO
Avinger, Cass County, Texas

September 1999

Hazard Ranking System
Documentation Record

Avinger Development Company
Avinger, Cass County, Texas
EPA ID# TXD 000 191 742
TNRCC ID# 81789

Prepared by

Texas Natural Resource Conservation Commission
Site Assessment and Management Section
Site Discovery and Assessment Program
Site Investigation Manager - Gary Hazelwood
Austin, Texas

September 1999

HRS DOCUMENTATION RECORD

Avinger Development Company

Avinger, Cass County, Texas

TXD# 000 191 742

SIGNATURE PAGE

_____ _____

Gary L. Hazelwood Date
Texas Natural Resource Conservation Commission
Superfund Site Discovery and Assessment Team
Project Manager

_____ _____

Stephanie Pogue Date
Texas Natural Resource Conservation Commission
Superfund Site Discovery and Assessment Team
QA/QC Officer

_____ _____

Wesley G. Newberry Date
Texas Natural Resource Conservation Commission
Superfund Site Discovery and Assessment Team
Team Leader

_____ _____

David L. Davis Date
Texas Natural Resource Conservation Commission
Remediation Division
Assistant Division Director

CONTENTS

FIGURES

ATTACHMENTS

HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

NAME OF SITE: Avinger Development Company (ADCO)

AKA: Doris Williams Site

CONTACT PERSON :

Site Investigation
and Documentation Record: Gary L. Hazelwood, TNRCC (903) 535-5108

CURRENT SITE OWNER/OPERATOR: James T. Wardlaw Jr., Property Owner
P.O. Box 579, Ore City, Texas 75683

Pathways of Concern:

Surface Water Pathway

Releases of hazardous substances to the surface water pathway are of major concern for this site. Hazardous substances have been documented in sediment samples with potential impact to environmental targets. Drinking water and human food chain threats are not being evaluated due to lack of targets (Ref. 3, p. 20).

Soil Pathway

Releases of hazardous substances to the soil pathway are of major concern for this site. Hazardous substances have been documented in on-site soil samples. The resident population threat is the only target of concern associated with the soil pathway.

Pathway, Components, or Threats Not Evaluated:

Ground Water Pathway

The Ground Water Pathway was not scored because the site scored on Surface Water and Soil Exposure Pathways. There were few drinking water wells observed within the four mile target distance limit and none were observed within a ½ mile radius of the site.

One private well, supplying drinking water to three people, is located between 0.50 to one mile from the site (Ref. 3, p. 15). Two municipal wells supply drinking water to 245 people and are located between one and two miles from the site (Ref. 3, p. 15). As of September 1999, the two City of Avinger wells are still in use but a pipeline is in place and public water supply is switching to Lake O' The Pines surface water within the next few months. No documentation indicates that these wells have been sampled to determine impact from the site.

On February 11, 1997, a temporary shallow well was installed on-site, in the boring of soil sample SO-04 (Ref. 3, p. 16). The well had a slotted screen from 14.5 feet to 19.5 feet (Ref. 3, p. 19). A sample from the shallow well indicated the following hazardous substances present: chromium (29.1 Fg/L), lead (10.3 Fg/L), manganese (35.5 Fg/L), mercury (20.0 Fg/L), nickel (383 Fg/L), vanadium (85.6 Fg/L), and zinc (87.8 Fg/L) (Ref. 3, p. 18; and 6, pp. 11 and 12). The closest drinking water well is located between 0.5 and 1 mile from this sample location (Ref. 3, p. 15).

Air Migration Pathway

The Air Migration Pathway was not scored because the site scored on Surface Water and Soil Exposure Pathways. There is no observed release for the Air Migration Pathway.

(Although these pathways have not been evaluated, the TNRCC is concerned for all pathways surrounding the site. However, evaluation of these pathways would not have significantly increased the overall site score.)

NOTES TO READER

The following rules were used when citing references in the HRS Documentation Record:

1. If the reference cited had an original page number, that page number is cited.

2. If the reference cited had no original page number, then a designated tracking number is cited. These references have been stamped with a designated page number (example: Ref. 1, p. 10 = 01010).

3. If the reference cited is for analytical data found within a table, the sample ID is used to locate that reference.

4. 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

Name of Site: Avinger Development Company

Date Prepared: 09/99

CERCLIS Site ID Number: TXD 000 191 742

TNRCC ID#: 81789

SITE LOCATION:

Street Address of Site: Approximately 0.25 mile east of the intersection of State Highway 49 and State Highway 155, on the south side of State Highway 155 (see Figure 1, Site Location Map).

City, County, State: Avinger, Cass County, Texas

Topographic Map: US Geological Survey 7.5 Minute Topographic Map, Avinger, Tex. 1962

Latitude: 32^0 54' 05" North **Longitude:** 94^0 32' 29" West
(See Attachment A, Topographic Maps)

TNRCC Region: 5

SITE SCORING SUMMARY:

Pathway Scores:
Groundwater Migration Pathway - NE
Surface Water Migration Pathway - 31.73
Soil Exposure Pathway - 19.20
Air Migration Pathway - NE

NE - Not Evaluated

HRS SITE SCORE: 16.59

SITE SUMMARY

GENERAL DESCRIPTION OF THE SITE:

The Avinger Development Company (ADCO) site is located on the south side of State Highway 155, approximately 0.25 mile east of State Highway 49, Cass County, Texas, as shown in Figure 1. The approximate geographic coordinates of the property are Latitude *32^0 54' 05"* North, Longitude *94^0 32' 29"* West (Attachment A).

The property consists of 26.49 acres (Ref. 3, p. 3). The property is surrounded by a 4-foot hog panel fence with two strands of barbed wire across the top. The facility is now inactive and consists of two metal buildings. The southern building is currently used for storage, by the owners. The northern, larger, building is open on the east and west sides and has a structure built into it that is currently used as the Wardlaw's residential home.

ADCO purchased the property in April, 1968. ADCO operated a copper, chromium, arsenate (CCA) wood treating facility for approximately one year in the early 1970's. Records indicate that All-Tex Lumber may have also had operations at the facility during the same time as ADCO. The late J. O. Williams and wife, Doris Williams of 219 Jemez, Hobbs, New Mexico, 88240, purchased the property in the early 1970's. In September, 1996, Doris Williams sold the property to the current owner and site resident James T. Wardlaw Jr. (Ref. 3, p. 3).

The only structures remaining from ADCO's wood treating operations are two metal buildings, a buried drain pipe running approximately 150 feet to the northeast from the northern building, to an abandoned CCA discharge pit. The CCA discharge pit measures an estimated 40 feet by 40 feet by 10 feet deep and is filled with a turquoise-colored material mixed with soil, wood chips, and bark (Ref. 3, p. 7).

On September 23, 1993, the TNRCC collected an auger sample from what appears to be an abandoned CCA discharge pit (Ref. 4). The results indicated the presence of elevated levels of arsenic (9370 mg/Kg), chromium (5940 mg/Kg), and copper (337 mg/Kg) (Ref. 4, p. 6).

A SSI sampling event was conducted on February 11, 1997, to determine levels of metals present in on-site soils, subsurface abandoned CCA pit, and off-site creek sediment. Hazardous substances were detected in on-site soils, the abandoned CCA pit, and the off-site creek sediment. A subsurface sample collected from 4-6 feet, from the abandoned CCA pit, indicated 11,000 mg/Kg of arsenic and 9,820 mg/Kg chromium (SO-1-2/MFGQ70) (Ref. 3, p. 11; and 7, p. 16). One on-site soil sample, next to the north building (SO-6-2/MFGQ79) indicated 650 mg/Kg arsenic and 802

mg/Kg chromium (Ref. 3, p. 11; and7, p. 25). Arsenic and chromium were also detected as observed releases in sediment samples at the PPE to an unnamed perennial stream. Observed releases of beryllium, chromium, cobalt, manganese, nickel, and vanadium were detected in the furthest downstream sediment sample from the PPE (SE-07/MFGQ88) (Ref. 3, p. 11; and 24; and 7, p. 34).

During February 1998, the EPA collected soil samples surrounding the north building and a green stained concrete sample from the north building (Ref. 8). Several of the soil samples surrounding the north building had analytical results for arsenic and chromium that were extremely elevated and pose a significant health risk to the residents. The concrete sample from the building that the Wardlaw's house is located, showed concentrations of 109,433 mg/Kg arsenic and 71,400 mg/Kg chromium (Ref. 8, p. 1).

The target of the soil exposure pathway is the resident population. James T. Wardlaw Jr., his wife, and two school age children reside in the north building. Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species target was not included as a target since no sightings were confirmed. Information of sightings was requested of the Texas Audubon Organization, but a response has not been received yet. The Texas Parks and Wildlife Department identified four federally listed endangered or threatened species presently known and possibly occurring within a four mile radius of the site location (Ref. 9).

Potential targets of the surface water pathway are wetlands beginning at the PPE to the unnamed perennial stream, extending to the end of the 15 mile target distance limit (Attachments A; and B). Although observed releases were detected in wetland sediment, the site can only be scored for potential impact to wetlands since a sediment sample was not collected at least 0.1 mile from the PPE (Ref. 1, p. 51625; 3, p. 24; and Attachment B).

REFERENCES

Reference Number	Description of the Reference
1.	U.S. Environmental Protection Agency, 40CFR Part 300, *Hazard Ranking System*, Appendix A, 55 FR 51583, December, 1990.
2.	U. S. Environmental Protection Agency, *Superfund Chemical Data Matrix (SCDM)*. June, 1996.
3.	U. S. Environmental Protection Agency, *Screening Site Inspection Report, ADCO Site,* September 1997. 42 pages.
4.	H.L. Jones, TNRCC, Industrial & Hazardous Waste Inspection Report. March 16, 1994. 16 pages.
5.	Reserved.
6.	United States Environmental Protection Agency, Region 6, Houston Branch. Case Number 25302, Sample Designation Group MFGO89, CLP Data Review and Analyses Package. From Melvin L. Ritter, ESAT RPO, 6MD-HC; To B. Canellas, 6SF-RA. 12 pages.
7.	United States Environmental Protection Agency, Region 6, Houston Branch. Case Number 25302, Sample Designation Group MFGO49, CLP Data Review and Analyses Package. From Melvin L. Ritter, ESAT RPO, 6MD-HC; To B. Canellas, 6SF-RA. 34 pages.
8.	Knudson, Myron O., P.E., United States Environmental Protection Agency, Superfund Division Director, to James T. Wardlaw, Jr. Letter. 1998. 3 pages.
9.	Texas Parks and Wildlife Department, to Mark Norman, Texas Natural Resource Conservation Commission. Facsimile. September 23, 1996. 8 pages.
10.	Department of Commerce, Washington D.C., Rainfall Frequency Atlas of the United States. May 1961. 1 page.

WORKSHEET FOR COMPUTING HRS SITE SCORE

		S	S^2
1.	Ground Water Migration Pathway Score (S_{gw}) (from Table 3-1, line 13)	NE	
2a.	Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	31.73	1006.79
2b.	Ground Water to Surface Water Migration Component (from Table 4-25, line 28)	NE	
2c.	Surface Water Migration Pathway Score (S_{sw}) Enter the larger of lines 2a and 2b as the pathway score.	NE	
3.	Soil Exposure Pathway Score (S_s) (from Table 5-1, line 22)	19.20	368.64
4.	Air Migration Pathway Score (S_a) (from Table 6-1, line 12)	NE	
5.	Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		1375.43
6.	**HRS Site Score** Divide the value on line 5 by 4 and take the square root		**16.59**

TABLE 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

	Factor Categories and Factors	Maximum Value	Value Assigned
	DRINKING WATER THREAT - Not Evaluated due to lack of targets (Ref. 3, p. 20)		
	Likelihood of Release:		
1.	Observed Release (Ref. 3, pp. 11 and 24; and 7)	550	550
2.	Potential to Release by Overland Flow		
	2a. Containment	10	NE
	2b. Runoff	25	NE
	2c. Distance to Surface Water	25	NE
	2d. Potential to Release by Overland Flow (lines 2a[2b+2c])	500	NE
3.	Potential to Release by Flood:		
	3a. Containment (Flood)	10	NE
	3b. Flood Frequency	50	NE
	3c. Potential to Release by Flood (lines 3a x 3b)	500	NE
4.	Potential to Release (Lines 2d + 3c, subject to a maximum of 500)	500	NE
5.	Likelihood to Release		
	(Higher of Lines 1 and 4)	550	550

TABLE 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

	Factor Categories and Factors		Maximum Value	Value Assigned
	ENVIRONMENTAL THREAT			
	Likelihood of Release			
22.	Likelihood of Release (Same Value as Line 5)		550	550
	Waste Characteristics			
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation (manganese) (Ref. 2; and 3, p. 24)		*	$5x10^5$
24.	Hazardous Waste Quantity (Ref. 1, p. 51592)		*	100
25.	Waste Characteristics (Ref. 1, p. 51624)		1,000	56
	Targets			
26.	Sensitive Environment:			
	26a.	Level I Concentrations (Ref. 3, p. 20)	**	0
	26b.	Level II Concentrations (Ref. 3, p. 20)	**	0
	26c.	Potential Contamination (Attachments A and B)(1mi. w/ dilution of 1 & 14 mi. w/ dilution of 0.1)	**	85
	26d.	Sensitive Environments		
		(Lines 26a + 26b + 26c)	**	85
27.	Targets (Value from Line 26d)		**	85
	Environmental Threat Score			
28.	Environmental Threat Score			
	((Lines 22 x 25 x 27)/82,500, subject to a maximum of 60): (550 x 56 x 85)/82,500		60	31.73
	SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29.	WATERSHED SCORE***			
	(Lines 13 + 21 + 28, subject to a maximum of 100)		100	31.73
	SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30.	Component Score (S_{of})*** (Highest score from Line 29 for all watersheds evaluated, subject to a maximum of 100)		100	31.73

* Maximum value applies to waste characteristics category
** Maximum value not applicable
*** Do not round to the nearest integer

TABLE 5-1
SOIL EXPOSURE PATHWAY SCORESHEET

	Factor Categories and Factors		Maximum Value	Value Assigned
	RESIDENT POPULATION THREAT			
	Likelihood of Exposure			
1.	Likelihood of Exposure (Ref. 3, pp. 11 and 24; and 7)		550	550
	Waste Characteristics			
2.	Toxicity (arsenic, barium, & mercury) (Ref. 1, p. 51589; 2; and 3, p. 11)		*	10,000
3.	Hazardous Waste Quantity (Ref. 1, p. 51592, [first column, first bullet - default value of 100, due to target subject to Level II concentrations])		*	100
4.	Waste Characteristics (Ref. 1, Table 2-7) ($10,000 \times 100 = 1 \times 10^6$)		100	32
	Targets			
5.	Resident Individual (Ref. 3, p. 3)		50	50
6.	Resident Population:			
	6a.	Level I Concentrations (Ref. 3, p. 3)	**	40
	6b.	Level II Concentrations	**	0
	6c.	Resident Population (Lines 6a + 6b)	**	40
7.	Workers		15	0
8.	Resources		5	0
9.	Terrestrial Sensitive Environments		***	0
10.	Targets (Lines 5 + 6c + 7 + 8 + 9)		**	90
	Resident Population Threat Score			
11.	Resident Population Threat (Lines 1 x 4 x 10)		**	1,584,000
	NEARBY POPULATION THREAT			
	Likelihood of Exposure			
12.	Attractiveness/Accessibility		100	NE
13.	Area of Contamination		100	NE
14.	Likelihood of Exposure		500	NE

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

TABLE 5-1
SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors		Maximum Value	Value Assigned
NEARBY POPULATION THREAT (Concluded)			
Waste Characteristics			
15.	Toxicity	*	NE
16.	Hazardous Waste Quantity	*	NE
17.	Waste Characteristics	100	NE
Targets			
18.	Nearby Individual	1	NE
19.	Population Within 1-Mile	**	NE
20.	Targets (Lines 18 + 19)	**	NE
Nearby Population Threat Score			
21.	Nearby Population Threat (Lines 14 x 17 x 20)	**	NE
SOIL EXPOSURE PATHWAY SCORE			
22.	Soil Exposure Pathway Score *** (S_3)(Lines 11 + 21)/82,500, subject to a maximum of 100)	100	19.20

* Maximum value applies to waste characteristics category
** Maximum value not applicable
*** Do not round to the nearest integer