

The following is an Adobe Acrobat reproduction of the official  
**HRS DOCUMENTATION RECORD**  
for

# **Sherman Foundry**

## **Sherman, Texas**

No graphics illustrations or copies of documents cited as references in the determination of the HRS score are included with this electronic version, but graphics are available with the print versions as part of the repository records

at

**Sherman Public Library**  
**421 North Travis**  
**Sherman, Texas**

and/or

**TCEQ Records Management Center**  
**Austin, Texas**

**August 23, 2005**

**Scroll Down to View**



## **HRS DOCUMENTATION RECORD**

**for**

**Sherman Foundry**

**Sherman, Grayson County, Texas**

**EPA ID# TXD007318652**

**TCEQ SWR#38764**

**Prepared by:**

**Texas Commission on Environmental Quality  
Austin, Texas**

**August 23, 2005**



**HRS**

**DOCUMENTATION  
RECORD**

**Sherman Foundry**

**Sherman, Grayson County, Texas  
EPA ID# TXD007318652**

**August 23, 2005**

Hazard Ranking System  
Documentation Record

Sherman Foundry

Sherman, Grayson County, Texas

EPA ID# TXD007318652

Prepared by

Texas Commission on Environmental Quality  
Site Investigation and Community Relations  
Site Discovery and Assessment Program Staff  
Austin, Texas

August 23, 2005

**HRS DOCUMENTATION RECORD**

**Sherman Foundry**

**Sherman, Grayson County, Texas**

**EPA ID# TXD007318652**

**SIGNATURE PAGE**

for Marshall Coker  
Xiaohong Wang  
Texas Commission on Environmental Quality  
Superfund Site Discovery and Assessment Team  
Project Manager

8/22/05  
Date

Lloyd Johnson  
Lloyd Johnson  
Texas Commission on Environmental Quality  
Superfund Site Discovery and Assessment Team  
QA/QC Officer

8/22/05  
Date

Wesley G. Newberry  
Wesley G. Newberry  
Texas Commission on Environmental Quality  
Superfund Site Discovery and Assessment Team  
Team Leader

8/23/05  
Date

David L. Davis  
David L. Davis  
Texas Commission on Environmental Quality  
Site Investigations and Community Relations  
Section Manager

8/30/05  
Date

## CONTENTS

HRS Documentation Record Cover Sheet . . . . .	1
Pathways of Concern . . . . .	1
Groundwater Migration Pathway. . . . .	1
Surface Water Pathway- Environmental Threat . . . . .	1
Soil Exposure Pathway . . . . .	2
Air Migration Pathway . . . . .	2
Pathways, Components, or Threats Not Scored . . . . .	2
Surface Water Pathway - Human Food Chain Threat . . . . .	2
Surface Water Pathway - Drinking Water Threat . . . . .	2
Groundwater to Surface Water Migration Pathway . . . . .	2
Notes to Reader . . . . .	4
HRS Documentation Record . . . . .	5
Site History and Background . . . . .	6
Worksheet for HRS Site Score . . . . .	11
Groundwater Migration Pathway Scoresheet . . . . .	12
Surface Water Overland/flood Migration Component Scoresheet . . . . .	15
Soil Exposure Pathway Scoresheet . . . . .	17
Air Migration Pathway Scoresheet . . . . .	19
References . . . . .	22

## FIGURES

Figure 1	Site Location Map . . . . .	9
Figure 2	Site Sketch . . . . .	10

## HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

**NAME OF SITE:** Sherman Foundry, a.k.a. Old Foundry

**CONTACT:** Xiaohong Wang, TCEQ (817) 588-5914

**CURRENT SITE OWNERS:**

Hamilton Foundry & Machine Company  
1000 West Wiley Avenue  
Uffton, IN 46714-2333

**PATHWAYS OF CONCERN:**

**Groundwater Migration Pathway**

There are no drinking water wells onsite (Ref. 9, p. 4). Based on the July, 2003 Screening Site Inspection (SSI) report, the nearest public supply drinking water wells are City of Sherman Municipal Well Nos. CP-1W (736' deep, Woodbine Aquifer) and CP-1T (2,295' deep, Trinity Aquifer), located 0.8 mile east of the site, at the Cherry Park Pump Station, 1413 E. King Street, Sherman, TX (Ref. 6, p. 64). The City of Sherman has a mixed water distribution system with half of the city on surface water from Lake Texoma and half of the city on well water. The two distribution systems are separate. Based on a current search of TCEQ Public Water Systems database and Texas Water Development Board database, there are: Eight public drinking water wells located within two miles from the site that supply 16,044 people; twelve public drinking water wells located within three miles from the site that supply 14,670 people; and five public drinking water wells located within four miles of the site that supply 8,128 people. Based on the TWDB database search there are no private drinking wells within four miles from the site, although this has not been field-verified. The City of Sherman does not have a designated wellhead protection area. Based on the SSI report, no contamination was found in Well No. CP-W (Ref. 6, pp. 67-68). Since there are three foundry waste piles located on the Sherman Foundry site, the potential to release to groundwater is evaluated using chromium, detected in the North Foundry Waste Stockpile.

**Surface Water Pathway - Environmental Threat**

Surface water runoff from the site drains west then south, discharging to a series of storm drains located along King and East Streets. The storm drains discharge 800' west via an 8' concrete box culvert to an unnamed intermittent tributary of Post Oak Creek (containing HRS qualifying wetlands), which flows 1.7 miles south to the Probable Point of Entry (PPE) of the main fork of Post Oak Creek, thence 2.0 miles southeast to Choctaw Creek to the end of the 15-mile Target Distance Limit (TDL) (Ref. 6, pp. 69-70). There are no surface water intakes or fisheries along the surface

water migration pathway (Ref. 6, pp. 96-97). There are HRS-qualifying Palustrine Forested Broad-leaved Deciduous Seasonally Flooded (PFO1C) wetlands extending 2.0 miles south to the main fork of Post Oak Creek (Ref. 6, p. 71). Results of sediment samples collected at the PPE during the SSI document a release of mercury from the site (Ref. 6, pp. 84-89). Based on its toxicity/persistence/bioaccumulation, benzo(a)pyrene is chosen as hazardous substance with which to evaluate the surface water overland/flood migration pathway.

### **Soil Exposure Pathway**

There are no residents living onsite. The nearest business is a plumbing/refrigeration shop with 7 full time employees, located east of the site on South First Street. The nearest school is the privately owned Grayson Christian School, located within 350 ft east of the site (Ref. 6, p.107), with 85 students and 10 faculty members. The nearest residence is located at 602 First Street, approximately 200 ft southeast of the main plant entrance (Ref. 6, p.107). Soil samples collected during the SSI showed releases of attributable hazardous substances at the plumbing/refrigeration shop and the nearest residence (Ref. 6, pp. 99-110). Based on its toxicity, mercury is chosen as the hazardous substance with which to evaluate the soil exposure pathway.

## **PATHWAYS, COMPONENTS OR THREATS EVALUATED BUT NOT SCORED:**

### **Surface Water Pathway - Human Food Chain Threat**

The Surface Water Pathway Human Food Chain Threat was evaluated, but not scored for this site due to the lack of fisheries along the surface water migration pathway (Ref. 6, p. 96).

### **Surface Water Pathway - Drinking water Threat**

The Surface Water Pathway drinking water threat was evaluated, but not scored for this site due to the lack of surface water intakes along the surface water migration pathway (Ref. 6, p. 96).

### **Groundwater to Surface Water Migration Pathway**

Based on the information provided by Mr. Oscar Canalds and Mr. Ben Uselton, employees of the City of Sherman, the deepest depth of Post Fork Creek within the TDL is approximately 7 ft; the deepest depth of Choctow Creek within the TDL is approximately 8 to 10 ft; and the depth of Woodbine aquifer, used as a drinking water source, is approximately 736 ft. Because the top of the uppermost aquifer is below the bottom of the surface water, the groundwater to surface water component cannot be evaluated (Ref. 8a, 8b).

### **Air Migration Pathway**

The Air Migration Pathway was evaluated, but not scored for this site due to the lack of an observed release. Inclusion of the Air Migration Pathway scored for a potential release does not significantly add to the site score.

## NOTES TO READER

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

1. All references attached to this report have been stamped with a designated page number. However, if the reference page had an original number, that number is cited.
2. The State predecessor agencies: Texas Water Quality Board (TWQB), Texas Department of Water Resources (TDWR), Texas Water Commission (TWC), Texas Air Control Board (TACB), and Texas Natural Resource Conservation Commission (TNRCC) referred to throughout this report are now known as the Texas Commission on Environmental Quality (TCEQ). The name change became effective September 1, 2002, as mandated under State House Bill 2912 of the 77<sup>th</sup> Regular Legislative Session.

## HRS DOCUMENTATION RECORD

**Date Prepared:** March 23, 2005  
**Name of Site:** Sherman Foundry  
**CERCLIS ID Number:** TXD007318652  
**TCEQ ID#:** 38764  
**TCEQ Region:** 4  
**Street Address of Site:** 532 East King Street  
See Figure 1 - Site Location Map  
**City, County, State:** Sherman, Grayson County, Texas  
**Topographic Map:** US Geological Survey 7.5 Minute Topographic Quadrangle,  
Sherman, Texas, 1974. (Ref. 14)

### Site Coordinates

**Latitude:** 33° 37' 59.9" North  
**Longitude:** 96° 36' 06.5" West

### Pathway Scores:

Groundwater Migration Pathway	6.07
Surface Water Migration Pathway	53.33
Soil Exposure Pathway	6.48
Air Migration Pathway	NS

NS - Not Scored

**HRS SITE SCORE: 27.03**

## **Site History and Background:**

The Old Foundry Site, aka. Sherman Foundry, located at 532 E. King Street, Sherman, TX, is a former cast iron foundry that produced gray and ductile iron machine parts from scrap, pig iron and foundry returns using a melting and mold process. The site began operations before 1947 and ceased operations in October, 2000 (Ref. 10, p. 1; Ref. 11, p. 3). Hamilton Foundry & Machine Company, the parent company of the Sherman Foundry, filed Chapter 11 bankruptcy in October 2000. In late April, 2001 an auction was held and all process equipment was sold (Ref. 12, p.1). On June 4, 2002 the Chapter 11 bankruptcy converted to Chapter 7 bankruptcy (Ref. 10, p.1).

The foundry began operating before 1947, producing gray iron (90%) and ductile iron parts (10%) in cupola furnaces and baked sand molds. The facility employed approximately 56 people and operated 50 weeks per year. Raw materials consisted of 40% scrap iron and rejected castings, 30% scrap cast iron, 20% steel and 10% pig iron. The molten iron was poured into prefabricated baked sand molds and cooled. The sand was removed and the rough castings deburred. After deburring, the castings were tumbled in a shop blast cleaner to remove any residual sand, ground to the proper size, painted (as required), packaged, and delivered to customers. The facility was known to produce custom iron grating, cast iron stoves and iron work for many of the historical homes in Sherman; many of the castings have historical significance (Ref. 11, p. 3).

A file review revealed that foundry sand, slag, slag-filled drums and baghouse dust had been delivered to multiple locations in Sherman and the surrounding area over a number of years and used as fill material. This unauthorized disposal of industrial solid waste was first disclosed during a February 29, 1988 Grayson County Health Department investigation of unauthorized burning at an auto salvage yard. During interviews with the owner, it was revealed that the site had received significant amounts of molding sand reportedly mixed with baghouse dust from the Sherman Foundry. The incident was reported to the TWC Region 4 Office for further investigation. A sampling inspection at the foundry on April 15, 1988 revealed hazardous levels of lead (20,800 mg/Kg; EP Tox 18.65 mg/L) and elevated chromium (308 mg/Kg) in the baghouse dust and low-level phenol(0.008 mg/L) in the foundry sand (Ref. 15, p. 3). Based on the sample results, the facility was requested to register as a industrial hazardous waste generator and cease all unauthorized disposal of industrial solid wastes. The EPA Region 6 RCRA Office conducted a Case Development Inspection on December 13, 1988 at the Sherman Foundry site and at several identified fill locations that included Bill's Place Auto Salvage, located at 1000 E. Lake Street, Sherman, TX and J&J Sales, a used car lot located along Hwy11, Luella, TX, three miles south of Sherman (Ref. 15, pp. 1-2). The case was referred to the TWC for further investigation since hazardous levels of metals were not detected at either landfill location. During a subsequent May 30, 1989 TWC Region 4 Compliance Evaluation Inspection conducted at the Sherman Foundry site, sample results revealed: Low levels of metals and organics in the foundry sand - Chromium (8 mg/Kg, TCLP, 0.01 mg/L), lead (22 mg/Kg, TCLP, 0.048 mg/L), and phenol (14 mg/Kg); low levels of metals in the slag - Lead (23 mg/Kg) and chromium (113 mg/Kg, TCLP, 0.02 mg/L); and hazardous levels of lead and other metals in the cupola baghouse dust - Lead (44,000 mg/Kg, TCLP, 64 mg/L), chromium (309 mg/Kg, TCLP 0.07 mg/L), copper (2,350 mg/Kg), silver (102 mg/Kg) and zinc (22,400 mg/Kg) (Ref. 16, pp. 4-5). According to analytical results, lead was the only hazardous substance meeting the definition of a hazardous waste.

The facility registered as a hazardous waste generator on October 2, 1989, listing waste oil, slag, plant refuse, grinding dust, and foundry sand as waste streams (Ref. 18, p. 1-3). The facility has a pre-RCRA deed recorded landfill (15'x50') located in the northeast portion of the site where cupola baghouse dust (21 yds<sup>3</sup> placed in a pit mixed with native soils) had been buried prior to 1980 (Ref. 17, p.2-6).

The site was inspected by the Region 4 Industrial and Hazardous Waste Section on March 6, 2002, noting the facility was vacant with approximately 125 55-gallon drums and 60 5-10 gallon containers of unknown wastes. Significant amounts of molding sand and slag wastes remained onsite (Ref. 13, pp.1-2).

The TCEQ conducted an SSI at the site in January, 2003 (Ref. 6). A total of thirteen soil samples, including two field duplicates, were collected during the sampling event in order to identify and characterize the hazardous substances associated with each source. Based on the sample results, metals (chromium 41.1 mg/Kg, copper 25.4 mg/Kg, iron 19,400 mg/Kg) and semivolatiles (phenol 1.8 mg/Kg, naphthalene 2.2 mg/Kg, and 2-Methylnaphthalene 1.4 mg/Kg) were documented in the soil adjacent to the southeast edge of the North Foundry Waste Stockpile (Ref. 6, pp. 41-42). Metal (zinc 90.1 mg/Kg) and semivolatiles (phenol 6.4 mg/Kg, naphthalene 2.3 mg/Kg, 2-Methylnaphthalene 0.79 mg/Kg, phenanthrene 1.2 mg/Kg, fluoranthene 1.2 mg/Kg, pyrene 0.84 mg/Kg, benzo(a)anthracene 0.49 mg/Kg, chrysene 0.82 mg/Kg, benzo(b)fluoranthene 1.2 mg/Kg, benzo(k)fluoranthene 0.75 mg/Kg, benzo(a)pyrene 0.54 mg/Kg, indeno(1,2,3-cd)pyrene 0.64 mg/Kg, and benzo(g,h,i)perylene 0.74 mg/Kg) were documented in the material adjacent to the southwest edge of the inside Foundry Waste Stockpile (Ref. 6, pp 45-48). Metals were documented (chromium 32.1 mg/Kg, copper 41.6 mg/Kg, iron 23,800 mg/Kg, and lead 82.9 mg/Kg) and phenol (11 mg/Kg) were detected in soil adjacent to the northeast corner of the northeast drum storage area. Metals (copper 21.9 mg/Kg and zinc 98.8 mg/Kg) and semivolatiles (phenol 3.8 mg/Kg, naphthalene 1.5 mg/Kg, 2-Methylnaphthalene 0.96 mg/Kg) were documented in soil approximately 10 ft north of the process building in the north Drum Storage Area (Ref. 6, pp.46-47). Metals (arsenic 77.9 mg/Kg, cadmium 39.9 mg/Kg, chromium 151 mg/Kg, copper 760 mg/Kg, iron 95,000 mg/Kg, lead 4680 mg/Kg, manganese 9700 mg/Kg, mercury 0.94 mg/Kg, nickel 42.2 mg/Kg, selenium 28.4 mg/kg, silver 19.5 mg/Kg, and zinc 6200 mg/Kg) were documented in the material near the Cupola Baghouse Hopper Bin (Ref. 6, pp. 52-53). Metals (arsenic 23.8 mg/Kg, chromium 713 mg/Kg, copper 567 mg/Kg, iron 384,000 mg/Kg, manganese 3590 mg/Kg, nickel 412 mg/Kg, and zinc 109 mg/Kg) and semivolatiles (phenol 0.44 mg/Kg and naphthalene 0.38 mg/Kg) were documented in the material near the Grinding Baghouse Hopper Bin (Ref. 6, pp. 54-57). Metals (copper 20.7 mg/Kg and zinc 106 mg/Kg) and semivolatiles (phenol 14 mg/Kg, naphthalene 10 mg/Kg, 2-Methylnaphthalene 12 mg/Kg, and phenanthrene 4.3 mg/Kg) were documented in material accumulated on the floor of the Foundry Process Area (Ref. 6, pp. 58-59). Metals (chromium 81.9 mg/Kg, copper 37.3 mg/Kg, lead 246 mg/Kg, zinc 188 mg/Kg) and phenol (0.61 mg/Kg) were documented in soil adjacent to a waste pile of foundry ash and debris located along the east side of the filled area at the Bill Harris Landfill site (Ref. 6, pp. 60-61). Semivolatiles (phenol 2.2 mg/Kg and naphthalene 0.51 mg/Kg) were documented in soil adjacent to a waste pile of broken sand molds, ash and debris located approximately 20 ft south of the fence line at the Lake Street Landfill site (Ref. 6, p. 63). Semivolatiles (phenol 4.8 mg/Kg, naphthalene 0.4 mg/Kg, and 2-Methylnaphthalene 0.42 mg/Kg) were documented in soil along the exposed west side bank of the

fill material located at Olive Street Landfill site (Ref. 6, p. 64).

The North Foundry Waste Stockpile is estimated to be 2,920 yds<sup>3</sup> (Ref. 6, p. 24). The West Foundry Waste Stockpile is estimated to be 1,850 yds<sup>3</sup> (Ref. 6, p. 24). The Inside Foundry Waste Stockpile is estimated to be 400 yds<sup>3</sup> (Ref. 6, p. 24).

In August, 2003 the TCEQ conducted a Removal Action at the Sherman Foundry site. Based on the Removal Action Report, prepared by Weston Solutions, Inc. In April, 2005, the liquid wastes were sampled and containerized (Ref. 21, p. 8). A total of 21 containers with 1,050 gallons of liquid waste were removed, transported, and disposed offsite as nonhazardous waste at CSD Disposal and Landfill in Avalon, Texas. A total of 17 containers with 850 gallons of liquid waste and 32 containers with 131,400 pounds of solid waste were removed, transported, and disposed offsite as hazardous waste at SET Environmental in Houston, Texas (Ref. 21, p. 11). The empty drums had been secured and stored in the drum storage area. Baghouse and grinding dust and debris were collected from baghouse areas and containerized in 32 containers. These containers were inventoried and stored onsite.

On April 15, 2004, a Settlement Agreement was signed between the TCEQ and the bankruptcy trustee for the Debtor to settle the issues raised on appeal by a mutual release of all claims against each other. An Order was entered on June 10, 2004 approving the TCEQ's motion for voluntary dismissal of the appeal since the parties had settled the issues that gave rise to the appeal (Ref. 19, pp. 2-8).

On December 20, 2004, Enforcement Division referred Sherman Foundry site to the Remediation Division for appropriate action (Ref.10).

On January 21, 2005, a site inspection was conducted by the writer (Ref. 9). There are no residents living onsite. The site is located in south central Sherman, TX, bordered on the east and west by Southern Pacific RR lines, Cherry Street to the north and King Street to the south. Surrounding land use near the site is mixed residential and industrial. The main office and several warehouses are located south of King Street. The nearest business is a plumbing/refrigeration shop located east of the site on First Street. The nearest school is the privately-owned Grayson Christian School, located 350 ft east of the site. The nearest residence is located at 602 First Street approximately 200 ft southeast of the main plant entrance. The site is currently vacant and fenced on the south side of the site, however, the locked door on west side of the site was broken. There are three waste piles on site: the North Waste Pile, the West Waste Pile and the Inside Waste Pile. There are approximately 35 5-gallon containers inside the building. The label on most of the containers indicate that it is Zip-Slip Lp 78, (a flammable liquid).

## WORKSHEET FOR COMPUTING HRS SITE SCORE

		<u>S</u>	<u>S<sup>2</sup></u>
1.	Ground Water Migration Pathway Score ( $S_{gw}$ ) (from Table 3-1, line 13)	6.07	36.8449
2.	Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	53.33	2844.09
2c.	Surface Water Migration Pathway Score ( $S_{sw}$ ) Enter the larger of lines 2a and 2b as the pathway score.	53.33	2844.09
3.	Soil Exposure Pathway Score ( $S_s$ ) (from Table 5-1, line 22)	6.48	41.9904
4.	Air Migration Pathway Score ( $S_a$ ) (from Table 6-1, line 12)	0.0	0.0
5.	Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$	2922.92	
6.	<b>HRS Site Score</b> Divide the value on line 5 by 4 and take the square root	27.03	

**TABLE 3-1  
GROUND WATER MIGRATION PATHWAY SCORESHEET**

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
<b><u>Likelihood of Release to an Aquifer</u></b>		
1. Observed Release	550	—
2. Potential to Release		—
2a. Containment	10	<u>10</u>
<b>There is no containment for onsite sources (Ref. 9, p. 3). A containment value of 10 is assigned (Ref. 1, Table 3-2).</b>		
2b. Net Precipitation	10	<u>3</u>
<b>A value of 3 is assigned (Ref. 1, Figure 3-2).</b>		
2c. Depth to Aquifer	5	<u>1</u>
<b>Based on a current drinking water well search within 4 miles of the site, the shallowest well depth is 450 ft (Ref. 6). A value of 1 is assigned (Ref. 1, Table 3-5)</b>		
2d. Travel Time	35	<u>5</u>
<b>The soil type at the site is Fairlie-Austin-Houston Black, made up of moderately slowly permeable and very slowly permeable clayey soils (Ref. 5, p. 4). A value of 10<sup>-6</sup> is assigned for site hydraulic conductivity (Ref. 1, Table 3-7).</b>		
<b>The shallowest well depth for drinking water wells is 450 ft (Ref. 6, p. 66). A value of 5 is assigned as Travel Time Factor (Ref. 1, Table 3-6 and 3-7).</b>		
2e. Potential to Release (Lines 2a(2b + 2c + 2d))	550	90
3. Likelihood of Release (Higher of Line 1 and 2e)	500	90
<b><u>Waste Characteristics</u></b>		
4. Toxicity/Mobility	*	100
<b>Toxicity = 10,000 (using chromium) (Ref. 2) Mobility = 0.01 (Ref. 2)</b>		
<b>Toxicity/Mobility Factor Value = 100 (Ref. 1, Table 3-9)</b>		

5. Hazardous Waste Quantity \* 100

North Foundry Waste Stockpile = 2,920 yds<sup>3</sup>  
 West Foundry Waste Stockpile = 1,850 yds<sup>3</sup>  
 Inside Foundry Waste Stockpile = 400 yds<sup>3</sup>  
 (Ref. 6, p. 24)

$2920+1850+400/2.5 = 2068$

Hazardous Waste Quantity Factor Value = 100 (Ref. 1, Table 2-6)

6. Waste Characteristics 100 10

A value of 10 is assigned (Ref. 1, Table 2-7).

Targets

7. Nearest Well 50 9

The nearest drinking water well is located at 0.8 mile from the site (Ref. 6, p. 62). A value of 9 is assigned (Ref. 1, Table 3-11)

8. Population:

8a. Level I Concentrations	**	—
8b. Level II Concentrations	**	—
8c. Potential Contamination	**	<u>547.8</u>

Based on a drinking water well search, there are no private drinking water within four miles from the site. There are eight public drinking water wells located within two miles from the site that supply 16044 people. There are twelve public drinking water wells located within three miles from the site that supply 14670 people. There are five public drinking water wells located within four miles from the site that supply 8128 people.

Distance-Weighted Population values for potential contamination factor =  $(2939+2122+417)/10 = 547.8$   
 (Ref. 1, Table 3-12)

8d. Population (Lines 8a + 8b + 8c)	**	<u>547.8</u>
-------------------------------------	----	--------------

9. Resources 5 0

10. Wellhead Protection Area 20 0

11. Targets (Lines 7 + 8d + 9 + 10) \*\* 556.8

Ground Water Migration Score for an Aquifer

12. Aquifer Score		
((Lines 3 x 6 x 11)/82,500)***	100	6.07

Ground Water Migration Pathway Score

Pathway Score ( $S_{gw}$ ), (Highest value from Line 12 for all 13. aquifers evaluated)***	100	6.07
--	-----	------

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

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
<b>ENVIRONMENTAL THREAT</b>		
1. Observed Release	550	<u>550</u>
<p>There is an observed release of mercury at the PPE ( Ref. 6, pp. 82-89).</p> <p><u>Likelihood of Release</u></p>		
22. Likelihood of Release	550	
<u>Waste Characteristics</u>		
23. Ecosystem Toxicity/Persistence/ Bioaccumulation	*	<u>5x10<sup>8</sup></u>
<p>Ecotoxicity = 10,000 (using mercury)            Bioaccumulation factor = 50,000            Persistence = 1            (Ref. 2)</p> <p>Ecosystem Toxicity/Persistence Factor Value = 10,000            (Ref.1, Table 4-20)</p> <p>Ecosystem Toxicity/Persistence/Bioaccumulation Factor =            5x10<sup>8</sup> (Ref. 1, Table 4-21)</p>		
24. Hazardous Waste Quantity	*	<u>100</u>
<p>North Foundry Waste Stockpile = 2,920 yds<sup>3</sup>            West Foundry Waste Stockpile = 1,850 yds<sup>3</sup>            Inside Foundry Waste Stockpile = 400 yds<sup>3</sup>            (Ref. 6, p. 24)</p> <p>2920+1850+400/2.5 = 2068</p> <p>Hazardous Waste Quantity Factor Value = 100 (Ref. 1, Table 2-6)</p>		
25. Waste Characteristics	1,000	<u>320</u>
<p>Waste characteristic product = 5x10<sup>10</sup>            Waste Characteristics factor category values = 320            (Ref. 1 Table 2-7)</p>		
<u>Targets</u>		
26. Sensitive Environment:		
26a. Level I Concentrations	**	—
26b. Level II Concentrations	**	<u>25</u>
<p>There is an observed release of mercury within HRS qualifying wetlands (Ref. 6, pp. 84-87). The wetland frontage is approximately 0.15 miles (Ref. 6, p. 98).</p> <p>A Wetland Rating Value of 25 is assigned (Ref.1, Table 4-24).</p>		

26c.	Potential Contamination	**	—	
26d.	Sensitive Environments			
	(Lines 26a + 26b + 26c)	**	—	
27.	Targets (Value from Line 26d)	**		<u>25</u>
<b><u>Environmental Threat Score</u></b>				
28.	Environmental Threat Score			
	((Lines 22 x 25 x 27)/82,500, subject to a maximum of 60)	60		<u>53.33</u>
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED				
29.	WATERSHED SCORE***			
	(Lines 13 + 21 + 28, subject to a maximum of 100)	100		<u>53.33</u>
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		<u>53.33</u>

**TABLE 5-1  
SOIL EXPOSURE PATHWAY SCORESHEET**

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
<b>RESIDENT POPULATION THREAT</b>		
1. Likelihood of Exposure	550	<u>550</u>
<b>There is an observed release of mercury on residential property and 90 ft north of the residence (Ref. 6, p. 107).</b>		
<b><u>Waste Characteristics</u></b>		
2. Toxicity	*	<u>10,000</u>
<b>Toxicity = 10,000 (using Mercury) (Ref. 2)</b>		
3. Hazardous Waste Quantity	*	<u>10</u>
<b>A default value of 10 is assigned (Ref. 1, Section 2.4.2.2).</b>		
4. Waste Characteristics	100	<u>18</u>
<b>Waste Characteristics Product = 10<sup>5</sup> Waste Characteristics Factor Category Values = 18 (Ref. 1 Table 2-7)</b>		
<b><u>Targets</u></b>		
5. Resident Individual	50	<u>45</u>
<b>Mercury was detected at Level II concentrations 90 ft north of a residence (Ref. 6, p. 106).</b>		
6. Resident Population:		
6a. Level I Concentrations	**	—
6b. Level II Concentrations	**	<u>4</u>
<b>There are four people living at the residence (Ref. 6, p. 108). The concentration of mercury detected is below its benchmark concentration (Ref. 6, p. 106).</b>		
6c. Resident Population (Lines 6a + 6b)	**	<u>4</u>
7. Workers	15	<u>5</u>
<b>Mercury was detected at the Melton Plumbing, Inc. Shop (Ref. 6, p. 109). There are seven full time employees (Ref. 6).</b>		
<b>A Factor Value for workers of 5 is assigned (Ref. 1, Table 5-4).</b>		
8. Resources	5	<u>0</u>
9. Terrestrial Sensitive Environments	***	<u>0</u>
10. Targets (Lines 5 + 6c + 7 + 8 + 9)	**	<u>54</u>
<b><u>Resident Population Threat Score</u></b>		
11. Resident Population Threat (Lines 1 x 4 x 10)	**	<u>534600</u>
22. Soil Exposure Pathway Score *** (S <sub>3</sub> )(Lines 11 + 21)/82,500, subject to a maximum of 100)	100	<u>6.48</u>

<u>Reference Number</u>	<u>Description of the Reference</u>
1.	U.S. Environmental Protection Agency (USEPA), 40CFR Part 300, <i>Hazard Ranking System</i> . 55 Federal Register 51583, December, 1990. Excerpt pages - 1.
2.	USEPA, <i>Superfund Chemical Data Matrix (SCDM)</i> . January, 2004.
3.	USEPA Office of Solid Waste and Emergency Response, <i>Hazard Ranking System Guidance Manual</i> . EPA Publication 540-R-92-026, November 1992. Excerpt pages - 1.
4.	RESERVED
5.	United States Department of Agriculture Soil Conservation Service, Soil Survey, Grayson County, Texas, February 1980. Excerpt pages - 2.
6.	USEPA, Screening Site Inspection Report, July 2003. 913 pages.
7.	LandView 6 Census 2000 Software, Version 1.0. U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, Washington D.C. 20233. V1-T00-LV06-22-US1, Issued December 2003. U.S. Census 2000 Profile of General Demographics for Grayson County, Texas. 1 page.
8a.	Phone Memo from Xiaohong Wang to Mr. Ben Uselton, City of Sherman. March 16, 2005. 1 page
8b.	Phone Memo from Xiaohong Wang to Mr. Oscar Andalds, City of Sherman. March 16, 2005. 1 page.
9.	Superfund Site Discovery and Eligibility Determination Checklist, January 21, 2005. 8 pages.
10.	Interoffice Memorandum from Enforcement Division to Superfund, Site Investigation and Community Relations Section of Remediation Division, December 20, 2004. 2 pages.
11.	USEPA, Pre-Cerclis Screening Checklist, August 2002. 51 pages.
12.	Letter of The Hamilton Foundry & Machine Co.'s attorney to Region 4 of TCEQ, April 2002. 2 pages.
13.	Kerlin, Jim, Texas Natural Resource Conservation Commission Inspection Report. March 6, 2002. 3 pages.
14.	U. S. Geological Survey. Sherman, Texas 7.5 Minute Topographic Quadrangle. 1975. 1 page.

15. McGrath, Kevin, Texas Natural Resource Conservation Commission Inspection Report. March 6, 2002. 7 pages.
16. Sewell, Tim, Texas Water Commission, Interoffice Memorandum of Compliance Inspection Report for Sherman Foundry, June 29, 1989. 5 pages.
17. Letter of Deed Recordation of the property containing baghouse dust buried prior to 1980, September 12, 1989. 6 pages.
18. Texas Water Commission Notice of Registration Solid Waste Management, March 1, 1990. 3 pages.
19. Bankruptcy Appellate Panel of the Sixth Circuit, received on June 16, 2004. 8 pages.
20. National Wetlands Inventory map, U.S. Department of Interior, Fish and Wildlife service, 1992. 1 page.
21. Weston Solutions, Inc. Removal Action Report, Old Sherman Foundry. April, 2005. 111 pages.