



Protecting Texas  
by Reducing and

# **HRS DOCUMENTATION RECORD**

**for**

# **Ballard Pits**

# **Robstown**

# **Nueces County, Texas**

**ID # 980622922**

**Prepared by:**

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

**December 2004**



**HRS**

**DOCUMENTATION  
RECORD**

**Ballard Pits**

**Robstown, Nueces County, Texas  
EPA ID# NONE**

**December 2004**

# Hazard Ranking System Documentation Record

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EPA ID# NONE

Prepared by

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

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**SIGNATURE PAGE**

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## HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

**NAME OF SITE:** Ballard Pits  
(Pits are located on Lots 2 and 3 of Section 6 of the Wade Riverside Subdivision)

**CONTACT:** Marshall A. Cedilote, TCEQ (512) 239-4134

**CURRENT SITE OWNERS:** C. F. Ballard Trust  
c/o Mamie Helen Ballard  
Route 4, Box 233  
Robstown, TX 78380

Mamie Helen Ballard  
Route 4, Box 233  
Robstown, TX 78380

### **PATHWAYS OF CONCERN:**

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

Hazardous substances are documented in two uncovered surface impoundments onsite. The site lies within ½ mile from the Nueces River. The site and impoundments have been inundated by flood waters in the past. There are three drinking water intakes located on the Nueces River within the 15-mile Target Distance Limit. These intakes serve approximately 284,601 people (see Ref. 4, pp. 001, 019, 026). The potential for releases of hazardous substances from the impoundments into the Nueces River is a concern at this site.

### **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 samples documenting an observed release to the Nueces River.

## **Surface Water Pathway - Environmental Threat**

The Surface Water Pathway Environmental Threat was evaluated, but not scored for this site due to the lack of samples documenting an observed release to the Nueces River. HRS qualifying wetlands exist on both banks of the Nueces River to the end of the 15-mile Target Distance Limit (TDL) and total approximately 14.3 miles. However, accounting for the dilution factor applied to this portion of the Nueces River and the lack of an observed release, this pathway threat does not significantly affect the site score.

## **Ground Water Pathway**

The Ground Water Pathway was evaluated, but not scored because ground water samples failed to the migration of attributable hazardous substances from the pits. Ground water monitoring wells adjacent to the East and West Pits have been sampled by the TCEQ Region 15 office but no releases of attributable hazardous substances have been documented (Ref. 5, pp. 068-098; Ref. 6, pp. 002, 011-015, 026-032; Ref. 30, pp. 002, 011-012, 026-037). Both the Railroad Commission of Texas (RRC) and the TCEQ Region 14 office have sampled nearby residential wells and no releases of attributable hazardous substances have been documented (Ref. 7, pp. 005, 062-117; Ref. 8, pp. 008, 042-077). Arsenic concentrations in local ground water are thought to be naturally occurring.

## **Soil Exposure Pathway**

The Soil Exposure Pathway was evaluated, but not scored because of a lack of onsite workers whose jobs would bring them into contact with hazardous substances in the surface impoundments. Nearby residential yards were sampled in October, 2002 by the Railroad Commission of Texas (RRC) and no releases of hazardous substances were documented (Ref. 7, pp. 005, 019-061).

## **Air Migration Pathway**

The Air Migration Pathway was not scored because there is no observed release to the air pathway. Residents living to the east of the pits have called in complaints about nuisance odors to the TCEQ Region 14 office. TCEQ personnel confirmed a nuisance odor condition from the East pit and collected air samples, however, a release to the air was not documented (Ref. 9). Inclusion of the Air Migration Pathway would not significantly affect the site score.

*(Although these pathways have not been scored, the TCEQ is concerned for all pathways surrounding the site. However, scoring of these pathways and threats would not have significantly increased the overall site score.)*

## **AREA OF CONCERN**

Brine Services used the Ballard properties in the late 1960s for storage of oilfield drilling mud, as well as refinery waste (Ref. 10). The TWQB issued Order 68-24 on July 25, 1968 which required Brine Services to cease all waste disposal at the Ballard properties in pits on the northwest portion of Lot 4 and the southwest portion of Lot 5 in Section 6 of the Wade Riverside subdivision (Ref. 11).



## 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:** 12/2004  
**Name of Site:** Ballard Pits  
**CERCLIS ID Number:** TXD980622922  
**TCEQ ID#:** NONE  
**TCEQ Region:** 14

**Street Address of Site:** The Ballard properties are located at the end of Ballard Lane, west of its intersection with County Road 73. The pits are located on Lots 2 and 3 in Section 6 of the Wade Riverside Subdivision. The nearest incorporated town is Robstown, approximately 5.8 miles to the south.  
See Figure 1 - Site Location Map

**City, County, State:** Robstown, Nueces County, Texas

**Topographic Map:** US Geological Survey 7.5 Minute Topographic Quadrangle, Corpus Christi, Texas, 1975. (Ref. 12)

### East Pit Coordinates

**Latitude:** 27.8865° North  
**Longitude:** 97.6830° West

### West Pit Coordinates

**Latitude:** 27.8878° North  
**Longitude:** 97.6842° West

### Pathway Scores:

Groundwater Migration Pathway	NS
Surface Water Migration Pathway	26.63
Soil Exposure Pathway	NS
Air Migration Pathway	NS

NS - Evaluated, but Not Scored

**HRS SITE SCORE: 13.31**

## **GENERAL INFORMATION & DESCRIPTION OF THE SITE:**

The Ballard Pits are located on property owned by the C.F. Ballard Residuary Trust and/or Mamie Helen Ballard. Historically, the Ballard Sand and Gravel Company operated on these properties. The properties occupy approximately 296 acres within a rural area of Nueces County, Texas (Ref. 13, p. 4). The nearest residence is approximately 300 feet east of the East Pit (Ref. 12). The nearest incorporated town is Robstown, approximately 5.8 miles to the south. The pits have a combined surface area of approximately 63,000 square feet (Ref. 14).

## **SITE SUMMARY**

In September, 2002, the Nueces River overflowed its banks due to a flood and inundated the pits (Ref. 15, p. 2; Ref. 16, p. 1; Ref. 17, p.1). The RRC responded to citizen complaints of contamination by collecting samples from the pits in adjacent residential yards and water wells in October, 2002 and from the pits in December, 2002 (Refs. 7, 18a, 18b). The TCEQ Region 14 office initiated emergency response actions to contain contaminated surface water runoff from the East pit: deploying sorbent booms in February, 2003; installation of a hay fence in March, 2003; and additional booms deployed in August 2003. On December 1, 2003, the Texas Department of Health (TDH) submitted a Health Consultation for the site to the TCEQ (Ref. 19). Due to citizen complaints, TCEQ contracted with Eagle Construction to install several ground water monitor wells adjacent to the pits (Ref. 5a). The TCEQ Region 14 office initiated sampling investigations at the site in which monitor wells, adjacent to the pits, were sampled (Refs. 6, 20) along with nearby residential wells (Ref. 8). No attributable hazardous substances were detected above drinking water standards in any wells (Ref. 6, pp. 002, 011-015, 026-032; Ref. 8, pp. 008-010, 042-077; Ref. 20, pp. 002, 011-102, 026-037).

The TCEQ Superfund Site Discovery & Assessment Program performed Immediate Removal actions at the site from April, 2004 through July, 2004. These actions consisted of sampling each pit for geotechnical parameters (in anticipation of constructing a compacted soil/clay cover) and repairing a berm to close the easternmost end of the East pit (Ref. 21).

The Environmental Protection Agency (EPA) has designated the site as No Further Remedial Action Planned (NFRAP) under Superfund and referred the site to the state for further evaluation (Ref. 22).

## 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)	NS	
2a. Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	26.63	
2b. Ground Water to Surface Water Migration Component (from Table 4-25, line 28)	NS	
2c. Surface Water Migration Pathway Score ( $S_{sw}$ ) Enter the larger of lines 2a and 2b as the pathway score.	26.63	709.15
3. Soil Exposure Pathway Score ( $S_s$ ) (from Table 5-1, line 22)	NS	
4. Air Migration Pathway Score ( $S_a$ ) (from Table 6-1, line 12)	NS	
5. Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		709.15
6. <b>HRS Site Score</b> Divide the value on line 5 by 4 and take the square root	13.31	

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

<u>Factor Categories and Factors</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
<b>DRINKING WATER THREAT</b>		
<b><u>Drinking Water Threat Score</u></b>		
1. Observed Release	550	—
2. Potential to Release by Overland Flow:		
2a. Containment	10	<u>10</u>
<b>Ref. 1, Table 4-2</b>		
2b. Runoff	25	<u>1</u>
<p><b>East and West pits are surrounded by berms which prevent runoff from upgradient areas of site. The combined surface area of the East and West pits is approximately 63,000 ft<sup>2</sup> (Ref 14, p. 004). Drainage area &lt; 50 acres = 1 Ref. 12</b></p> <p><b>Ref. 1, Table 4-3</b></p> <p><b>Soil near the pits belongs to the Willacy Series and consists of moderately loamy soils with moderate to slow surface drainage (Ref. 23, p. 18). Soil Group Designation = B</b></p> <p><b>Ref. 1, Table 4-4</b></p> <p><b>Rainfall Runoff Value = 4</b></p> <p><b>Ref. 24, p. 1</b></p> <p><b>Ref. 1, Table 4-5</b></p> <p><b>Runoff Factor Value = 1</b></p> <p><b>Ref. 1, Table 4-6</b></p>		
2c. Distance to Surface Water	25	<u>16</u>
<p><b>Distance from East pit to the Probable Point of Entry (PPE) is approximately 0.1 miles (Ref. 12, Figure 2). Distance to Surface Water Factor Value = 9</b></p> <p><b>Ref. 3, p. 206</b></p> <p><b>Ref. 1, Table 4-7</b></p>		
2d. Potential to Release by Overland Flow (Lines 2a x (2b + 2c))	500	<u>170</u>
3. Potential to Release by Flood:		
3a. Containment (Flood)	10	<u>10</u>
<b>Ref. 1, Table 4-8</b>		

3b. Flood Frequency 50 25

Source in a 100-year flood plain = 25

Ref. 25

Ref. 1, Table 4-9

3c. Potential to Release by Flood  
(Lines 3a x 3b) 500 250

4. Potential to Release  
(Lines 2d + 3c, subject to a maximum of 500) 500 420

5. Likelihood to Release  
(Higher of Lines 1 and 4) 550 420

**Waste Characteristics**

6. Toxicity/Persistence \* 10,000

Toxicity = 10,000 (using PCB-1254)

Persistence = 1

Ref. 2

Ref. 18b, pp. 038, 044, 081

7. Hazardous Waste Quantity \* 100

Pit Area = ~63,000 ft<sup>2</sup>

Ref. 14, pp. 003-005

63,000/13 = 4,846

Ref. 1, Table 2-5

Hazardous Waste Quantity Factor Value = 100

Ref. 1, Table 2-6

8. Waste Characteristics 100 32

Waste Characteristics Factor Value = 32

Ref. 1, Table 2-7

**Targets**

9. Nearest Intake 50 0.2

The nearest intake is located approximately 3.2 miles from the PPE (Ref. 4, p. 026; Figure 2).

Nearest Intake Factor Value = 0.2

Ref. 1, Section 4.1.2.3.1

10. Population:  
10a. Level I Concentrations \*\* —  
10b. Level II Concentrations \*\* —

10c. Potential Contamination

\*\*

163.3

Three surface water intakes along within 15-mile  
TDL serving approximately 284,601 people.  
Ref. 4, pp. 001, 019, 026

This portion of the Nueces River is classified as a large stream to  
river (Ref. 26)

Dilution Weight = 0.01

Ref. 26

Ref. 1, Table 4-13

Population = 284,601

Potential population = 1633

Ref. 1, Table 4-14

$1633/10 = 163.3$

Ref. 1, Section 4.1.2.3.2.4

10d. Population (Lines 10a + 10b + 10c)

\*\*

163.5

11. Resources

5

—

**Drinking Water Threat Score**

12. Targets (Lines 9 + 10d + 11)

\*\*

163.5

13. Drinking Water Threat Score ((Lines 5 x 8 x 12)/82,500,  
subject to a maximum of 100)

100

26.63

**SURFACE WATER OVERLAND/FLOOD MIGRATION  
COMPONENT SCORE FOR A WATERSHED**

29. WATERSHED SCORE\*\*\*

(Lines 13 + 21 + 28, subject to a maximum of 100)

100

26.63

**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

26.63

<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.	Texas Commission on Environmental Quality (TCEQ) Public Water Supply Regulatory Program, Regulated Entity Data, PWS ID #s 1780003, 2050011, and 1780005. 33 pages.
5a.	Eagle Construction & Environmental Services, L.P. (Eagle), <i>Installation of Monitoring Wells, Ballard Sand Pit, 4093 Coastal Pit Road, Robstown, Texas</i> . April 8, 2004. 123 pages.
5b.	Eagle, Laboratory Data for Drill Cuttings from Monitor Wells. August 27, 2003. 16 pages.
6.	TCEQ Investigation Report, <i>CF Ballard Residuary Trust, Ballard Sand Pits</i> . January 13, 2004. 54 pages.
7.	HBC Terracon, <i>Water Well and Surface Soil Sampling, Ballard Sand Pits, Corpus Christi, Nueces County, Texas</i> . December 2002. 163 pages.
8.	Laboratory Data, Severn Trent Laboratories and Lower Colorado River Authority Environmental Laboratory Services. August 13, 2003 and October 16, 2003, respectively. 84 pages.
9.	TCEQ Investigation Report, <i>CF Ballard Residuary Trust, Ballard Sand Pits</i> . January 30, 2004. 8 pages.
10.	Jeanie Carter, ET AL Plaintiff(s) vs. Ballard Sand and Gravel Pit, ET AL Defendant(s), in the District Court, 214 <sup>th</sup> Judicial District, Nueces County, Texas. <i>Videotaped Oral Deposition of Donald Palmer</i> . May 10, 2004. 30 pages.
11.	TWQB, Order No. 68-24. July 25, 1968. 3 pages.
12.	U. S. Geological Survey. Edroy, Texas 7.5 Minute Topographic Quadrangle. 1975. 1 page.



13. Techlaw, Historical Chain of Title Report, Ballard Sand Pits, Calallen, Nueces County, Texas. November 23, 2004. 591 pages. Excerpt pages - 16.
14. Marshall Cedilote, TCEQ, *Calculation of Total Pit Areas*. December 8, 2004. 5 pages.
15. Website - <http://www.srh.noaa.gov>. National Weather Service Advance Hydrologic Prediction Service, Nueces River at Calallen. Excerpt pages - 3.
16. Website - <http://nwis.waterdata.usgs.gov>. United States Geological Survey, Surface Water for USA: Daily Streamflow, USGS 08211500 Nueces River at Calallen. Excerpt pages - 2.
17. Website - <http://nwis.waterdata.usgs.gov>. United States Geological Survey, Surface Water for USA: Daily Streamflow, USGS 08211500 Nueces River at Calallen. Excerpt pages - 2.
- 18a. Letter to HBC Engineering, ATTN: Steven Neely, from John James Tinterra, Railroad Commission of Texas (RRC), *RE: Professional Environmental Engineering Services Contract, Unidentified Operator, Ballard Pits (Part B, sampling and testing), Unknown Lease, Unknown Field, Corpus Christi, Nueces County, Texas*. December 17, 2002. 4 pages.
- 18b. HBC Terracon, *Ballard Sand Pits Assessment, Corpus Christi, Nueces County, Texas*. March 18, 2003. 118 pages.
19. Texas Department of Health, *Health Consultation, Ballard Sand Pits (a.k.a. Brine Service Company Calallen Pits), Corpus Christi (Calallen Area), Nueces County, Texas, EPA Facility ID: TXD980622922*. December 1, 2003. 24 pages.
20. TCEQ Investigation Report, *CF Ballard Residuary Trust, Ballard Sand Pits*. December 4, 2003. 45 pages.
21. Shaw Environmental, Inc., *Final Site Report, Ballard Sand Pits, Corpus Christi, Texas*. November 23, 2004. 84 pages.
22. USEPA Superfund Site Strategy Recommendation - Region 6, Ballard Pits. October 18, 2004. 2 pages.
23. United States Department of Agriculture Soil Conservation Service, Soil Survey, Nueces County, Texas. June, 1965. Excerpt pages - 5.
24. United States Department of Commerce, *Technical Paper # 4, Rainfall Frequency Atlas of the United States*. May, 1961. Excerpt pages - 1.

25. Federal Emergency Management Agency, Flood Insurance Rate Map, Nueces County, Texas. March 18, 1985. 1 page.
26. Website - <http://nwis.waterdata.usgs.gov>. United States Geological Survey, Surface Water for Texas: Calendar Year Streamflow Statistics, USGS 08211500 Nueces River at Calallen. Excerpt pages - 3.
27. Johnson, Lloyd to Marshall Cedilote. Interoffice memorandum. December 15, 2004. 2 pages.