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HRS DOCUMENTATION RECORD
for
Poly-Cycle Industries, Inc.
Jacksonville, Texas

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February 15, 2003

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HAZARD RANKING SYSTEM DOCUMENTATION RECORD

for

**Poly-Cycle Industries, Inc. - Jacksonville
A.K.A. Polycycle Industries, Inc. - Jacksonville
Jacksonville, Cherokee County, Texas
TXT# 490012671; TCEQ SWR# 67064**

Prepared by:

**Texas Commission on Environmental Quality
Superfund Site Discovery and Assessment Program
Austin, Texas**

February 2003



HRS

**DOCUMENTATION
RECORD**

**Poly-Cycle Industries, Inc. - Jacksonville
Jacksonville, Cherokee County, Texas**

February 2003

Hazard Ranking System
Documentation Record

Poly-Cycle Industries, Inc. - Jacksonville
Jacksonville, Cherokee County, Texas
TXT# 490012671; TCEQ SWR# 67064

Prepared by

Texas Commission on Environmental Quality
Site Assessment and Management Section
Superfund Site Discovery and Assessment Program
Austin, Texas

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HRS DOCUMENTATION RECORD

POLY-CYCLE INDUSTRIES, INC. - JACKSONVILLE

JACKSONVILLE, CHEROKEE COUNTY, TEXAS

TXT# 490012671; TCEQ SWR# 67064

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HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

Name of Site: Poly-Cycle Industries, Inc. - Jacksonville

Current Contact Person: Texas Farm Products, Inc. c/o Lone Star Feed Store (903) 586-2581

Documentation Record: Gary L. Hazelwood, TCEQ (903) 535-5108

Pathways of Concern: Groundwater, Surface Water, and Soil Exposure Pathways

Groundwater Pathway

The potential release of hazardous substances to the groundwater pathway is of concern for this site. A sampling event was conducted on February 24, 2000, by the TCEQ (Ref. 3, 4, and 5). On-site soil sample analysis results documented levels of lead ranging from 3,100 mg/Kg to 4,800 mg/Kg (Ref. 5). Jacksonville's drinking water supply is from a blended system (Ref. 6). The City of Jacksonville's five wells equally contribute to make up 40% of the blended water supply, with the remaining 60% from Lake Jacksonville. Jacksonville provides water to four rural water supply companies with a total of 30,000 people drinking their water (Ref. 6). The closest well to the site is 1.36 miles. Four of the city's five wells are located between 1 to 2 miles from the site, with the remaining well located just over three miles from the site (Ref. 6), see Figure 2. The four water bearing units, Queen City Sand, Recklaw Formation, Carrizo Sand, and Wilcox Group, are not readily distinguishable and are considered to be one unit. The distance from on-site hazardous substances to the top of the first aquifer is less than ten feet. Observed releases were documented at a depth of six feet during the SSI at sample locations SS-6 and SS-13 (Ref. 7). The depth to the Queen City aquifer is 14 feet per well number DJ-38-07-406 (Ref. 11, p. 112). No drinking water samples have been collected, therefore the groundwater pathway is being evaluated for potential impact from the site's contaminated soil.

Surface Water Pathway

The potential release of hazardous substances to the surface water pathway is of concern for this site. The overland drainage pathways to the PPEs reported in the E.P.A.'s PREscore Documentation Package, prepared by Ecology and Environment, Inc. (Ref. 7, p. 6) have been reevaluated and found to be errant. The overland drainage pathways do not flow to either Lake Jacksonville or Turnpike Creek. The overland drainage pathway flows from the site in both northerly and southerly directions and then both turn easterly to Ragsdale Creek, at two separate locations (Fig. 3). The southern overland drainage pathway distance to a PPE exceeds two miles. The northern overland drainage pathway includes several receptor targets. A sampling event was conducted on February 24, 2000, by the TCEQ. On-site soil sample analysis results documented levels of lead ranging from 3,100 mg/Kg to 4,800 mg/Kg. On February 24, 2000, 3100 mg/Kg of lead was documented in a drainage ditch subject to annual flooding (Ref. 4, Photograph 2; and 5). During March 4, 1991, 43,500

mg/Kg of lead was documented in the drainage ditch, at soil sample location SS-10 (Ref. 7, p. 5). The nearest PPE to the site is 0.35 miles along the northern drainage pathway, just east of State Highway 69. A Palustrine/Forested/Broad Leaved Deciduous Temporary (PFO1A) wetland follows both banks of the intermittent tributary to Sara Barnett's Lake for a perimeter length of 1.7 miles (Ref. 13), see Figure 3. The PPE to Sara Barnett's lake is 1.14 miles from the site (Fig. 3). Sarah Barnett's 6.4 acre lake is a fishery which is used by Sara Barnett's family, guests, and uninvited fishermen. The lake is also used by Mrs. Barnett's commercial livestock operation. The PPE to perennial Ragsdale Creek is 1.41 miles from the site along the northern drainage pathway. The PPE to perennial Ragsdale Creek is also the PPE to a PFO1A wetland that extends 1.1 miles downstream (Ref. 13), see Figure 3. The surface water pathway's 15 mile target distance limit (TDL) includes Ragsdale Creek, Keys Creek, and Mudd Creek, see Figure 4. Beyond the 15 mile TDL, Mudd Creek flows to the Angelina River. The Federally and State listed endangered Red Cockaded Woodpecker is known to be present in Cherokee County (Ref. 7, p. 6). No samples have been collected at any of the identified targets, therefore the surface water pathway is only being evaluated for potential impact from the site's contaminated soil.

Soil Exposure Pathway

The potential release of hazardous substances to the soil exposure pathway is of concern for this site. In 1983, the Texas Department of Health (TDH) collected on-site soil samples and found levels of lead exceeding 100,000 ppm (Ref. 7, p. 2). Poly-Cycle conducted a removal, in 1983, moving contaminated soil to the Tecula location. The TDH conducted a post removal sampling event documenting lead concentrations were generally less than 1,000 ppm and the TDH accepted closure of the property (Ref. 7, p. 2). The site was then sold to Texas Farm Products, Inc. which built a feed store, Lone Star Feed Store, which is currently in operation (Ref. 7, p. 2). An SSI sampling event was conducted on March 4, 1991. 43,500 mg/Kg of lead and 209 mg/Kg of arsenic were documented at soil sample locations SS-10 and SS-8 (Ref. 7, p. 5). On February 24, 2000, the TCEQ conducted a sampling event. Each on-site soil sample analysis indicated high levels of lead, ranging from 3,100 mg/Kg to 4,800 mg/Kg (Ref. 3, 4, and 5). There are on-site workers at the Lone Star Feed Store, and there is no access restriction to the site. Chips of battery casings are visible along the State Highway 69 roadside ditch (Ref. 4, Photograph 4). The closest residence is approximately 10 feet from the site (Fig. 5). SSI soil sample SS-14 was collected on the property line of the Poly-Cycle site and the residence and documented a level II release of lead 472 mg/Kg (Ref. 7). A chiropractic and fitness center was recently built on the site, including an outdoor swimming pool and volleyball court (Ref. 4, Photographs 5, and 11-13). The chiropractic and fitness center was built on level I contaminated soil as documented at soil sample SS-18, 163 mg/Kg arsenic and 393 mg/Kg lead (Ref. 7).

Pathways, Components, or Threats Not Evaluated:

Air Migration Pathway

The Air Migration Pathway is not being evaluated since the pathway score does not increase the site score. There is no observed release for the Air Migration Pathway.

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

NOTE TO READER

The following rule was used when citing references in the HRS Documentation Record:

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 new agency, TCEQ, became effective September 1, 2002, as mandated under State House Bill 2912 of the 77th Regular Legislative Session.

HRS DOCUMENTATION RECORD

Name of Site: Poly-Cycle Industries, Inc. - Jacksonville
Date Prepared: 02/2003
CERCLIS Site ID Number: TXT490012671
TCEQ ID#: 67064

SITE LOCATION:

Street Address of Site: 2405 South Jackson Street (see Figure 1, Site Location Map).
City, County, State: Jacksonville, Cherokee County, Texas
Topographic Map: US Geological Survey 7.5 Minute Topographic Map, Jacksonville East, Tex. 1973 (Ref. 9).
Latitude: 31° 56' 08" North **Longitude:** 95° 14' 54" West
TCEQ Region: 5

SITE SCORING SUMMARY:

Pathway Scores:

Groundwater Migration Pathway - 3.75
Surface Water Migration Pathway - 9.52
Soil Exposure Pathway - 6.61
Air Migration Pathway - NE
NE - Not Evaluated

HRS SITE SCORE: 6.09

SITE SUMMARY

General Description of the Site:

The site is located at Latitude 31° 56' 08" N and Longitude 95° 14' 54" W, at 2505 South Jackson Street, Jacksonville, Cherokee County, Texas (Ref. 7, p. 1). The site is located on the south side of Jacksonville. The site is bordered by State Highway 69 to the east and Loop 456 to the south. Jacksonville Intermediate School is to the west and businesses and residences are located to the north.

Poly-Cycle operated a lead battery recycling operation from 1978 to 1983 (Ref. 7, p. 2). The facility first operated under the name Rocky Point International, then changed its name to Poly-Cycle Industries, with no change in operators. The facility recycled lead from lead acid batteries and cases. The sulfuric acid was drained from the batteries and the lead plates were removed. The sulfuric acid was sent to a hazardous waste disposal firm in Dallas, Texas. The lead plates were sold to a lead smelter. The battery cases were ground and washed to remove the lead and lead sulfate. Four unlined surface impoundments were used to skim the plastic and rubber chips from the surface and sold to plastic recyclers. The lead and lead sulfate sediments on the bottom of the impoundments were sold to a lead smelter (Ref. 7, p. 2).

In 1983, the Texas Department of Health (TDH) found levels of lead exceeding 100,000 mg/Kg in the soil (Ref. 7, p. 2). Poly-Cycle Industries moved contaminated soil from the Jacksonville location to the Poly-Cycle's Tecula location. The TDH conducted post removal sampling and accepted clean closure of the Jacksonville site, based on levels of lead concentrations being generally less than 1,000 ppm. Poly-Cycle Industries then sold the site to Texas Farm Products, Inc. (TFPI). TFPI removed all remaining Poly-Cycle structures and built a feed store "Lone Star Feed Store" (Ref. 7, p. 2).

The Lone Star Feed Store is still active. Current conditions based on the February 24, 2000 soil sample analysis results are Lead contaminated soil ranging from 3,100 mg/Kg to 4,800 mg/Kg. Chips of battery casings are visible in the State Highway 69 roadside ditch, in front of the feed store (Ref. 4, Photograph 4). The nearest PPE to the site is 0.35 miles along the northern drainage pathway, just east of State Highway 69. A Palustrine/Forested/Broad Leaved Deciduous Temporary (PFO1A) wetland follows both banks of the intermittent tributary to Sara Barnett's Lake for a perimeter length of 1.7 miles (Ref. 13), see Figure 3. The PPE to Sara Barnett's lake is 1.14 miles from the site (Fig. 3). Sarah Barnett's 6.4 acre lake is a fishery which is used by Sara Barnett's family, guests, and uninvited fishermen. The lake is also used by Mrs. Barnett's commercial livestock operation. The PPE to perennial Ragsdale Creek is 1.41 miles from the site along the northern drainage pathway. The PPE to perennial Ragsdale Creek is also the PPE to a PFO1A wetland that extends 1.1 miles downstream (Ref. 13), see Figure 3. The closest residence is located approximately 10 feet north of the site. The 1991 SSI sampling event documented 472 mg/Kg of lead at soil sample location SS-14, collected at the property border of the site and the residence located at 2033 South Jackson. Dement Chiropractic and Fitness Center, including an outdoor swimming pool and volleyball court, was recently built on-site, just north of the feed store (Ref. 4, Photographs 5, and 11-13). This new chiropractic and fitness center was built on level I contaminated soil as documented at soil sample SS-18, 163 mg/Kg arsenic and 393 mg/Kg lead (Ref. 7).

Site History:

Rocky Point International began recycling lead from lead acid batteries in 1978 (Ref. 7, p. 2). The process involved the use of four unlined surface impoundments, with lead and lead sulfate accumulating as sediment in the impoundments. In the early 1980's Rocky Point International changed its name to Poly-Cycle Industries, there was no change in the operator.

In 1983 the Texas Department of Health collected soil samples and found levels of lead exceeding 100,000 mg/Kg in the soil (Ref. 7, p. 2). The Texas Department of Health issued a compliance order requiring Poly-Cycle to remove all soil with lead concentrations greater than 1,000 ppm. Poly-Cycle Industries hired Wade & Associates of Austin, Texas, which closed the surface impoundments and moved contaminated soil from the Jacksonville location to Poly-Cycle's Tecula location.

The Texas Department of Health (TDH) conducted a post removal sampling in late 1984 (Ref. 7, p. 2). The sample results indicated that lead concentrations on-site were generally less than 1,000 ppm. In 1985, the Texas Department of Health accepted clean closure of the Jacksonville site. After the Department of Health accepted the Jacksonville site status as clean closed, Texas Farm Products, Inc. (TFPI) purchased the property. TFPI removed all remaining Poly-Cycle structures and built a feed store "Lone Star Feed Store". The Lone Star Feed Store is still active.

Ecology and Environment, Inc. (E&E) conducted a Site Screening Investigation (SSI), for the E.P.A., in March 1991. On-site lead concentrations were generally between 100-400 ppm, except for two samples. One sample had a lead concentration of 3,780 ppm and another was 43,500 ppm (Ref. 7, p. 5).

On February 24, 2000, the TCEQ conducted a soil sampling event. Soil sample analysis results revealed lead contaminated soil ranging from 3,100 mg/Kg to 4,800 mg/Kg (Ref. 3, 4, and 5). The area of observed releases of lead and arsenic contamination, as detected in the March 1991 SSI Report, are shown in Figure 5.

Notification letters to potential responsible parties were issued in August 2000. Exide Corporation, GNB Technology, and RSR Corporation expressed interest in working with the TCEQ's Voluntary Cleanup Program to remediate the Jacksonville and Tecula Poly-Cycle sites. On September 30, 2000, Exide Corporation acquired GNB and was renamed Exide Technologies. On April 15, 2002, Exide Technologies filed for a Chapter 11 bankruptcy (Ref. 8).

Dement Chiropractic and Fitness Center was recently built on-site, just north of the feed store (Ref. 4, Photographs 5, and 11-13).

REFERENCES

- | <u>Reference Number</u> | <u>Description of the Reference</u> |
|-------------------------|--|
| 1. | U.S. Environmental Protection Agency, 40CFR Part 300, <i>Hazard Ranking System</i> , Appendix A, 55 FR 51583, December 1990. |
| 2. | U. S. Environmental Protection Agency, <i>Superfund Chemical Data Matrix (SCDM)</i> . June 1996. |
| 3. | Hazelwood, Gary, Superfund Site Discovery and Assessment Program, Texas Commission on Environmental Quality, Superfund Site Discovery and Eligibility Determination Checklist, February 24, 2000. 5 pages. |
| 4. | Hazelwood, Gary, Superfund Site Discovery and Assessment Program, Texas Commission on Environmental Quality, Photograph Pages, February 24, 2000, January 28, 2003, and January 29, 2003. 8 pages. |
| 5. | Garcia, Roland, Lower Colorado River Authority Environmental Laboratory Services, to Texas Natural Resource Conservation Commission, Sample Analysis Results for Four Soil Samples. March 10, 2000. 18 pages. |
| 6. | Hazelwood, Gary, Site Discovery and Assessment Program, Texas Commission on Environmental Quality, to Kerry Cummins, City of Jacksonville, Telephone Memo and Map of Drinking Water Sources. March 27, 2000. 2 pages. |
| 7. | Ecology and Environment, Inc., to The U.S. Environmental Protection Agency, Prescore Documentation Package for Polycycle Industries Jacksonville. August 1995. 25 pages. |
| 8. | Vickery, Mark R., Deputy Director, Office of Permitting, Remediation & Registration, Texas Commission on Environmental Quality, to Ronald R. Del Vento, Chief Bankruptcy & Collection Division, Office of the Attorney General. Letter. July 1, 2002. 4 pages. |
| 9. | U.S. Geological Survey, Jacksonville East, Texas Quadrangle, 7.5 Minute Series. <u>Topographic Map</u> . 1973. 1 page. |
| 10. | Griffith, Jr, P.E., L. B., Surveillance and Enforcement Division Director, Texas Department of Health, to Mr. Wesley Ray, President, Poly-Cycle Industries, Inc. Certification of Closure Letter. December 8, 1984. 1 page. |
| 11. | Texas Water Development Board, <u>Report 150, Ground-Water Conditions in Anderson, Cherokee, Freestone, and Henderson Counties, Texas</u> . August 1972. 10 pages. |

REFERENCES CONTINUED

<u>Reference Number</u>	<u>Description of the Reference</u>
12.	Hazelwood, Gary, Site Discovery and Assessment Program, Texas Commission on Environmental Quality, to Sara Barnett, Telephone Memo. January 29, 2003. 1 page.
13.	U.S. Department of the Interior. National Wetlands Inventory Maps, Jacksonville East, Tex., 7.5 Minute Topographic Quadrangles. 1980. 1 page

WORKSHEET FOR COMPUTING HRS SITE SCORE

	<u>S</u>	<u>S²</u>
1. Ground Water Migration Pathway Score (S_{gw}) (from Table 3-1, line 13)	3.75	14.06
2a. Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	9.52	90.63
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.	9.52	90.63
3. Soil Exposure Pathway Score (S_s) (from Table 5-1, line 22)	6.61	43.69
4. Air Migration Pathway Score (S_a) (from Table 6-1, line 12)	NE	
5. Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		148.38
6. HRS Site Score Divide the value on line 5 by 4 and take the square root	<u>6.09</u>	

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

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Likelihood of Release to an Aquifer</u>			
1.	Observed Release	550	—
2.	Potential to Release		
2a.	Containment (Ref. 1, Sec. 3.1.2.1) (Hazardous substance migration and no liner)	10	<u>10</u>
2b.	Net Precipitation (Ref. 1, Figure 3-2)	10	<u>6</u>
2c.	Depth to Aquifer (Ref.1, Sec. 3.1.2.3) (14 feet)	5	<u>5</u>
2d.	Travel Time (Ref.1, Sec. 3.1.2.4) [(aquifer is < 10 feet from hazardous substances) (14' minus SSI 6' deep samples = 8')	35	<u>35</u>
2e.	Potential to Release (Lines 2a(2b + 2c + 2d)) (Ref.1, Sec. 3.1.2.5)	500	<u>460</u>
3.	Likelihood of Release (Higher of Line 1 and 2e) (Ref.1, Sec. 3.1.3)	500	<u>460</u>
<u>Waste Characteristics</u>			
4.	Toxicity/Mobility (Ref.1, Sec. 3.2.1) (Arsenic&Lead: Toxicity = 10,000 & Mobility = 0.01)	*	<u>100</u>
5.	Hazardous Waste Quantity (Ref. 1, 2.4.2.2) (Hazardous constituent quantity not adequately determined and value from Table 2-6 would be less than 100)	*	<u>10</u>
6.	Waste Characteristics (Ref. 1, Table 2-7, using 1,000)	100	<u>6</u>
<u>Targets</u>			
7.	Nearest Well (Ref. 1, Sec. 3.3.1) (1.36 Miles)	50	<u>5</u>
8.	Population:		
8a.	Level I Concentrations	**	
8b.	Level II Concentrations	**	—
8c.	Potential Contamination (Ref. 1, Sec. 3.3.2.4) ([1-2 miles-9600people]&[3-4 miles-2400 people]; Table 3-12 value=1,070/10=factor value=107)	**	<u>107</u>
8d.	Population (Lines 8a + 8b + 8c)(Ref. 1, Sec. 3.3.2.5)	**	<u>107</u>
9.	Resources (Ref. 1, Sec. 3.3.3) (Probable target, but not documented and would significantly increase the site score)	5	<u>0</u>
10.	Wellhead Protection Area (Ref. 1, Sec. 3.3.4)	20	<u>0</u>

* Maximum value applies to waste characteristics category

** Maximum value not applicable

*** Do not round to the nearest integer

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

<u>Factor Categories and Factors Continued</u>		<u>Maximum Value</u>	<u>Maximum Value</u>
<u>Targets Continued</u>			
11.	Targets (Lines 7 + 8d + 9 + 10) (Ref. 1, Sec. 3.3.5) (5+107+0+0)	**	<u>112</u>
<u>Ground Water Migration Score for an Aquifer</u>			
12.	Aquifer Score ((Lines 3 x 6 x 11)/82,500)*** (Ref. 1, Sec. 3.4) [(460x6x112)/82,500]	100	<u>3.75</u>
<u>Ground Water Migration Pathway Score</u>			
13.	Pathway Score (S_{gw}), (Highest value from Line 12 for all aquifers evaluated)*** (Ref. 1, Sec. 3.5)	100	<u>3.75</u>

* Maximum value applies to waste characteristics category

** Maximum value not applicable

*** Do not round to the nearest integer

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

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Drinking Water Threat</u>			
<u>Likelihood of Release</u>			
1.	Observed Release	550	—
2.	Potential to Release by Overland Flow:		
2a.	Containment (Ref. 1, Sec. 4.1.2.1.2.1.1) (No maintained cover or run-on or off management)	10	<u>10</u>
2b.	Runoff (Ref. 1, Sec. 4.1.2.1.2.1.2) (4.25" 2-yr/24hr; <50 acres; soil group D)	25	<u>1</u>
2c.	Distance to Surface Water (Ref. 1, Sec. 4.1.2.1.2.1.3) (1.14 miles)	25	<u>6</u>
2d.	Potential to Release by Overland Flow (Lines 2a x (2b + 2c)) (Ref. 1, Sec. 4.1.2.1.2.1.4)	500	<u>70</u>
3.	Potential to Release by Flood:		
3a.	Containment (Flood) (Ref. 1, Sec. 4.1.2.1.2.2.1) (No Containment Maintained)	10	<u>10</u>
3b.	Flood Frequency (Ref. 1, Sec. 4.1.2.1.2.2.2) (Some source located in drainage ditches subject to annual flooding)	50	<u>50</u>
3c.	Potential to Release by Flood (Lines 3a x 3b) (Ref. 1, Sec. 4.1.2.1.2.2.3)	500	<u>500</u>
4.	Potential to Release (Ref. 1, Sec. 4.1.2.1.2.3) (Lines 2d + 3c, subject to a maximum of 500) Contamination	500	<u>500</u>
5.	Likelihood to Release (Higher of Lines 1 and 4) (Ref. 1, Sec. 4.1.2.1.3)	550	<u>500</u>
<u>Waste Characteristics</u>			
6.	Toxicity/Persistence (Ref. 1, Sec. 4.1.2.2.1) (Toxicity Arsenic & Lead = 10,000/persistence = 1)	*	<u>10,000</u>
7.	Hazardous Waste Quantity (Ref. 1, Sec. 2.4.2.2) (hazardous constituent quantity not adequately determined, targets subject to potential contamination, Table 2-6 value < 100)	*	<u>10</u>
8.	Waste Characteristics (Ref.1, Table 2-7 for 1X10 ⁵)	100	<u>18</u>

* Maximum value applies to waste characteristics category

** Maximum value not applicable

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

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Drinking Water Threat Continued</u>			
<u>Targets</u>			
9.	Nearest Intake	50	<u>NE</u>
10.	Population:		
10a.	Level I Concentrations	**	—
10b.	Level II Concentrations	**	—
10c.	Potential Contamination	**	—
10d.	Population (Lines 10a + 10b + 10c)	**	—
11.	Resources (Ref. 1, Sec. 4.1.2.3.3) Watering of commercial livestock, Ref. 12	5	<u>5</u>
12.	Targets (Lines 9 + 10d + 11) (Ref. 1, Sec. 4.1.2.3.4)	**	<u>5</u>
<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) (Ref. 1, Sec. 4.1.2.4) (500x18x5)/82,500=0.55	100	<u>0.55</u>
<u>Human Food Chain Threat</u>			
<u>Likelihood of Release</u>			
14.	Likelihood of Release (Same value as Line 5) (Ref. 1, Sec. 4.1.3.1)	550	<u>500</u>
<u>Waste Characteristics</u>			
15.	Toxicity/Persistence/Bioaccumulation (Ref. 1, Sec. 4.1.3.2.1.4) (Lead -10,000/1.0/50.0)	*	<u>500,000</u>
16.	Hazardous Waste Quantity (Ref. 1, Sec. 4.1.3.2.2) (Same as line 7)	*	<u>10</u>
17.	Waste Characteristics (Ref. 1, Table 2-7, using 5 X 10 ⁶)	1,000	<u>32</u>
<u>Targets</u>			
18.	Food Chain Individual (Ref. 1, Sec. 4.1.3.3.1) Potential impact to a fishery, Sara Barnett's 6.4 acre lake, 20 points x dilution factor 1.0	50	<u>20</u>
19.	Population:		
19a.	Level I Concentrations	**	—
19b.	Level II Concentration	**	—
19c.	Potential Human Food Chain Contamination (Ref. 1, Sec. 4.1.3.3.2.3) (>1lb=0.03/dilution=1)/10	**	<u>0.003</u>
19d.	Population (Lines 19a + 19b + 19c) (Ref. 1, Sec. 4.1.3.3.2.4)	**	<u>0.003</u>

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

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Drinking Water Threat Continued</u>			
<u>Targets Continued</u>			
20.	Targets (Value from Lines 18 + 19d) (Ref. 1, Sec. 4.1.3.3.3)	**	<u>20.003</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) (Ref. 1, Sec. 4.1.3.4) (500x32x20.003)/82,500=3.88	100	<u>3.88</u>
* Maximum value applies to waste characteristics category			
** Maximum value not applicable			

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

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Environmental Threat</u>			
<u>Likelihood of Release</u>			
22.	Likelihood of Release (Same Value as Line 5) (Ref. 1, Sec. 4.1.4.1) (Lines 5 x 8 x 12)/82,500, subject to a maximum of 100)	550	<u>500</u>
<u>Waste Characteristics</u>			
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation (Ref. 1, Sec. 4.1.4.2.1) (Lead-1,000/1.0/5,000)	*	<u>5,000,000</u>
24.	Hazardous Waste Quantity (Ref. 1, Sec. 4.1.4.2.2) (Same as line 7)	*	<u>10</u>
25.	Waste Characteristics (Ref. 1, Table 2-7, using 5x10 ⁷)(Lead-1,000X10X5,000=5x10 ⁷ in Table 2-7)	1,000	<u>56</u>
<u>Targets</u>			
26.	Sensitive Environment:		
26a.	Level I Concentrations	**	—
26b.	Level II Concentrations	**	—
26c.	Potential Contamination (Ref. 1, Sec. 4.1.4.3.1.3) [Picoides borealis Fed. Listed Endangered=75(Ref. 1, Table 4-23)] + [(PPE to PFO1A wetland on northern drainage pathway perimeter =1.7 miles) + (Ragsdale creek PFO1A wetland length=1.05miles)]=75 points (Ref.1, Sec. 4.1.4.3.1.1)	**	<u>15</u>
26d.	Sensitive Environments (Lines 26a + 26b + 26c) (Ref. 1, Sec. 4.1.4.3.1.4)	**	<u>15</u>
27.	Targets (Value from Line 26d) (Ref. 1, Sec. 4.1.4.3.1.4)	**	<u>15</u>
<u>Environmental Threat Score</u>			
28.	Environmental Threat Score (Ref. 1, Sec. 4.1.4.4) (500x56x15)/82,500 ((Lines 22 x 25 x 27)/82,500, subject to a maximum of 60)	60	<u>5.09</u>
<u>Surface Water Overland/Flood Migration Component Score for a Watershed</u>			
29.	WATERSHED SCORE*** (Ref. 1, Sec. 4.1.5) (Lines 13 + 21 + 28, subject to a maximum of 100) (0.55+3.88+5.09)	100	<u>9.52</u>
<u>Surface Water Overland/Flood Migration Component Score</u>			
30.	Component Score (S _{of})*** (Highest score from Line 29 for all watersheds evaluated, subject to a maximum of 100) (Ref. 1, Sec. 4.1.6)	100	<u>9.52</u>

* 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**

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Resident Population Threat</u>			
<u>Likelihood of Exposure</u>			
1.	Likelihood of Exposure (Ref. 1, Sec. 5.1.1) Observed contamination on residential property border and within 10 feet of residence at 2033 S. Jackson	550	<u>550</u>
<u>Waste Characteristics</u>			
2.	Toxicity (Ref. 1, Sec. 2.4.1.1) Lead=10,000	*	<u>10,000</u>
3.	Hazardous Waste Quantity (Ref. 1, Sec. 2.4.2.2) the hazardous quantity is not adequately determined, therefore using value of 10.	*	<u>10</u>
4.	Waste Characteristics (Ref. 1, Table 2-7) 10,000x10=1x10 ⁵	100	<u>18</u>
<u>Targets</u>			
5.	Resident Individual (Ref. 1, Sec. 5.1.3.1) Resident individual subject to Level II concentration)	50	<u>45</u>
6.	Resident Population:		
6a.	Level I Concentrations	**	<u>0</u>
6b.	Level II Concentrations (Minimum of one resident at 2033 S. Jackson)	**	<u>1</u>
6c.	Resident Population (Lines 6a + 6b)	**	<u>1</u>
7.	Workers (Ref. 1, Table 5-4) 1 to 100 workers=value of 5. Seven workers at Lone Star Feed plus unknown number of workers at Dement Chiropractic and Fitness Center.	15	<u>5</u>
8.	Resources	5	<u>0</u>
9.	Terrestrial Sensitive Environments	***	<u>0</u>
10.	Targets (Lines 5 + 6c + 7 + 8 + 9) 45+1+5+0+0=51	**	<u>51</u>
<u>Resident Population Threat Score</u>			
11.	Resident Population Threat (Lines 1 x 4 x 10) 550x18x51=504,900	**	<u>504,900</u>

* 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**

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>NEARBY POPULATION THREAT</u>			
<u>Likelihood of Exposure</u>			
12.	Attractiveness/Accessibility (Ref. 1, Table 5-6) Accessible with fitness center, swimming pool, and volleyball court on-site.	100	<u>75</u>
13.	Area of Contamination (Ref. 1, Table 5-7) 1162'x422'=490,364, per ArcView measurement, see Figure 5.	100	<u>80</u>
14.	Likelihood of Exposure (Ref. 1, Table 5-8)	500	<u>375</u>
<u>Waste Characteristics</u>			
15.	Toxicity (Ref. 1, Sec. 5.2.2.1) Arsenic and Lead= 10,000	*	<u>10,000</u>
16.	Hazardous Waste Quantity (Ref. 1, Sec. 2.4.2.2)	*	<u>10</u>
17.	Waste Characteristics (Ref. 1, Table 2-7) 10,000x10=1x10 ⁵	100	<u>18</u>
<u>Targets</u>			
18.	Nearby Individual	1	<u>0</u>
19.	Population Within 1-Mile [0-0.25 mi. (1200) =41]+[0.25-0.5 mi. (350) =7]+ [0.5-1 mi. (2000) =10] = 58/10=5.8, round to 6	**	<u>6</u>
20.	Targets (Lines 18 + 19)	**	<u>6</u>
<u>Nearby Population Threat Score</u>			
21.	Nearby Population Threat (375x18x58)=40,500 (Lines 14 x 17 x 20)	**	<u>40,500</u>
<u>Soil Exposure Pathway Score</u>			
22.	Soil Exposure Pathway Score *** (504,900+40,500)/82,500=6.61 (S ₃)(Lines 11 + 21)/82,500, subject to a maximum of 100)	100	<u>6.61</u>

* Maximum value applies to waste characteristics category

** Maximum value not applicable

*** Do not round to the nearest integer