REFERENCE #17
SITE NAME MATTESON-SESTON L.F.
SITE ID IL D980606222

US EPA RECORDS CENTER REGION 5
414117

ILLINOIS

LISTED SPECIES

Mammals	Habitat	Distribution
Indiana Bat (E) *Myotis sodalis*	Caves and Riparian Habitat	Statewide
Gray Bat (E) *Myotis grisescens*	Caves	Hardin, Pike, Pope Counties
Birds		
Bald Eagle (E) *Haliaeetus leucocephalus*	Breeding	Alexander, Jefferson, Jo Daviess, Pulaski, Williamson Counties
	Wintering	Adams, Alexander, Brown, Bureau, Calhoun, Carroll, Cass, Christian, Clinton, DeWitt, Fayette, Franklin, Fulton, Greene, Grundy, Hancock, Henderson, Jackson, Jefferson, Jersey, JoDaviess, Johnson, LaSalle, Madison, Marshall, Mason, McHenry, Menard, Mercer, Monroe, Morgan, Ogle, Peoria, Pike, Pulaski, Putnam, Randolph, Rock Island, Sangamon, Schuyler, Scott, Shelby, St. Clair, Tazewell, Union, Wabash, White, Whiteside, Will, Winnebago, Williamson, Woodford Counties
Mussels		
Higgins' Eye Pearly Mussel (E) *Lampsilis higginsi*	Rivers	Mississippi and Illinois Rivers
Orange-footed Pimpleback Mussel (E) *Plethobasis cooperianus*	Rivers	Wabash River
Pink Mucket Pearly Mussel (E) *Lampsilis orbiculata*	Rivers	Wabash, Ohio, Illinois, Rivers
Rough Pigtoe Pearly Mussel (E) *Pleurobema plenum*	Rivers	Ohio and Wabash Rivers

ILLINOIS (Cont.)

Mussels	Habitat	Distribution
Tuberculed-blossom Pearly Mussel (E) *Epioblasma* (-*Dysnomia*) *torulosa torulosa*	Rivers	Lower Ohio and Wabash Rivers
White Cat's Paw Pearly Mussel (E) *Epioblasma obliquata perobliqua*	Rivers	Wabash River
White Wartyback Pearly Mussel (E) *Plethobasis cicatricosus*	Rivers	Ohio and Wabash Rivers

Plants		
Small Whorled Pogonia (E) *Isotria medeoloides*	Dry Woodland	Randolph County

ENDANGERED SPECIES

U.S. DEPARTMENT OF THE INTERIOR FISH & WILDLIFE SERVICE

great lakes region

TABLE 4.—WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS—Continued

Chemical/Compound	Toxicity[1]	Persistence[2]	Ignitability[3]	Reactivity[4]
Trichlorobenzene	2	3	1	0
α-Trichloroethane	2	2	1	0
Xylene	2	1	3	0

[1] Sax, N. I., *Dangerous Properties of Industrial Materials*, Van Nostrand Rheinhold Co., New York, 4th ed., 1975. The highest rating listed under each chemical is used.
[2] JRB Associates, Inc., *Methodology for Rating the Hazard Potential of Waste Disposal Sites*, May 5, 1980.
[3] National Fire Protection Association, National Fire Codes, Vol 13, No. 49, 1977.
[4] Professional judgment based on information contained in the U.S. Coast Guard CHRIS Hazardous Chemical Data, 1978.
Δ Professional judgment based on existing literature.

TABLE 5.—PERSISTENCE (BIODEGRADABILITY) OF SOME ORGANIC COMPOUNDS*

Value=3 Highly Persistent Compounds	
aldrin	heptachlor
benzopyrene	heptachlor epoxide
benzothiazole	1,2,3,4,5,7,7-heptachloronorbornene
benzothiophene	hexachlorobenzene
benzyl butyl phthalate	hexachloro-1,3-butadiene
bromochlorobenzene	hexachlorocyclohexane
bromoform butanal	hexachloroethane
bromophenyl phenyl ether	methyl benzothiazole
chlordane	pentachlorobiphenyl
chlorohydroxy benzophenone	pentachlorophenol
bis-chloroisopropyl ether	1,1,3,3-tetrachloroacetone
m-chloronitrobenzene	tetrachlorophenyl
DDE	thiomethylbenzothiazole
DDT	trichlorobenzene
dibromobenzene	trichlorobiphenyl
dibutyl phthalate	trichlorofuromethane
1,4-dichlorobenzene	2,4,6-trichlorophenol
dichlorodifluoroethane	triphenyl phosphate
dieldrin	bromodichloromethane
diethyl phthalate	bromoform
di(2-ethylhexyl)phthalate	carbon tetrachloride
dihexyl phthalate	chloroform
di-isobutyl phthalate	chloromochloromethane
dimethyl phthalate	dibromodichloroethane
4,6-dinitro-2-aminophenol	tetrachloroethane
dipropyl phthalate	1,1,2-trichloroethane
endrin	

Value=2 Persistent Compounds	
acenaphthylene	cis-2-ethyl-4-methyl-1,3-dioxolane
atrazine	trans-2-ethyl-4-methyl-1,3-dioxolane
(diethyl) atrazine	guaiacol
barbital	2-hydroxyadiponitrile
borneol	isophorone
bromobenzene	indene
camphor	isoborneol
chlorobenzene	isopropenyl-r-isopropyl benzene
1,2-bis-chloroethoxy ethane	2-methoxy biphenyl
b-chloroethyl methyl ether	methyl biphenyl
chloromethyl ether	methyl chloride
chloromethyl ethyl ether	methylindene
3-chloropyridine	methylene chloride
di-t-butyl-p-benzoquinone	nitroaniline
dichloroethyl ether	nitrobenzene
dihydrocarvone	1,1,2-trichloroethylene
dimethyl sulfoxide	trimethyl-trioxo-hexahydrotriazine isomer
2,6-dinitrotoluene	

Value=1 Somewhat Persistent Compounds	
acetylene dichloride	1,2-dimethoxy benzene
benzoic acid, methyl ester	1,3-dimethyl naphthalene
benzene	1,4-dimethyl phenol
benzene sulfonic acid	dioctyl adipate
butyl benzene	n-decane
butyl bromide	ethyl benzene
e-caprolactam	2-ethyl-n-hexane
carbon-disulfide	o-ethyltoluene
o-cresol	isodecane
decane	isopropyl benzene
1,2-dichloroethane	

TABLE 5.—PERSISTENCE (BIODEGRADABILITY) OF SOME ORGANIC COMPOUNDS*—Continued

limonene	octane
methyl ester of lignoceric acid	octyl chloride
methane	pentane
2-methyl-5-ethyl-pyridine	phenyl benzoate
methyl naphthalene	phthalic anhydride
methyl palmitate	propylbenzene
methyl phenyl carbinol	1-terpineol
methyl stearate	toluene
naphthalene	vinyl benzene
nonane	xylene

Value=0 Nonpersistent Compounds	
acetaldehyde	methyl benzoate
acetic acid	3-methyl butanol
acetone	methyl ethyl ketone
acetophenone	2-methylpropanol
benzoic acid	octadecane
di-isobutyl carbinol	pentadecane
docosane	pentanol
eicosane	propanol
ethanol	propylamine
ethylamine	tetradecane
hexadecane	n-tridecane
methanol	n-undecane

* JRB Associates, Inc., *Methodology for Rating the Hazard Potential for Waste Disposal Sites*, May 5, 1980.

TABLE 6.—SAX TOXICITY RATINGS

0=No Toxicity* (None)**

This designation is given to materials which fall into one of the following categories:
(a) Materials which cause no harm under any conditions of normal use.
(b) Materials which produce toxic effects on humans only under the most unusual conditions or by overwhelming dosage.

1=Slight Toxicity* (Low)**

(a) *Acute local.* Materials which on single exposures lasting seconds, minutes, or hours cause only slight effects on the skin or mucous membranes regardless of the extent of the exposure.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce only slight effects following single exposures lasting seconds, minutes, or hours, or following ingestion of a single dose regardless of the quantity absorbed or the extent of exposure.
(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years cause only slight and usually reversible harm to the skin or mucous membranes. The extent of exposure may be great or small.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce only slightly usually reversible effects extending over days, months, or years. The extent of the exposure may be great or small.
In general, those substances classified as having "slight toxicity" produce changes in the human body which are readily reversible and which will disappear following termination of exposure, either with or without medical treatment.

2=Moderate Toxicity* (Mod)**

(a) *Acute local.* Materials which on single exposure lasting seconds, minutes, or hours cause moderate effects on the skin or mucous membranes. These effects may be the result of intense exposure for a matter of seconds or moderate exposure for a matter of hours.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and produce moderate effects following single exposures lasting seconds, minutes, or hours, or following ingestion of a single dose.

TABLE 6.—SAX TOXICITY RATINGS—Continued

(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years cause moderate harm to the skin or mucous membranes.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce moderate effects following continuous or repeated exposures extending over periods of days, months, or years.
Those substances classified as having "moderate toxicity" may produce irreversible as well as reversible changes in the human body. These changes are not of such severity as to threaten life or to produce serious physical impairment.

3=Severe Toxicity* (High)**

(a) *Acute local.* Materials which on single exposure lasting seconds or minutes cause injury to skin or mucous membranes of sufficient severity to threaten life or to cause permanent physical impairment or disfigurement.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which can cause injury of sufficient severity to threaten life following a single exposure lasting seconds, minutes, or hours, or following ingestion of a single dose.
(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years can cause injury to skin or mucous membranes of sufficient severity to threaten life or cause permanent impairment, which disfigurement, or irreversible change.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion or through the skin and which can cause death or serious physical impairment following continuous or repeated exposures to small amounts extending over periods of days, months, or years.

*Sax, N. I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, New York, 4th edition, 1975.
**Sax, N. I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, New York, [illegible] edition, 1979.

TABLE 7.—NFPA TOXICITY RATINGS*

0 Materials which on exposure under fire conditions would offer no health hazard beyond that of ordinary combustible material.
1 Materials only slightly hazardous to health. It may be desirable to wear self-contained breathing apparatus.
2 Materials hazardous to health, but areas may be entered freely with self-contained breathing apparatus.
3 Materials extremely hazardous to health, but areas may be entered with extreme care. Full protective clothing, including self-contained breathing apparatus, rubber gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed.
4 A few whiffs of the gas or vapor could cause death, or the gas, vapor, or liquid could be fatal on penetrating the fire fighters' normal full protective clothing which is designed for resistance to heat. For most chemicals having a Health 4 rating, the normal full protective clothing available to the average fire department will not provide adequate protection against skin contact with these materials. Only special protective clothing designed to protect against the specific hazard should be worn.

*National Fire Protection Association. *National Fire Codes*, Vol. 13, No. 49, 1977.

3.5 *Targets. Ground water use* indicates the nature of the use made of ground water drawn from the aquifer of concern within 3 miles of the hazardous substance, including the geographical extent of the measurable concentration in the aquifer. Assign a value using the following guidance:

Physical state refers to the state of the hazardous substances at the time of disposal, except that gases generated by the hazardous substances in a disposal area should be considered in rating this factor. Each of the hazardous substances being evaluated is assigned a value as follows:

Physical state	Assigned value
Solid, consolidated or stabilized	0
Solid, unconsolidated or unstabilized	1
Powder or fine material	2
Liquid, sludge or gas	3

3.3 *Containment*

Containment is a measure of the natural or artificial means that have been used to minimize or prevent a contaminant from entering ground water. Examples include liners, leachate collection systems, and sealed containers. In assigning a value to this rating factor (Table 3), consider all ways in which hazardous substances are stored or disposed at the facility. If the facility involves more than one method of storage or disposal, assign the highest from among all applicable values (e.g., if a landfill has a containment value of 1, and, at the same location, a surface impoundment has a value of 2, assign containment a value of 2).

TABLE 3.—CONTAINMENT VALUE FOR GROUND WATER ROUTE

Assign containment a value of 0 if: (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility, using the following guidance.

	Assigned value
A. Surface Impoundment	
Sound run-on diversion structure, essentially non permeable liner (natural or artificial) compatible with the waste, and adequate leachate collection system	0
Essentially non permeable compatible liner with no leachate collection system; or inadequate freeboard	1
Potentially unsound run-on diversion structure; or moderately permeable compatible liner	2
Unsound run-on diversion structure; no liner; or incompatible liner	3
B. Containers	
Containers sealed and in sound condition, adequate liner, and adequate leachate collection system	0
Containers sealed and in sound condition, no liner or moderately permeable liner	1
Containers leaking, moderately permeable liner	2
Containers leaking and no liner or incompatible liner	3
C. Piles	
Piles uncovered and waste stabilized; or piles covered, waste unstabilized, and essentially non permeable liner	0
Piles uncovered, waste unstabilized, moderately permeable liner, and leachate collection system	1
Piles uncovered, waste unstabilized, moderately permeable liner, and no leachate collection system	2
Piles uncovered, waste unstabilized, and no liner	3

TABLE 3.—CONTAINMENT VALUE FOR GROUND WATER ROUTE—Continued

Assign containment a value of 0 if: (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility, using the following guidance.

	Assigned value
D. Landfill	
Essentially non permeable liner, liner compatible with waste, and adequate leachate collection system	0
Essentially non permeable compatible liner, no leachate collection system, and landfill surface precludes ponding	1
Moderately permeable, compatible liner, and landfill surface precludes ponding	2
No liner or incompatible liner; moderately permeable compatible liner; landfill surface encourages ponding; no run-on control	3

3.4 *Waste Characteristics.*

In determining a waste characteristics score, evaluate the most hazardous substances at the facility that could migrate (i.e., if scored, containment is not equal to zero) to ground water. Take the substance with the highest score as representative of the potential hazard due to waste characteristics. Note that the substance that may have been observed in the release category can differ from the substance used in rating waste characteristics. Where the total inventory of substances in a facility is known, only those present in amounts greater than the reportable quantity (see CERCLA Section 102 for definition) may be evaluated.

Toxicity and Persistence have been combined in the matrix below because of their important relationship. To determine the overall value for this combined factor, evaluate each factor individually as discussed below. Match the individual values assigned with the values in the matrix for the combined rating factor. Evaluate several of the most hazardous substances at the facility independently and enter only the highest score in the matrix on the work sheet.

Value for toxicity	Value for persistence			
	0	1	2	3
0	0	0	0	0
1	3	6	9	12
2	6	9	12	15
3	9	12	15	18

Persistence of each hazardous substance is evaluated on its biodegradability as follows:

Substance	Assigned value
Easily biodegradable compounds	0
Straight chain hydrocarbons	1
Substituted and other ring compounds	2
Metals, polycyclic compounds and halogenated hydrocarbons	3

More specific information is given in Tables 4 and 5.

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax (Table 6) or the National Fire Protection Association (NFPA) (Table 7) and the following guidance:

Toxicity	Assigned value
Sax level 0 or NFPA level 0	0
Sax level 1 or NFPA level 1	1
Sax level 2 or NFPA level 2	2
Sax level 3 or NFPA level 3 or 4	3

Table 4 presents values for some common compounds.

Hazardous waste quantity includes all hazardous substances at a facility (as received) except that with a containment value of 0. Do not include amounts of contaminated soil or water; in such cases, the amount of contaminating hazardous substance may be estimated.

On occasion, it may be necessary to convert data to a common unit to combine them. In such cases, 1 ton = 1 cubic yard = 4 drums and for the purposes of converting bulk storage, 1 drum = 50 gallons. Assign a value as follows:

Tons in cubic yards	Number of drums	Assigned value
0	0	0
1–10	1–40	1
11–62	41–250	2
63–125	251–500	3
126–250	501–1,000	4
251–625	1,001–2,500	5
626–1,250	2,501–5,000	6
1,251–2,500	5,001–10,000	7
> 2,500	> 10,000	8

TABLE 4.—WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS

Chemical/Compound	Toxicity[1]	Persistence[2]	Ignitability[3]	Reactivity[3]
Acetaldehyde	3	0	3	2
Acetic Acid	3	0	2	1
Acetone	2	0	3	0
Aldrin	3	3	1	0
Ammonia, Anhydrous	3	0	1	0
Aniline	3	1	2	0
Benzene	3	1	3	0
Carbon Tetrachloride	3	3	0	0
Chlordane	3	3	0	0
Chlorobenzene	2	2	3	0
Chloroform	3	3	0	0
Cresol-O	3	1	2	0
Cresol-M&P	3	1	1	0
Cyclohexane	2	2	3	0
Endrin	3	3	1	0
Ethyl Benzene	2	1	3	0
Formaldehyde	3	0	2	0
Formic Acid	3	0	2	0
Hydrochloric Acid	3	0	0	0
Isopropyl Ether	3	1	3	1
Lindane	3	3	1	0
Methane	1	1	3	0
Methyl Ethyl Ketone	2	0	3	0
Methyl Parathion in Xylene Solution	3	Δ0	3	2
Naphthalene	2	1	2	0
Nitric Acid	3	0	0	0
Parathion	3	Δ0	1	2
PCB	3	3	Δ0	Δ0
Petroleum, Kerosene (Fuel Oil No. 1)	3	1	2	0
Phenol	3	1	2	0
Sulfuric Acid	3	0	0	2
Toluene	2	1	3	0