

# Lemons Landfill

The Lemons Landfill is located in Stoddard County, MO., approximately 3 miles north of Dexter. It is owned and operated by Allied Waste Industries Inc. The disposal facility covers 75 acres and is permitted to accept all municipal solid waste (MSW) and some Other wastes such as contaminated soils and waste water treatment sludge and paper waste dust.

The Lemons Landfill accepted 157,594 tons in 1996, 182,885 tons in 1997 196,092 tons in 1998. The landfill operation was observed from Monday January 25<sup>th</sup> through Friday January 29<sup>th</sup>, 1999. The weather was fair but cold the entire week. Observation took place from 7 AM till 4:00 PM on the above dates. During the observation period, 257 trucks, delivered 3,000 tons of waste to the landfill. All loads were observed and recorded. The landfill staff felt the material received during the observation period was typical of material received year round.

Most drivers were asked where the loads originated. This was done to determine in what classification (MSW, construction, demolition, industrial, or other) the load should be recorded. However, most loads could be classified visually, without any driver data.

The Lemons Landfill accepts waste from three transfer stations. The Pemiscot County transfer station near Hayti, MO., the Jackson transfer station in Jackson MO., and the City of Cape Girardeau transfer station in Cape Girardeau, MO. These three sources represented 36% (93 trailers and roll-offs) of the traffic and 59% of the total waste. There were some demolition materials observed and recorded in these transfer loads but the overwhelming majority of the transfer station waste was MSW.

## The Total Waste Stream - 3,000 tons

The total waste stream was predominately Municipal Solid Waste (MSW). The source of the MSW portion is primarily residential, institutional, and light commercial waste. The MSW was delivered to the landfill in transfer trailers and local packer trucks. Total waste received during the observation period was 3,000 tons. The components of the waste stream were estimated as they were unloaded. These components are listed below.

### Waste Stream Components

<b>MSW</b>	<b>Const.</b>	<b>Demo</b>	<b>Industrial</b>	<b>Other</b>
71.1%	0.4%	7.3%	20.8%	0.5%
2132 tons	11 tons	220 tons	623 tons	15 tons

## Municipal Solid Waste - 2,132 tons

Municipal Solid Waste (MSW) accounted for 71% of the total waste stream. MSW materials were not estimated during the observation period because the items are very small and normally

contained within plastic bags. However, MSW was sorted and recorded at 19 landfills and transfer stations as part of this study in 1996 and 97. During the 56 sorts 632 samples, weighing an average of 222 pounds each, were examined. Each of these samples were hand sorted into six major categories and 26 sub categories. The sorted materials were recorded by weight and volume. Further details are available in the *Missouri Waste Composition Study: Municipal Solid Waste*.

The total MSW received during the observation period was 2132 tons. The average percentage of each major material category found in the 1996-97 waste sorts was applied to the tonnage received during the observation period and is displayed below.

### Municipal Solid Waste Components

Paper	Glass	Metals	Plastics	Organics	Inorganics
37.3%	5.8%	6.9%	14.4%	30.8%	4.8%
795 tons	124 tons	147 tons	307 tons	657 tons	102 tons

### Construction Waste - 11 tons

Only about 0.4% of the total waste received was from new construction sources. Construction waste loads were transported to the landfill in open top roll-off containers, dump trucks, or open trailers. The area served by the landfill is not a fast growing area and open burning is permitted in most municipalities and all counties. Both of these factors may have contributed to the low amount of construction waste. The construction loads tended to be lighter, less weathered, and more homogeneous (all wood and dry wall).

Total construction waste received during the observation period was 10.9 tons. The materials within the construction waste stream were estimated as they were unloaded. These estimated materials are listed below.

### Construction Waste Components

Wood	Dry Wall	Masonry	Metal	Plas.	Cardboard	Other
60%	40%	0%	0%	0%	0%	0%
6.5 tons	4.4 tons	0 tons	0 tons	0 tons	0 tons	0 tons

### Demolition Waste - 220 tons

About 7.3% of the total waste was from demolition sources. Demolition waste loads were usually transported to the landfill in open top roll-off containers, dump trucks, or open trailers. Roofing waste was typically delivered to the landfill by independent contractors and was not mixed with other materials. The remaining demolition loads contained more mixed materials. The wood was more weathered, there was very little if any cardboard, and there was more masonry materials (brick, concrete blocks, rock and dirt) in the demolition waste as compared to the construction waste.

Total demolition waste received during the observation period was 220 tons. The materials within the demolition waste stream were estimated as they were unloaded. These estimated materials are listed below.

### The Demolition Waste Component

Wood	Dry Wall	Roof	Masonry	Metal	Carpet	Other
40%	8%	28%	17%	2%	5%	0%
88 tons	17 tons	62 tons	36 tons	5 tons	11 tons	1 tons

### Industrial Waste - 623 tons

Industrial waste loads were usually transported to the landfill in open top roll-off containers or compactor units. They were normally homogeneous, containing a single waste products from a manufacturing process. There were two main industrial generators. Proctor and Gamble had 134 tons (21.5% of the industrial component), mostly disposable diaper scraps, and Norrand Aluminum delivered 200 tons (32% of the industrial component) of aluminum ore dust from their smelting process. The paper materials were primarily from Proctor and Gamble, the food materials were from Tyson (dead birds), wood materials were mostly sawdust and small pieces of particle board, plastic materials were from Proctor and Gamble, and the materials in the "other" category listed below were primarily aluminum dust and a sludge product from a plastics manufacturer.

Total industrial waste received during the observation period was 623 tons. The materials within the industrial waste stream were estimated as they were unloaded. These estimated materials are listed below.

### The Industrial Waste Component

Cardbrd	Paper	Food	Metal	Wood	Plas.	Tex.	Rbr.	Other
6%	17%	4%	0%	11%	12%	4%	3%	42%
38 tons	109 tons	27 tons	2 tons	71 tons	73 tons	22 tons	18 tons	263 tons

### Other Waste - 15 tons

Other wastes were defined as waste which did not fit into one of the above categories or was handled differently at the landfill (i.e. soil-like materials used for daily cover, asbestos, etc.). Bulky items include furniture, mattresses, appliances, etc. Most of these bulky items were received from the transfer stations and estimated as a percent of those loads.

Total Other waste received during the observation period was 15 tons. The materials within the Other waste stream were estimated as they were unloaded. These estimated materials are listed below.

### The Other Waste Component

Bulky Items
100%
15 tons

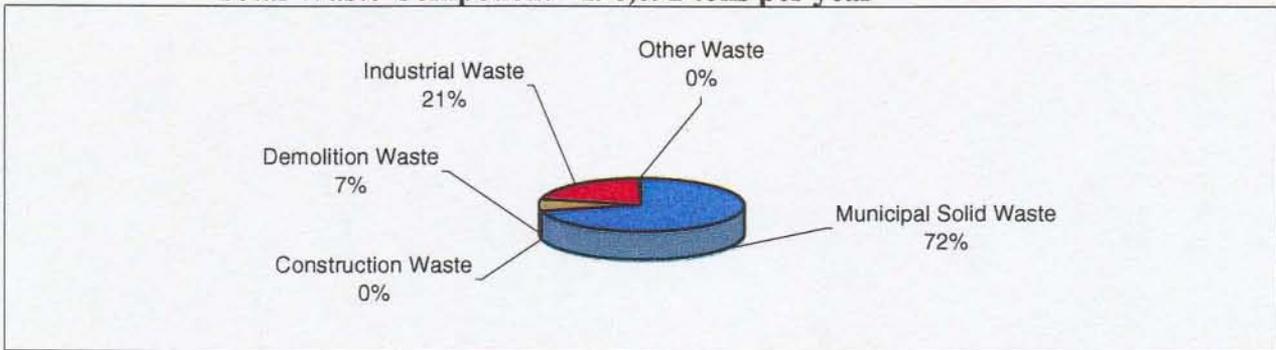
# LEMONS LANDFILL

## 196,092 TONS IN 1998

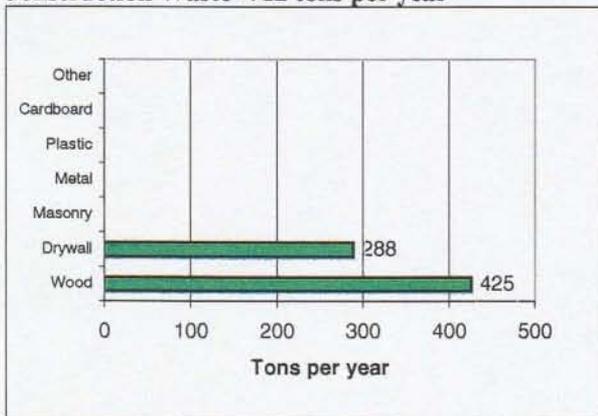
MATERIAL	Tons received during observation period	Percent of each material received	Estimated tonnage received in 1998 based on observation
<b>MSW Component</b>			
Paper	795 Tons	26.5%	51,961 Tons
Glass	124 Tons	4.1%	8,105 Tons
Metals	147 Tons	4.9%	9,608 Tons
Plastics	307 Tons	10.2%	20,065 Tons
Organics	657 Tons	21.9%	42,941 Tons
Inorganics	102 Tons	3.4%	6,667 Tons
<b>TOTAL MSW</b>	<b>2132 Tons</b>	<b>71.1%</b>	<b>139,347 Tons</b>
<b>Construction Waste</b>			
Wood	7 Tons	0.2%	425 Tons
Dry Wall	4 Tons	0.1%	288 Tons
Masonry	0 Tons	0.0%	- Tons
Metal	0 Tons	0.0%	- Tons
Plastic	0 Tons	0.0%	- Tons
Cardboard	0 Tons	0.0%	- Tons
Other	0 Tons	0.0%	- Tons
<b>TOTAL CONSTRUCTION</b>	<b>11 Tons</b>	<b>0.4%</b>	<b>712 Tons</b>
<b>Demolition Waste</b>			
Wood	88 Tons	2.9%	5,752 Tons
Dry Wall	17 Tons	0.6%	1,111 Tons
Roofing	62 Tons	2.1%	4,052 Tons
Masonry	36 Tons	1.2%	2,353 Tons
Metal	5 Tons	0.1%	294 Tons
Carpet	11 Tons	0.4%	719 Tons
Other	1 Tons	0.0%	65 Tons
<b>TOTAL DEMOLITION</b>	<b>220 Tons</b>	<b>7.3%</b>	<b>14,346 Tons</b>
<b>Industrial Waste</b>			
Cardboard	37 Tons	1.2%	2,418 Tons
Paper	109 Tons	3.6%	7,124 Tons
Food	27 Tons	0.9%	1,765 Tons
Metal	2 Tons	0.1%	131 Tons
Wood	71 Tons	2.4%	4,641 Tons
Plastic	73 Tons	2.4%	4,771 Tons
Textiles	22 Tons	0.7%	1,438 Tons
Rubber	18 Tons	0.6%	1,176 Tons
Other	264 Tons	8.8%	17,255 Tons
<b>TOTAL INDUSTRIAL</b>	<b>623 Tons</b>	<b>20.8%</b>	<b>40,719 Tons</b>
<b>Other Waste</b>			
Bulky Items	15 Tons	0.5%	967 Tons
Soil and Inert Materials	Tons	0.0%	- Tons
Asbestos	Tons	0.0%	- Tons
Other	Tons	0.0%	- Tons
<b>TOTAL OTHER WASTE</b>	<b>15 Tons</b>	<b>0.5%</b>	<b>967 Tons</b>
<b>TOTAL WASTE STREAM</b>	<b>3000 Tons</b>	<b>100%</b>	<b>196,092 Tons</b>

# The Lemons Landfill

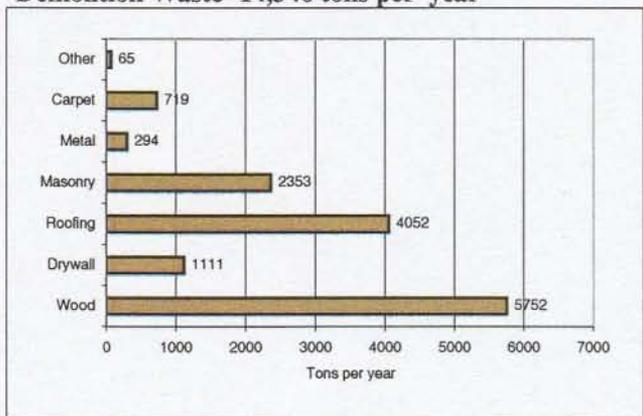
## Total Waste Component - 196,092 tons per year



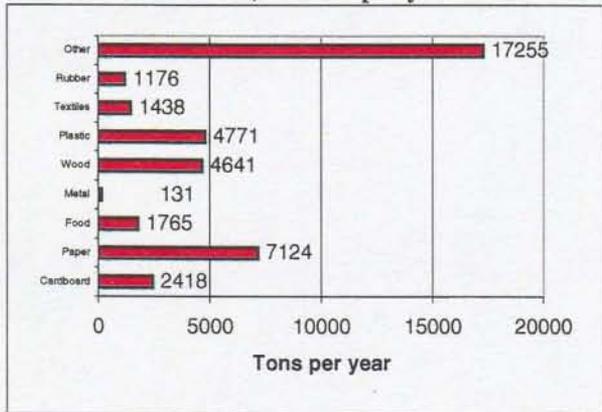
### Construction Waste - 712 tons per year



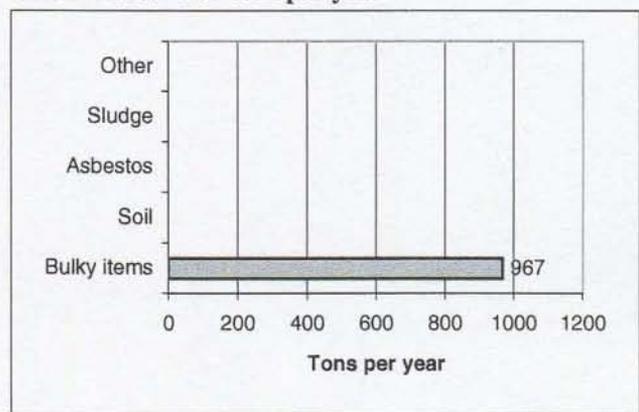
### Demolition Waste - 14,346 tons per year



### Industrial Waste - 40,719 tons per year



### Other Waste - 967 tons per year



## Lemons Waste Components vs Rural and State Averages

