Section IV

Reports on the Landfills and Transfer Stations Observed

Black Oak Landfill

City of Columbia Landfill

City of Springfield Landfill

City of St. Joseph Landfill

Courtney Ridge Landfill

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IESI Timber Ridge Landfill

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Lemons Landfill

Maple Hill Landfill

Neosho Transfer Station

Pink Hill Acres Demolition Landfill

Prairie View Landfill

Show-Me Landfill

St. Louis North Metro Transfer Station

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Black Oak Sanitary Landfill

Wright County, Missouri

Introduction

Waste Corporation of America (WCA) owns and operates the Black Oak sanitary landfill in Wright County, MO. According to DNR tonnage reports the Black Oak Landfill received 362,734 tons of waste in 2007.

Waste disposal was observed at the Black Oak Landfill between Monday July 14, 2008 and Friday July 18, 2008. Observation took place between 6:30 AM and 4:30 PM each day for a total of 50 hours. During the observation period, 369 vehicles unloaded 7,052.3 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 7/14	81	1502.2
Tuesday 7/15	77	1488.9
Wednesday 7/16	68	1317.7
Thursday 7/17	76	1413.7
Friday 7/18	67	1329.8
Week's Total	**369**	**7052.3**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	6812.5	97%
Construction	16.5	0%
Demolition	127.5	2%
Industrial	75.2	1%
Other	0	0%
Special	20.7	0%
Week's Total	**7052.3**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 96.6% (6812.5 tons) of the total waste. MSW was by far the biggest waste sector at Black Oak and was delivered to the landfill primarily by transfer trailers. Transfer trailers originated in West Plains, St. Roberts, Phelps Co., Lebanon, Taney Co., Verona, and Springfield. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 7/14	1446.7	96%
Tuesday 7/15	1423.0	96%
Wednesday 7/16	1293.3	98%
Thursday 7/17	1356.4	96%
Friday 7/8	1293.0	97%
Week's Total	**6812.5**	**96.6%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was only 0.2% (16.5 tons) of the total waste. The largest component of the construction waste was wood (89%). Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	14.7	89%
Drywall	0	0%
Masonry	0	0%
Metal	0	0%
Plastic	1.5	9%
Cardboard	0	0%
Other	0.3	2%
Total Construction Sector	**16.5**	**100%**

Demolition Waste

The Demolition Waste sector was 1.8% of the total waste. A total of 127.5 tons of demolition waste was delivered to the landfill during the week. The largest component was roofing at 66% of the total demolition waste sector. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition Sector
Wood	27.4	21%
Drywall	8.0	6%
Roofing	83.9	66%
Masonry	4.3	3%
Metal	0.8	1%
Carpet	2.8	2 %
Other	0.3	0%
Total Demolition Sector	**127.5**	**100%**

Industrial Waste

The Industrial Waste sector was 1.1% of the total waste. A total of 75.2 tons of industrial waste was delivered to the landfill during the week. The largest industrial component waste was food waste (23%) primarily from a mustard manufacturer in Springfield Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial Sector
Cardboard	8.5	11%
Paper	1.9	3%
Food	17.5	23%
Metal	0.8	1%
Wood	10.5	14%
Plastic	10.7	14%
Textiles	0.5	1%
Rubber	13.5	18%
Other	11.4	15%
Total Industrial Sector	**75.2**	**100%**

Other Waste
No tree trunks, street sweepings, or sludge was observed during the week.

Special Waste
The Special Waste sector was 0.3% (20.7 tons) of the total waste. The largest component was contaminated soil at 77%. Bulky items were 23% of the special waste sector. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 waste sorts. Each special load was visually estimated and allocated into the following components:

Special Sector Components	Weight in Tons	% of Special Waste
Bulky	4.7	23%
Contaminated Soil	16.0	77%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0	0%
Total Special Sector	**20.7**	**100%**

Summary
Table IV-1 represents estimated waste sectors of the Black Oak Sanitary Landfill from data collected during the week of July 14-18, 2008. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-1: Observed Waste Sectors at the Black Oak Landfill

Waste Component	Observed Tons 7/14-7/18	Estimated % of Waste 7/14-7/18	Estimated 2007 Tonnage
MSW Component	**6812.5**	**96.6%**	**350396**
MSW paper	2213.1	32.5%	117838
MSW Glass	358.0	5.3%	19062
MSW Metal	397.5	5.8%	21164
MSW Plastics	1135.2	16.7%	60443
MSW Organics	2078.9	30.5%	110690
MSW Inorganics	272.4	4.0%	14506
MSW Special Waste	125.7	1.8%	6693
Construction Component	**16.5**	**0.2%**	**850**
Wood	14.7	0.2%	756
Drywall	0.0	0.0%	0
Masonry	0.0	0.0%	0
Metal	0.0	0.0%	0
Plastic	1.5	0.0%	79
Cardboard	0.0	0.0%	0
Other	0.3	0.0%	15
Demolition Component	**127.5**	**1.8%**	**6558**
Wood	27.3	0.4%	1406
Drywall	8.0	0.1%	413
Roofing	83.9	1.2%	4316
Masonry	4.3	0.1%	221
Metal	0.8	0.0%	40
Carpet	2.8	0.0%	146
Other	0.3	0.0%	17
Industrial Component	**75.2**	**1.1%**	**3865**
Cardboard	8.5	0.1%	436
Paper	1.9	0.0%	96
Food	17.5	0.2%	898
Metal	0.8	0.0%	43
Wood	10.5	0.1%	539
Plastic	10.7	0.2%	551
Textiles	0.5	0.0%	24
Rubber	13.5	0.2%	692
Other	11.4	0.2%	585
Other Component	**0.0**	**0.0%**	**0**
Sludge	0.0	0.0%	0
Tree Trunks	0.0	0.0%	0
Special Component	**20.7**	**0.3%**	**1064**
Bulky	4.7	0.1%	241
Contaminated Soil	16.0	0.2%	823
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.0	0.0%	0
Total Waste Components	**7052.3**	**100.0%**	**362734**

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City of Columbia Sanitary Landfill

Introduction
The City of Columbia owns and operates the sanitary landfill located on Peabody Road in Columbia, MO. According to DNR tonnage reports the Columbia Landfill received 175,175 tons of waste in 2007.

Waste disposal was observed at the City of Columbia Landfill between Monday June 2, 2008 and Friday June 6, 2008. Observation took place between 7 AM and 5 PM each day for a total of 50 hours. The weather was unseasonably cool, wet, and windy. During the observation period, 717 vehicles unloaded 3,278 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 6/2	147	787.3
Tuesday 6/3	153	731.6
Wednesday 6/4	141	593.7
Thursday 6/5	147	559.9
Friday 6/6	129	605.9
Week's Total	**717**	**3278.4**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	2098.8	64%
Construction	164.1	5%
Demolition	724.1	22%
Industrial	193.1	6%
Other	10.2	0.3%
Special	88.3	3%
Week's Total	**3278.4**	**100%**

Municipal Solid Waste (MSW)
The Municipal Solid Waste (MSW) sector was 64% of the total waste. The MSW was delivered to the landfill primarily by packer trucks. The City of Columbia operates residential, commercial and roll-off vehicles and most of the MSW was delivered to the landfill via City of Columbia trucks. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 6/2	525.6	67%
Tuesday 6/3	448.9	61%
Wednesday 6/4	338.1	57%
Thursday 6/5	359.8	64%
Friday 6/6	426.4	70%
Week's Total	**2098.8**	**64%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 5.0% (164.1 tons) of the total waste. The largest construction waste components were wood (43%) and drywall (23%). Each construction waste load was visually estimated and allocated into the following components:

Const. Component	Weight in Tons	% of Const. Sector
Wood	71.6	43%
Drywall	37.2	23%
Masonry	18.2	11%
Metal	5.8	4%
Plastic	4.8	3%
Cardboard	18.7	11%
Other	7.8	5%
Total Construction Sector	**164.1**	**100%**

Demolition Waste

The Demolition Waste sector was 22.1% (724.1 tons) of the total waste. The largest components of the demolition waste stream were masonry (inert materials such as concrete block, dirt, bricks, etc.) and wood (28%). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition Sector
Wood	199.0	28%
Drywall	111.9	15%
Roofing	138.1	19%
Masonry	211.2	29%
Metal	20.3	3%
Carpet	26.6	4%
Other	17.1	2%
Total Demolition Sector	**724.1**	**100%**

Industrial Waste

The Industrial Waste sector was 5.9% (193.1 tons) of the total waste. The largest industrial waste components were plastic (44%) and Cardboard (21%). Wooden pallets (16%) were also significant. Each industrial waste load was visually estimated and allocated into the following components:

Industrial Components	Weight in Tons	% Industrial Waste
Cardboard	40.2	21%
Paper	5.7	3%
Food	4.0	2%

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Metal	5.6	3%
Wood	30.8	16%
Plastic	85.4	44%
Textiles	0.5	0%
Rubber	6.9	4%
Other	14.0	7%
Total Industrial Sector	**193.1**	**100%**

Other Waste

The 'Other' Waste sector was 0.3% (10.2 tons) of the total waste. Street sweepings and tree trunks comprised 100% of this category. The 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	**Weight in Tons**	**% of Other Waste**
Sludge	0	0%
Street sweepings and tree trunks	10.2	100%
Total 'Other' Sector	**10.2**	**100%**

Special Waste

The Special Waste sector was 2.7% (88.3%) of the total waste. The largest components of this category were bulky waste (61%) and asbestos (37%). A bulky item was defined as MSW that was too large for normal trash pick-up (furniture, mattresses, large household and commercial objects, etc.) and therefore not included in the 2006-2007 MSW waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	**Weight in Tons**	**% of Special Waste**
Bulky	53.9	61%
Contaminated Soil	0	0%
Asbestos	32.5	37%
Tritium	0	0%
E-scrap	1.9	2%
Total Special Sector	**88.3**	**100%**

Summary

Table IV-2 represents estimated waste sectors of the City of Columbia Sanitary Landfill from data collected during the week of June 2-6, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 6/2-6/6. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-2: Observed Waste Sectors at the City of Columbia Landfill

Waste Component	Observed Tonnage 6/2-6/6	Estimated % of Waste 6/2-6/6	Estimated 2007 Tonnage
MSW Component	**2098.7**	**64.0%**	**112141**
MSW paper	451.8	21.5%	37713
MSW Glass	73.1	3.5%	6100
MSW Metal	81.1	3.9%	6773
MSW Plastics	231.8	11.0%	19344
MSW Organics	424.4	20.2%	35425
MSW Inorganics	55.6	2.7%	4643
MSW Special Waste	25.7	1.2%	2142
Construction Component	**164.1**	**5.0%**	**8769**
Wood	71.6	2.2%	3825
Drywall	37.2	1.1%	1989
Masonry	18.2	0.6%	974
Metal	5.8	0.2%	311
Plastic	4.8	0.1%	259
Cardboard	18.7	0.6%	997
Other	7.8	0.2%	414
Demolition Component	**724.1**	**22.1%**	**38689**
Wood	199.0	6.1%	10631
Drywall	111.9	3.4%	5981
Roofing	138.1	4.2%	7379
Masonry	211.2	6.4%	11283
Metal	20.3	0.6%	1084
Carpet	26.6	0.8%	1419
Other	17.1	0.5%	912
Industrial Component	**193.1**	**5.9%**	**10315**
Cardboard	40.2	1.2%	2146
Paper	5.7	0.2%	303
Food	4.0	0.1%	211
Metal	5.6	0.2%	302
Wood	30.8	0.9%	1647
Plastic	85.4	2.6%	4562
Textiles	0.5	0.0%	27
Rubber	6.9	0.2%	370
Other	14.0	0.4%	749
Other Component	**10.2**	**0.3%**	**542**
Sludge	0.0	0.0%	0
Tree Trunks	10.2	0.3%	542
Special Component	**88.3**	**2.7%**	**4718**
Bulky	53.9	1.6%	2879
Contaminated Soil	0.0	0.0%	0
Asbestos	32.5	1.0%	1737
Tritium	0.0	0.0%	0
E-scrap	1.9	0.1%	102
Total Waste Components	**3278.4**	**100.0%**	**175175**

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City of Springfield Sanitary Landfill

Introduction
The City of Springfield owns and operates the Springfield sanitary landfill in Greene County, MO. According to DNR tonnage reports the Springfield Landfill received 103,140 tons of waste in 2007.

Waste disposal was observed at the Springfield Landfill between Monday July 7, 2008 and Thursday July 10, 2008. Observation took place between 7 AM and 4 PM each day for a total of 36 hours. Waste was also observed for 9 hours on Friday. However, the computer program that records scale weights malfunctioned and the scale weights were lost during transmission to permanent files and therefore those loads could not be included in the observation data. The mix of waste on Friday seemed consistent with the loads observed Monday through Thursday so the percentages should be similar. During the observation period, 521 vehicles unloaded 1,801.6 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	**# of Vehicles**	**Weight in Tons**
Monday 7/7	135	377.9
Tuesday 7/8	126	374.9
Wednesday 7/9	129	497.4
Thursday 7/10	131	551.4
Friday 7/11	109(not in total)	N/A
Week's Total	**521**	**1801.6**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	**Weight in Tons**	**Percent of the Total**
MSW	900.4	50.0%
Construction	43.9	2.4%
Demolition	483.4	26.9%
Industrial	213.3	11.8%
Other	116.4	6.5%
Special	44.2	2.4%
Week's Total	**1801.6**	**100%**

Municipal Solid Waste (MSW)
The Municipal Solid Waste (MSW) sector was 50.0% of the total waste. The MSW was delivered to the landfill primarily by local packer trucks. No transfer trailers were observed. Much of the residential and commercial MSW in Springfield is collected by Allied and WCA. This waste is transferred to Allied's landfill in Lamar and WCA's landfill in Hartville. The daily breakdown was:

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Day	Weight in Tons	Percent of the Total
Monday 7/7	180.2	48%
Tuesday 7/8	191.2	51%
Wednesday 7/9	215.5	43%
Thursday 7/10	313.5	57%
Friday 7/11	N/A	N/A
Week's Total	**900.4**	**50%**

Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 2.4% of the total waste. A total of 43.9 tons of construction waste was delivered to the landfill during the four observation days that scale weights were available. Most of this waste (77%) was wood. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	33.7	77%
Drywall	4.4	10%
Masonry	0.1	0%
Metal	0	0%
Plastic	2.3	5.2%
Cardboard	2.2	5.1%
Other	1.2	2.7%
Total Construction Sector	**43.9**	**100%**

Demolition Waste

The Demolition Waste sector was 26.8% of the total waste. A total of 483.4 tons of demolition waste was delivered to the landfill during the four observation days that scale weights were available. Demolition waste was delivered to the landfill primarily in open top roll-off containers, dump trucks, dump trailers, and self haul vehicles. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	177.3	37%
Drywall	36.9	8%
Roofing	222.2	46%
Masonry	9.3	2%
Metal	5.6	1%
Carpet	31.3	6 %
Other	0.8	0%
Total Demolition Sector	**483.4**	**100%**

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Industrial Waste

The Industrial Waste sector was 11.8% of the total waste. A total of 213.3 tons of industrial waste was delivered to the landfill during the four observation days that scale weights were available. Most of the rubber waste was auto belts from the Dayco plant and split auto tires from Don's tire and Ozark hauling. Each industrial waste load was visually estimated and allocated into the following components:

Industrial Components	Weight in Tons	% of Industrial
Cardboard	34.7	17%
Paper	19.6	9%
Food	0	0%
Metal	3.2	2%
Wood	43.2	20%
Plastic	40.0	19%
Textiles	5.2	2%
Rubber	66.5	31%
Other	0.9	0%
Total Industrial Sector	**213.3**	**100%**

Other Waste

The 'Other' Waste sector was 6.5% of the total waste. A total of 116.4 tons of 'Other' waste was delivered to the landfill during the four observation days that scale weights were available. Most of the waste was tree trunks. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	5.2	4%
Tree trunks	111.2	96%
Total 'Other' Sector	**116.4**	**100%**

Special Waste

The Special Waste sector was 2.4% of the total waste. The largest component was bulky items. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste Sector
Bulky	37.7	86%
Contaminated Soil	6.5	14%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0	0%
Total Special Sector	**44.2**	**100%**

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Summary

Table IV-3 represents estimated waste sectors of the Springfield Sanitary Landfill from data collected during the week of July 7-10, 2008. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-3: Observed Waste Sectors at the City of Springfield Landfill

Waste Component	Observed Tons 7/7-7/10	Estimated % of Waste 7/7-7/10	Estimated 2007 Tonnage
MSW Component	**900.4**	**50%**	**51550**
MSW paper	151.3	16.8%	17336
MSW Glass	24.5	2.7%	2804
MSW Metal	27.2	3.0%	3114
MSW Plastics	77.6	8.6%	8892
MSW Organics	142.2	15.8%	16285
MSW Inorganics	18.6	2.1%	2134
MSW Special Waste	8.6	1.0%	985
Construction Component	**43.9**	**2.4%**	**2512**
Wood	33.7	1.9%	1928
Drywall	4.4	0.2%	251
Masonry	0.1	0.0%	5
Metal	0.0	0.0%	0
Plastic	2.3	0.1%	131
Cardboard	2.2	0.1%	128
Other	1.2	0.1%	69
Demolition Component	**483.4**	**26.8%**	**27674**
Wood	177.3	9.8%	10149
Drywall	36.9	2.0%	2112
Roofing	222.2	12.3%	12720
Masonry	9.3	0.5%	531
Metal	5.6	0.3%	323
Carpet	31.3	1.7%	1793
Other	0.8	0.0%	45
Industrial Component	**213.3**	**11.8%**	**12211**
Cardboard	34.7	1.9%	1989
Paper	19.6	1.1%	1120
Food	0.0	0.0%	0
Metal	3.2	0.2%	181
Wood	43.2	2.4%	2474
Plastic	40.0	2.2%	2290
Textiles	5.2	0.3%	296
Rubber	66.5	3.7%	3809
Other	0.9	0.1%	53
Other Component	**116.4**	**6.5%**	**6667**
Sludge	5.2	0.3%	298
Tree Trunks	111.2	6.2%	6369
Special Component	**44.1**	**2.4%**	**2526**
Bulky	37.7	2.1%	2161
Contaminated Soil	6.4	0.4%	365
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.0	0.0%	1
Total Waste Components	**1801.5**	**100.0%**	**103140**

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City of St. Joseph Sanitary Landfill

Introduction
The City of St. Joseph owns and operates the St. Joseph sanitary landfill in Buchanan County, MO. According to DNR tonnage reports the St. Joseph Landfill received 136,964 tons of waste in 2007.

Waste disposal was observed at the St. Joseph Landfill between Monday August 25, 2008 and Friday August 29, 2008. Observation took place between 7 AM and 4 PM each day for a total of 45 hours. During the observation period, 646 vehicles unloaded 3002.4 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 8/25	140	734.9
Tuesday 8/26	148	576.2
Wednesday 8/27	138	613.8
Thursday 8/28	122	628.7
Friday 8/29	98	448.75
Week's Total	**646**	**3002.4**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	1611.9	53.7%
Construction	52.5	1.7%
Demolition	475.1	15.8%
Industrial	653.1	21.8%
Other	24.8	0.8%
Special	185.0	6.2%
Week's Total	**3002.4**	**100%**

Municipal Solid Waste (MSW)
The Municipal Solid Waste (MSW) sector was 53.7% of the total waste. The MSW was delivered to the landfill primarily by local packer trucks and transfer trailers. Transfer trailers originated from Walthena, KS and Cameron, MO. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 8/25	400.4	54%
Tuesday 8/26	309.9	54%
Wednesday 8/27	298.5	49%
Thursday 8/28	359.7	57%
Friday 8/29	243.4	54%
Week's Total	**1611.9**	**54%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 1.7% of the total waste. A total of 52.5 tons of construction waste was delivered to the landfill during the observation period. Most of this waste (54%) was wood. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	28.4	54%
Drywall	4.7	9%
Masonry	0	0%
Metal	7.6	15%
Plastic	6.4	12%
Cardboard	2.7	5%
Other	2.7	25%
Total Construction Sector	**52.5**	**100%**

Demolition Waste

The Demolition Waste sector was 15.8% of the total waste. A total of 475.1 tons of demolition waste was delivered to the landfill during the observation period. The largest components were wood (33%), roofing (30%), and masonry (24%). The metal component came from the destruction of a mobile home that was delivered to the landfill. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	157.2	33%
Drywall	29.7	7%
Roofing	141.3	30%
Masonry	114.4	24%
Metal	11.6	2%
Carpet	15.9	3%
Other	5.1	1%
Total Demolition Sector	**475.1**	**100%**

Industrial Waste

The Industrial Waste sector was 21.8% of the total waste. A total of 653.1 tons of industrial waste was delivered to the landfill during the observation period. The largest components were cardboard (25%), Food (26%) and wood (22%). The food waste came from Purina (dog food overruns), Nestlé's (cat food), and the Cameron prison food scraps. The wood waste was mostly pallets. Cardboard came from a

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wide range of sources. Each industrial waste load was visually estimated and allocated into the following components:

Industrial Components	Weight in Tons	% of Industrial
Cardboard	164.3	25%
Paper	19.7	3%
Food	168.5	26%
Metal	8.4	1%
Wood	143.8	22%
Plastic	46.1	7%
Textiles	20.2	3%
Rubber	5.4	1%
Other	76.7	12%
Total Industrial Sector	**653.1**	**100%**

Other Waste

The 'Other' Waste sector was 0.8% of the total waste. A total of 24.8 tons of 'other' waste was delivered to the landfill during the observation period. Most of the waste (71%) was tree trunks. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste Sector
Sludge	7.3	29%
Tree trunks	17.5	71%
Total 'Other' Sector	**24.8**	**100%**

Special Waste

The Special Waste sector was 6.2% of the total waste. The largest component (68%) was contaminated soil (petroleum saturated soil and clay used in the filtering of soybean oil). Bulky items represented 30% of the special waste sector. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste Sector
Bulky	54.7	30%
Contaminated Soil	126.1	68%
Asbestos	4.2	2%
Tritium	0	0%
E-scrap	0	0%
Total Special Sector	**185.0**	**100%**

Summary

Table IV-4 represents estimated waste sectors of the St. Joseph Sanitary Landfill from data collected during the week of August 25-29, 2008. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-4: Observed Waste Sectors at the City of St. Joseph Landfill

Waste Component	Observed Tonnage 8/25-8/29	Estimated % of Waste 8/25-8/29	Estimated 2007 Tonnage
MSW Component	**1611.9**	**53.7%**	**73532**
MSW paper	291.0	18.1%	24729
MSW Glass	47.1	2.9%	4000
MSW Metal	52.3	3.2%	4441
MSW Plastics	149.3	9.3%	12684
MSW Organics	273.4	17.0%	23229
MSW Inorganics	35.8	2.2%	3044
MSW Special Waste	16.5	1.0%	1404
Construction Component	**52.5**	**1.7%**	**2394**
Wood	28.4	0.9%	1295
Drywall	4.7	0.2%	213
Masonry	0.0	0.0%	0
Metal	7.6	0.3%	349
Plastic	6.4	0.2%	291
Cardboard	2.7	0.1%	122
Other	2.7	0.1%	124
Demolition Component	**475.1**	**15.8%**	**21674**
Wood	157.2	5.2%	7170
Drywall	29.7	1.0%	1356
Roofing	141.3	4.7%	6446
Masonry	114.4	3.8%	5218
Metal	11.6	0.4%	529
Carpet	15.9	0.5%	724
Other	5.1	0.2%	231
Industrial Component	**653.1**	**21.8%**	**29793**
Cardboard	164.3	5.5%	7496
Paper	19.7	0.7%	899
Food	168.5	5.6%	7686
Metal	8.4	0.3%	382
Wood	143.8	4.8%	6561
Plastic	46.1	1.5%	2104
Textiles	20.2	0.7%	919
Rubber	5.4	0.2%	245
Other	76.8	2.6%	3501
Other Component	**24.8**	**0.8%**	**1131**
Sludge	7.3	0.2%	333
Tree Trunks	17.5	0.6%	799
Special Component	**185.0**	**6.2%**	**8439**
Bulky	54.7	1.8%	2494
Contaminated Soil	126.1	4.2%	5754
Asbestos	4.2	0.1%	189
Tritium	0.0	0.0%	0
E-scrap	0.0	0.0%	2
Total Waste Components	**3002.4**	**100.0%**	**136964**

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Courtney Ridge Sanitary Landfill

Kansas City Metropolitan Area

Introduction

Allied Waste Industries Inc. owns and operates the Courtney Ridge sanitary landfill in the Kansas City Missouri metropolitan area. According to DNR tonnage reports the Courtney Ridge Landfill received 520,394 tons of waste in 2007.

Waste disposal was observed at the Courtney Ridge Landfill between Monday August 18, 2008 and Friday August 22, 2008. Observation took place between 7 AM and 4:30 PM each day for a total of 47 hours. The weather was seasonably mild with no appreciable rain. During the observation period, 1152 vehicles unloaded 10,627 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 8/18	254	2565.4
Tuesday 8/19	238	2147.5
Wednesday 8/20	207	1669.8
Thursday 8/21	222	2288.0
Friday 8/22	231	1956.6
Week's Total	**1152**	**10627.3**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	3530.7	33.2%
Construction	135.8	1.3%
Demolition	1165.2	11.0%
Industrial	2203.4	20.7%
Other	256.3	2.4%
Special	3336.0	31.4%
Week's Total	**10627.3**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 33% of the total waste. The MSW was delivered to the landfill primarily by packer trucks. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 8/18	814.7	32%
Tuesday 8/19	686.2	32%
Wednesday 8/20	734.7	44%
Thursday 8/21	646.7	28%
Friday 8/22	648.5	33%
Week's Total	**3530.7**	**33.2%**

Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is

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cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 1.3% of the total waste. Over half of the construction waste was wood (69.1 tons). Masonry consisted of inert materials (sand, dirt, brick, concrete etc.) The 'other' component consisted of insulation, paint, windows, etc. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	69.1	51%
Drywall	15.7	12%
Masonry	22.6	16%
Metal	0.4	0%
Plastic	10.8	8%
Cardboard	2.8	2%
Other	14.5	11%
Total Construction Sector	**135.8**	**100%**

Demolition Waste

The Demolition Waste sector was 11.0% of the total waste. Over half of the demolition waste was wood (654.9 tons) and consisted of normal wood from demolition activities and railroad ties from Frontier Industries. Masonry consisted of rubble (dirt, rock, concrete etc.) from demolition activities. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	654.9	56%
Drywall	70.4	6%
Roofing	103.9	9%
Masonry	247.1	1%
Metal	10.6	1%
Carpet	71.2	6%
Other	7.0	1%
Total Demolition Sector	**1165.2**	**100%**

Industrial Waste

The Industrial Waste sector was 20.7% of the total waste. The largest percentage of industrial waste was auto fluff from Midwest Scrap and this was recorded in the 'industrial other' component category. There was an unusually large amount (412 tons) of cardboard mixed with industrial loads. The wood component (240 tons) consisted mostly of wooden pallets. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	412.6	19%
Paper	29.5	1%
Food	38.7	2%
Metal	14.8	1%
Wood	239.4	11%
Plastic	134.4	6%
Textiles	16.9	1%
Rubber	5.8	0%
Other	1311.2	59%
Total Industrial Sector	**2203.4**	**100%**

Other Waste

The 'Other' Waste sector was 2.4% of the total waste. Half of the waste was sewer sludge from wastewater facilities. Large tree limbs, tree trunks, and street sweepings accounted for the other half of the category 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste Sector
Sludge	129.7	51%
Street sweepings and tree trunks	126.6	49%
Total 'Other' Sector	**256.3**	**100%**

Special Waste

The Special Waste sector was 31.4% of the total waste. The largest component was contaminated soil (2,917 tons) from Missouri Gas and Energy and BNSF Railway. Asbestos (187 tons) was delivered to the landfill on 8/18 and 8/19. Bulky items accounted for the remaining seven percent. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Some e-waste (3 tons) was also observed. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste Sector
Bulky	228.3	7%
Contaminated Soil	2917.5	87%
Asbestos	187.1	6%
Tritium	0	0%
E-scrap	3.1	0%
Total Special Sector	**3336.0**	**100%**

Summary

Table IV-5 represents estimated waste sectors of the Courtney Ridge Sanitary Landfill from data collected during the week of August 18 through August 22, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 8/18-8/22. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-5: Observed Waste Sectors at the Courtney Ridge Landfill

Waste Component	Observed Tonnage 8/18-8/22	Estimated % of Waste 8/18-8/22	Estimated 2007 Tonnage
MSW Component	**3530.7**	**33.2%**	**172891**
MSW paper	394.5	11.2%	58143
MSW Glass	63.8	1.8%	9405
MSW Metal	70.9	2.0%	10443
MSW Plastics	202.3	5.7%	29824
MSW Organics	370.6	10.5%	54616
MSW Inorganics	48.6	1.4%	7158
MSW Special Waste	22.4	0.6%	3302
Construction Component	**135.8**	**1.3%**	**6649**
Wood	69.1	0.7%	3384
Drywall	15.7	0.1%	767
Masonry	22.6	0.2%	1107
Metal	0.4	0.0%	17
Plastic	10.8	0.1%	529
Cardboard	2.8	0.0%	136
Other	14.5	0.1%	709
Demolition Component	**1165.2**	**11.0%**	**57056**
Wood	654.9	6.2%	32069
Drywall	70.4	0.7%	3449
Roofing	103.9	1.0%	5089
Masonry	247.1	2.3%	12101
Metal	10.6	0.1%	521
Carpet	71.2	0.7%	3485
Other	7.0	0.1%	341
Industrial Component	**2203.4**	**20.7%**	**107894**
Cardboard	412.6	3.9%	20202
Paper	29.5	0.3%	1445
Food	38.7	0.4%	1893
Metal	14.8	0.1%	725
Wood	239.4	2.3%	11725
Plastic	134.4	1.3%	6580
Textiles	16.9	0.2%	830
Rubber	5.8	0.1%	285
Other	1311.3	12.3%	64210
Other Component	**256.3**	**2.4%**	**12550**
Sludge	129.7	1.2%	6349
Tree Trunks	126.6	1.2%	6201
Special Component	**3336.0**	**31.4%**	**163354**
Bulky	228.3	2.1%	11178
Contaminated Soil	2917.5	27.5%	142864
Asbestos	187.1	1.8%	9161
Tritium	0.0	0.0%	0
E-scrap	3.1	0.0%	151
Total Waste Components	**10627.3**	**100.0%**	**520394**

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The Fred Weber Sanitary Landfill

St. Louis Metropolitan Area

Introduction

Fred Weber Inc. owns and operates the Fred Weber Sanitary Landfill in St. Louis County, MO. According to DNR tonnage reports the Fred Weber Landfill received 995,443 tons of waste in 2007.

Waste disposal was observed at the Fred Weber Landfill between Monday September 8, 2008 and Friday September 12, 2008. Observation took place between 7 AM and 3:00 PM each day for a total of 40 hours. The weather was seasonal with some rain on 9/12. During the observation period, 1,305 vehicles unloaded 12,017 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 9/8	263	2414.6
Tuesday 9/9	268	2609.3
Wednesday 9/10	277	2626.0
Thursday 9/11	268	2315.1
Friday 9/12	229	2052.4
Week's Total	**1305**	**12017.4**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	5622.2	46.8%
Construction	373.0	3.1%
Demolition	1970.9	16.4%
Industrial	1026.9	8.6%
Other	374.7	3.1%
Special	2649.7	22.0%
Week's Total	**12017.4**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 46.8% of the total waste. The MSW was delivered to the landfill primarily by packer trucks and transfer trailers. Transfer trailers came from transfer stations in University City, Foristell, Valley Park, and O'Fallon. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 9/8	1315.8	54%
Tuesday 9/9	1156.4	44%
Wednesday 9/10	879.6	33%
Thursday 9/11	1079.1	47%
Friday 9/12	1191.3	58%
Week's Total	**5622.2**	**46.8%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 3.1% of the total waste. Construction waste was delivered to the landfill in open top roll-off containers or dump trucks by private service providers or construction companies. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	177.2	48%
Drywall	71.7	19%
Masonry	28.7	8%
Metal	4.9	1%
Plastic	20.2	5%
Cardboard	50.1	13%
Other	20.2	6%
Total Construction Sector	**373.0**	**100%**

Demolition Waste

The Demolition Waste sector was 16.4% of the total waste. The largest component was wood at 1,146 tons (58%). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	1146.2	58%
Drywall	205.0	10%
Roofing	166.6	8%
Masonry	316.2	16%
Metal	12.8	1%
Carpet	92.8	5%
Other	31.3	2%
Total Demolition Sector	**1970.9**	**100%**

Industrial Waste

The Industrial Waste sector was 8.6% of the total waste. The largest industrial component was foundry sand from Metal Tech (448.6 tons). Industrial cardboard (216 tons) and wood (168.9 tons) were the other major components. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	216.0	21%
Paper	22.3	2%
Food	2.3	0%
Metal	2.9	0%
Wood	168.8	17%
Plastic	95.5	9%
Textiles	17.5	2%
Rubber	53.0	5%
Other (foundry sand)	448.6	44%
Total Industrial Sector	**1026.9**	**100%**

Other Waste

The 'Other' waste sector was 3.1% of the total waste. The sludge sector was sewer sludge from the Metropolitan Sewer District (MSD). 'Other' waste loads were visually estimated and allocated into the following components:

Other Waste Components	Weight in Tons	% of Other Waste
Sludge	200.2	53%
Tree trunks	174.6	47%
Total 'Other' Sector	**374.8**	**100%**

Special Waste

The Special Waste sector was 22% of the total waste. The largest sector (2004 tons) was non-friable asbestos which came from a demolition project in Wellston. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Bulky waste is normally furniture, mattresses, and large household items. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	301.5	11%
Contaminated Soil	343.5	13%
Asbestos	2004.4	76%
Tritium	0	0%
E-scrap	0.3	0%
Total Special Sector	**2649.7**	**100%**

Summary

Table IV-6 represents estimated waste sectors of the Fred Weber Sanitary Landfill from data collected during the week of September 8-12, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 9/8-9/12. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-6: Observed Waste Sectors at the Fred Weber Landfill

Waste Component	Observed Tonnage 9/8-9/12	Estimated % of Waste 9/8-9/12	Estimated 2007 Tonnage
MSW Component	**5622.2**	**46.8%**	**465706**
MSW paper	884.6	15.7%	156617
MSW Glass	143.1	2.5%	25334
MSW Metal	158.9	2.8%	28129
MSW Plastics	453.7	8.1%	80334
MSW Organics	830.9	14.8%	147117
MSW Inorganics	108.9	1.9%	19280
MSW Special Waste	50.2	0.9%	8895
Construction Component	**373.0**	**3.1%**	**30894**
Wood	177.1	1.5%	14672
Drywall	71.7	0.6%	5941
Masonry	28.7	0.2%	2379
Metal	4.9	0.0%	406
Plastic	20.2	0.2%	1676
Cardboard	50.1	0.4%	4150
Other	20.2	0.2%	1669
Demolition Component	**1970.9**	**16.4%**	**163260**
Wood	1146.3	9.5%	94951
Drywall	205.0	1.7%	16979
Roofing	166.6	1.4%	13796
Masonry	316.2	2.6%	26196
Metal	12.8	0.1%	1063
Carpet	92.8	0.8%	7687
Other	31.3	0.3%	2589
Industrial Component	**1026.9**	**8.5%**	**85061**
Cardboard	216.0	1.8%	17891
Paper	22.3	0.2%	1845
Food	2.3	0.0%	190
Metal	2.9	0.0%	238
Wood	168.9	1.4%	13989
Plastic	95.6	0.8%	7917
Textiles	17.5	0.1%	1448
Rubber	53.0	0.4%	4389
Other	448.6	3.7%	37156
Other Component	**374.8**	**3.1%**	**31042**
Sludge	200.1	1.7%	16578
Tree Trunks	174.6	1.5%	14464
Special Component	**2649.7**	**22.0%**	**219480**
Bulky	301.5	2.5%	24977
Contaminated Soil	343.4	2.9%	28448
Asbestos	2004.4	16.7%	166029
Tritium	0.0	0.0%	0
E-scrap	0.3	0.0%	25
Total Waste Components	**12017.4**	**100.0%**	**995443**

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IESI Timber Ridge Sanitary Landfill

Washington County, Missouri

Introduction

IESI MO. Corp. owns and operates the Timber Ridge sanitary landfill in Washington County, MO. According to DNR tonnage reports the Timber Ridge Landfill received 172,796 tons of waste in 2007.

Waste disposal was observed at the Timber Ridge Landfill between Monday June 16, 2008 and Friday June 20, 2008. Observation took place between 6:30 AM and 5 PM each day for a total of 52 hours. The weather was sunny and dry. During the observation period, 341 vehicles unloaded 3,757 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 6/16	62	716.4
Tuesday 6/17	61	665.2
Wednesday 6/18	68	712.8
Thursday 6/19	69	720.6
Friday 6/20	81	942.1
Week's Total	**341**	**3757.1**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	2958.3	78.7%
Construction	26.7	0.7%
Demolition	300.2	8.0%
Industrial	363.7	9.7%
Other	9.4	0.3%
Special	98.7	2.6%
Week's Total	**3757.1**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 78.7% of the total waste. The MSW was delivered to the landfill primarily by packer trucks and transfer trailers. Transfer trailers came from St. Francis County Environmental Corp. and Meramec Valley Processing facility. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 6/16	581.8	81%
Tuesday 6/17	560.3	84%
Wednesday 6/18	642.9	90%
Thursday 6/19	571.9	79%
Friday 6/20	601.4	64%
Week's Total	**2958.3**	**79%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.7% of the total waste. This was a much lower percentage than was being observed at other sites. The relatively small amount of construction waste was delivered to the landfill by private construction companies. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	5.5	21%
Drywall	3.0	11%
Masonry	0	0%
Metal	6.9	26%
Plastic	4.6	17%
Cardboard	4.4	16%
Other	2.3	9%
Total Construction Sector	**26.7**	**100%**

Demolition Waste

The Demolition Waste sector was 8.0% of the total waste. Demolition waste was delivered to the landfill primarily in open top roll-off containers, dump trucks, dump trailers, and self haul vehicles. Each demolition load was visually estimated and allocated into the following components:

Components	Weight in Tons	% of Demolition
Wood	124.5	42%
Drywall	58.6	19%
Roofing	47.1	16%
Masonry	5.3	2%
Metal	19.0	6%
Carpet	26.9	9%
Other	18.8	6%
Total Demolition Sector	**300.2**	**100%**

Industrial Waste

The Industrial Waste sector was 9.7% of the total waste. A large amount (over 200 tons) of 'auto fluff' was delivered to the landfill on 6/20. This was classified as "Industrial Other". It consisted of all non metallic materials removed from cars during the crushing process. Other industrial waste was delivered to the landfill in roll-off containers. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	36.2	10%
Paper	1.4	0%
Food	19.2	5%
Metal	10.0	3%
Wood	51.3	14%
Plastic	20.3	6%
Textiles	0	0%
Rubber	2.5	1%
Other	222.7	61%
Total Industrial Sector	**363.7**	**100%**

Other Waste

The 'Other' Waste sector was 0.3% of the total waste. No sludge was recorded. Tree trunks composed 100% of this category. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	0	0%
Street sweepings and tree trunks	9.4	100%
Total 'Other' Sector	**9.4**	**100%**

Special Waste

The Special Waste sector was 2.6% of the total waste. The Special waste components were bulky items and contaminated soil. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Contaminated soil contained petroleum products. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	22.5	22%
Contaminated Soil	75.8	77%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0.5	1%
Total Special Sector	**98.7**	**100%**

Summary

Table IV-7 represents estimated waste sectors of the Timber Ridge Sanitary Landfill from data collected during the week of June 16-20, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 6/16-6/20. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-7: Observed Waste Sectors at the Timber Ridge Landfill

Waste Component	Observed Tonnage 6/16-6/20	Estimated % of Waste 6/16-6/20	Estimated 2007 Tonnage
MSW Component	**2958**	**78.7%**	**136058**
MSW paper	1096	26.5%	45756
MSW Glass	177	4.3%	7402
MSW Metal	197	4.8%	8218
MSW Plastics	562	13.6%	23470
MSW Organics	1030	24.9%	42981
MSW Inorganics	135	3.3%	5633
MSW Special Waste	62	1.5%	2599
Construction Component	**26.7**	**0.7%**	**1227**
Wood	5.5	0.1%	254
Drywall	3.0	0.1%	136
Masonry	0.0	0.0%	0
Metal	6.9	0.2%	318
Plastic	4.6	0.1%	211
Cardboard	4.4	0.1%	201
Other	2.3	0.1%	106
Demolition Component	**300.2**	**8.0%**	**13808**
Wood	124.5	3.3%	5724
Drywall	58.6	1.6%	2694
Roofing	47.1	1.3%	2166
Masonry	5.3	0.1%	246
Metal	19.0	0.5%	873
Carpet	26.9	0.7%	1239
Other	18.8	0.5%	866
Industrial Component	**363.7**	**9.7%**	**16729**
Cardboard	36.2	1.0%	1665
Paper	1.4	0.0%	64
Food	19.2	0.5%	883
Metal	10.0	0.3%	461
Wood	51.3	1.4%	2361
Plastic	20.3	0.5%	935
Textiles	0.0	0.0%	0
Rubber	2.5	0.1%	116
Other	222.7	5.9%	10244
Other Component	**9.4**	**0.3%**	**433**
Sludge	0.0	0.0%	0
Tree Trunks	9.4	0.3%	433
Special Component	**98.7**	**2.6%**	**4541**
Bulky	22.5	0.6%	1035
Contaminated Soil	75.8	2.0%	3485
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.5	0.0%	22
Total Waste Components	**3757.1**	**100.0%**	**172796**

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Jefferson City Sanitary Landfill

Cole County, Missouri

Introduction

Allied Waste Industries Inc. owns and operates the Jefferson City Sanitary Landfill in Cole County, MO. According to DNR tonnage reports the Jefferson City Landfill received 200,218 tons of waste in 2007.

Waste disposal was observed at the Jefferson City Landfill between Monday September 22, 2008 and Friday September 26, 2008. Observation took place between 7 AM and 4:30 PM each day for a total of 47.5 hours. The weather was seasonal with no rain. During the observation period, 460 vehicles unloaded 3,460 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 9/22	110	938.2
Tuesday 9/23	115	902.1
Wednesday 9/24	79	535.8
Thursday 9/25	69	490.9
Friday 9/26	87	593.0
Week's Total	**460**	**3460.0**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	1817.7	52.5%
Construction	24.8	0.7%
Demolition	669.0	19.3%
Industrial	288.2	8.3%
Other	2.0	0.1%
Special	658.3	19.1%
Week's Total	**3460.0**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 52.5% of the total waste. The MSW was delivered to the landfill primarily by packer trucks and transfer trailers. Transfer trailers came from Osage Beach. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 9/22	381.5	41%
Tuesday 9/23	432.3	48%
Wednesday 9/24	336.2	63%
Thursday 9/25	315.9	64%
Friday 9/26	351.8	59%
Week's Total	**1817.7**	**52.5%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pu0lverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.7% of the total waste. The largest components were wood (53%) and drywall (24%). Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	13.1	53%
Drywall	6.0	24%
Masonry	0	0%
Metal	2.5	10%
Plastic	1.2	5%
Cardboard	0.9	4%
Other	1.0	4%
Total Construction Sector	**24.7**	**100%**

Demolition Waste

The Demolition Waste sector was 19.3% of the total waste. The largest components were wood (55%) and roofing (41%). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	233.7	35%
Drywall	63.3	10%
Roofing	275.7	41%
Masonry	42.9	6%
Metal	3.1	1%
Carpet	48.1	7%
Other	2.2	0%
Total Demolition Sector	**669.0**	**100%**

Industrial Waste

The Industrial Waste sector was 8.3% of the total waste. The largest industrial component was cardboard (40%) and wood pallets (27%). Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	115.1	40%
Paper	7.4	3%
Food	3.8	1%
Metal	2.8	1%
Wood	76.9	27%
Plastic	17.1	6%
Textiles	2.9	1%
Rubber	20.2	7%
Other	42.0	14%
Total Industrial Sector	**288.2**	**100%**

Other Waste

The 'Other' waste sector was 0.1% of the total waste. The sludge sector was from the Jefferson City wastewater plant. 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	2.0	100%
Street sweepings and tree trunks	0.0	0%
Total 'Other' Sector	**2.0**	**100%**

Special Waste

The Special Waste sector was 19.0% of the total waste. The largest component was contaminated soil (91%) from a private residence in California, MO that was high in lead. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	41.5	7%
Contaminated Soil	600.5	91%
Asbestos	16.1	2%
Tritium	0	0%
E-scrap	0.2	0%
Total Special Sector	**658.3**	**100%**

Summary

Table IV-8 represents estimated waste sectors of the Jefferson City Sanitary Landfill from data collected during the week of September 22-26, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 9/22-9/26. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-8: Observed Waste Sectors at the Jefferson City Landfill

Waste Component	Observed Tonnage 9/22-9/26	Estimated % of Waste 9/22-9/26	Estimated 2007 Tonnage
MSW Component	**1817.7**	**52.5%**	**105186**
MSW paper	321.1	17.7%	18584
MSW Glass	51.9	2.9%	3006
MSW Metal	57.7	3.2%	3338
MSW Plastics	164.7	9.1%	9532
MSW Organics	301.7	16.6%	17457
MSW Inorganics	39.5	2.2%	2288
MSW Special Waste	18.2	1.0%	1055
Construction Component	**24.7**	**0.7%**	**1432**
Wood	13.1	0.4%	756
Drywall	6.0	0.2%	350
Masonry	0.0	0.0%	3
Metal	2.5	0.1%	147
Plastic	1.2	0.0%	67
Cardboard	0.9	0.0%	53
Other	1.0	0.0%	57
Demolition Component	**669.0**	**19.3%**	**38715**
Wood	233.7	6.8%	13526
Drywall	63.3	1.8%	3660
Roofing	275.7	8.0%	15956
Masonry	42.9	1.2%	2482
Metal	3.1	0.1%	181
Carpet	48.1	1.4%	2782
Other	2.2	0.1%	127
Industrial Component	**288.2**	**8.3%**	**16677**
Cardboard	115.1	3.3%	6660
Paper	7.4	0.2%	428
Food	3.8	0.1%	218
Metal	2.8	0.1%	160
Wood	76.9	2.2%	4451
Plastic	17.1	0.5%	992
Textiles	2.9	0.1%	166
Rubber	20.2	0.6%	1170
Other	42.0	1.2%	2432
Other Component	**2.0**	**0.1%**	**113**
Sludge	2.0	0.1%	113
Tree Trunks	0.0	0.0%	0
Special Component	**658.3**	**19.0%**	**38095**
Bulky	41.5	1.2%	2399
Contaminated Soil	600.6	17.4%	34754
Asbestos	16.1	0.5%	932
Tritium	0.0	0.0%	0
E-scrap	0.2	0.0%	10
Total Waste Components	**3460.0**	**100.0%**	**200218**

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Lemons Sanitary Landfill

Dexter, Missouri

Introduction

Allied Waste Industries Inc. owns and operates the Lemons Sanitary Landfill near Dexter, MO. According to DNR tonnage reports the Lemons Landfill received 108,696 tons of waste in 2007.

Waste disposal was observed at the Lemons Landfill between Monday August 11, 2008 and Friday August 15, 2008. Observation took place between 7 AM and 4:00 PM each day for a total of 45 hours. The weather was seasonal with no rain. During the observation period, 223 vehicles unloaded 2,263 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 8/11	45	445.9
Tuesday 8/12	41	438.7
Wednesday 8/13	38	403.8
Thursday 8/14	46	458.3
Friday 8/15	53	516.3
Week's Total	**223**	**2262.9**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	1353.2	59.8%
Construction	9.9	0.4%
Demolition	326.9	14.4%
Industrial	492.0	21.7%
Other	16.9	0.7%
Special	64.2	2.8%
Week's Total	**2262.9**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 60% of the total waste. The MSW was delivered to the landfill primarily by packer trucks and transfer trailers. Transfer trailers came from the Tri County transfer station and the City of Cape Girardeau Transfer Station. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 8/11	308.5	69%
Tuesday 8/12	284.7	65%
Wednesday 8/13	216.0	53%
Thursday 8/14	256.0	56%
Friday 8/15	288.0	56%
Week's Total	**1353.2**	**59.8%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.4% of the total waste. The relatively small amount of construction waste was delivered to the landfill in open top roll-off containers or dump trucks by private construction companies. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	5.5	56%
Drywall	0	0%
Masonry	0	0%
Metal	0.7	7%
Plastic	3.7	37%
Cardboard	0	0%
Other	0	0%
Total Construction Sector	**9.9**	**100%**

Demolition Waste

The Demolition Waste sector was 14.4% of the total waste. Demolition waste was delivered to the landfill primarily in open top roll-off containers, dump trucks, dump trailers, and self haul vehicles. The largest components were wood and roofing. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	100.3	31%
Drywall	42.3	13%
Roofing	115.7	35%
Masonry	33.0	10%
Metal	2.6	1%
Carpet	27.2	8%
Other	5.9	2%
Total Demolition Sector	**326.9**	**100%**

Industrial Waste

The Industrial Waste sector was 21.7% of the total waste. The largest industrial component was smelting byproducts from Noranda Aluminum (216.5 tons). The industrial food components were from Bryers Ice Crème, Tyson Chickens, and spoiled grain. Industrial cardboard was also a significant waste item (84 tons). Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	84.3	17%
Paper	12.5	3%
Food	112.6	23%
Metal	0	0%
Wood	43.9	9%
Plastic	11.6	2%
Textiles	0	0%
Rubber	10.5	2%
Other	216.5	44%
Total Industrial Sector	**492.0**	**100%**

Other Waste

The 'Other' waste sector was 0.7% of the total waste. The sludge sector was special non hazardous waste sludge from Aramark Uniforms. 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	10.5	62%
Street sweepings and tree trunks	6.4	38%
Total 'Other' Sector	**16.9**	**100%**

Special Waste

The Special Waste sector was 2.8% of the total waste. Special waste was delivered to the landfill primarily in self haul vehicles (bulky and e-waste) and transfer trailers. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. There was no contaminated soil or tritium observed. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	63.5	99%
Contaminated Soil	0	0%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0.7	1%
Total Special Sector	**64.2**	**100%**

Summary

Table IV-9 represents estimated waste sectors of the Lemons Sanitary Landfill from data collected during the week of August 11-15, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 8/11-8/15. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-9: Observed Waste Sectors at the Lemons Landfill

Waste Component	Estimated Tons 8/11-8/15	Estimated % of Waste 8/11-8/15	Estimated 2007 Tonnage
MSW Component	**1353.2**	**59.8%**	**64996**
MSW paper	272.1	20.1%	21858
MSW Glass	44.0	3.3%	3536
MSW Metal	48.9	3.6%	3926
MSW Plastics	139.6	10.3%	11212
MSW Organics	255.6	18.9%	20532
MSW Inorganics	33.5	2.5%	2691
MSW Special Waste	15.5	1.1%	1241
Construction Component	**9.9**	**0.4%**	**474**
Wood	5.5	0.2%	264
Drywall	0.0	0.0%	0
Masonry	0.0	0.0%	0
Metal	0.7	0.0%	34
Plastic	3.7	0.2%	176
Cardboard	0.0	0.0%	0
Other	0.0	0.0%	0
Demolition Component	**326.9**	**14.4%**	**15702**
Wood	100.3	4.4%	4816
Drywall	42.3	1.9%	2032
Roofing	115.7	5.1%	5558
Masonry	33.0	1.5%	1584
Metal	2.6	0.1%	123
Carpet	27.2	1.2%	1306
Other	5.9	0.3%	284
Industrial Component	**492.0**	**21.7%**	**23631**
Cardboard	84.3	3.7%	4051
Paper	12.5	0.6%	602
Food	112.6	5.0%	5409
Metal	0.0	0.0%	0
Wood	43.9	1.9%	2106
Plastic	11.6	0.5%	556
Textiles	0.0	0.0%	0
Rubber	10.5	0.5%	505
Other	216.5	9.6%	10401
Other Component	**16.9**	**0.7%**	**810**
Sludge	10.5	0.5%	506
Tree Trunks	6.3	0.3%	304
Special Component	**64.2**	**2.8%**	**3083**
Bulky	63.5	2.8%	3051
Contaminated Soil	0.0	0.0%	0
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.7	0.0%	32
Total Waste Components	**2262.9**	**100.0%**	**108696**

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Maple Hill Sanitary Landfill

Macon County, Missouri

Introduction

Veolia Environmental Services owns and operates the Maple Hill sanitary landfill in Macon County, MO. According to DNR tonnage reports the Maple Hill Landfill received 168,386 tons of waste in 2007.

Waste disposal was observed at the Maple Hill Landfill between Monday June 23, 2008 and Thursday June 26, 2008. Observation took place between 7 AM and 5 PM each day for a total of 40 hours. The weather was unusually wet and stormy. The landfill received over 10 inches of rain during the observation period. Observation for Friday 6/27 was suspended due to expected severe storms. During the observation period, 343 vehicles unloaded 3,891 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 6/16	87	1066.7
Tuesday 6/17	116	1498.9
Wednesday 6/18	64	646.5
Thursday 6/19	76	678.5
Week's Total	**343**	**3890.6**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	2088.3	53.7%
Construction	6.3	0.2%
Demolition	233.9	6.0%
Industrial	185.2	4.7%
Other	10.2	0.3%
Special	1366.7	35.1%
Week's Total	**3890.6**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 53.7% of the total waste. The MSW was delivered to the landfill primarily by local packer trucks and transfer trailers. Transfer trailers came from Boonville, Bethany, Moberly, and Chillicothe. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 6/16	553.8	52%
Tuesday 6/17	546.9	36%
Wednesday 6/18	456.8	71%
Thursday 6/19	530.8	78%
Week's Total	**2088.3**	**53.7%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.2% of the total waste. This was a much lower percentage than was observed at other sites. The heavy rain during the observation week and the depressed economy may have contributed to the small amount of construction waste. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	3.1	49%
Drywall	0	0%
Masonry	0	0%
Metal	0	0%
Plastic	0.7	11%
Cardboard	2.5	40%
Other	0	0%
Total Construction Sector	**6.3**	**100%**

Demolition Waste

The Demolition Waste sector was 6.0% (233.9 tons) of the total waste. The largest component of the demolition waste stream was wood 62%). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	146.0	62%
Drywall	16.8	7%
Roofing	43.5	19%
Masonry	2.0	1%
Metal	16.0	7%
Carpet	3.5	1 %
Other	6.1	3%
Total Demolition Sector	**233.9**	**100%**

Industrial Waste

The Industrial Waste sector was 4.7% of the total waste. The food component was from Trenton foods (Vienna sausages), Premium Standard Farms, and bi products from the Con Agra processing plant. The wood component was primarily pallets. The rubber component was shredded tires and tire dust from the electrical power plant. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	17.9	10%
Paper	11.4	6%
Food	52.7	29%
Metal	14.6	8%
Wood	39.9	22%
Plastic	7.9	4%
Textiles	0.1	0%
Rubber	26.8	14%
Other	13.9	7%
Total Industrial Sector	**185.2**	**100%**

Other Waste

The 'Other' Waste sector was 0.3% of the total waste. Sludge was received from the Moberly waste treatment plant accounted for most of the weight. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	9.7	95%
Tree trunks	0.5	5%
Total 'Other' Sector	**10.2**	**100%**

Special Waste

The Special Waste sector was 35.1% of the total waste. The largest component was contaminated soil. Fifty one dump truck loads were received from the Ameren UE plant and from a Booneville petroleum clean-up site. This soil will be "aired" and used as daily cover when it is safe. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	12.1	1%
Contaminated Soil	1329.6	97%
Asbestos	24.3	2%
Tritium	0	0%
E-scrap	0.7	0%
Total Special Sector	**1366.7**	**100%**

Summary

Table IV-10 represents estimated waste sectors of the Maple Hill Sanitary Landfill from data collected during the week of June 23-26, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 6/23-6/26. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-10: Observed Waste Sectors at the Maple Hill Landfill

Waste Component	Observed Tons 6/23-6/26	% of Waste Observed 6/23-6/26	Estimated 2007 Tonnage
MSW Component	**2088.3**	**54%**	**90380**
MSW paper	376.9	18.1%	30395
MSW Glass	61.0	2.9%	4917
MSW Metal	67.7	3.2%	5459
MSW Plastics	193.3	9.3%	15591
MSW Organics	354.1	17.0%	28551
MSW Inorganics	46.4	2.2%	3742
MSW Special Waste	21.4	1.0%	1726
			0
Construction Component	**6.3**	**0%**	**274**
Wood	3.1	0%	133
Drywall	0.0	0%	0
Masonry	0.0	0%	0
Metal	0.0	0%	0
Plastic	0.7	0%	29
Cardboard	2.5	0%	110
Other	0.0	0%	1
			0
Demolition Component	**233.9**	**6%**	**10123**
Wood	146.0	4%	6317
Drywall	16.8	0%	727
Roofing	43.5	1%	1881
Masonry	2.0	0%	86
Metal	16.0	0%	692
Carpet	3.5	0%	151
Other	6.2	0%	269
Industrial Component	**185.2**	**5%**	**8013**
Cardboard	17.9	0%	775
Paper	11.4	0%	491
Food	52.7	1%	2282
Metal	14.6	0%	630
Wood	39.9	1%	1725
Plastic	7.9	0%	344
Textiles	0.1	0%	5
Rubber	26.8	1%	1161
Other	13.9	0%	599
Other Component	**10.2**	**0%**	**443**
Sludge	9.8	0%	422
Tree Trunks	0.5	0%	21
Special Component	**1366.7**	**35%**	**59152**
Bulky	12.1	0%	522
Contaminated Soil	1329.6	34%	57547
Asbestos	24.3	1%	1052
Tritium	0.0	0%	0
E-scrap	0.7	0%	32
Total Waste Components	**3890.6**	**100%**	**168386**

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City of Neosho Transfer Station

Introduction
The Neosho Transfer Station, in Neosho, MO, is owned by the City of Neosho and operated by Waste Corporation of America (WCA). The waste is hauled to the WCA landfill in Arcadia, Kansas, for disposal. According to DNR tonnage reports the Neosho Transfer Station received 18,683 tons of waste in 2007.

Waste disposal was observed at the Neosho Transfer Station between Monday September 29, 2008 and Friday October 3, 2008. The transfer station was observed for the entire time the transfer station was open. During the observation period 95 vehicles unloaded 403 tons of waste into the transfer station. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 9/29	16	67.2
Tuesday 9/30	17	62.1
Wednesday 10/3	20	86.2
Thursday 10/2	15	70.3
Friday 10/3	27	117.2
Week's Total	**95**	**403.0**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	233.5	58%
Construction	2.4	1%
Demolition	52.7	13%
Industrial	109.3	27%
Other	.5	0%
Special	4.6	1%
Week's Total	**403.0**	**100%**

Municipal Solid Waste (MSW)
The Municipal Solid Waste (MSW) sector was 58% of the total waste. MSW was delivered to the transfer station primarily by packer. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 9/29	44.4	66%
Tuesday 9/30	44.8	72%
Wednesday 10/3	50.7	59%
Thursday 10/2	40.5	58%
Friday 10/3	53.1	45%
Week's Total	**233.5**	**100%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was only 0.6% of the total waste. A total of 2.4 tons of construction waste was delivered to the transfer station during the week. Most of this waste (75%) was wood. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	1.8	75%
Drywall	0	0%
Masonry	0	0%
Metal	0	0%
Plastic	0.6	25%
Cardboard	0	0%
Other	0	0%
Total Construction Sector	**2.4**	**100%**

Demolition Waste

The Demolition Waste sector was 13.1% of the total waste. A total of 52.7 tons of demolition waste was delivered to the transfer station during the week. Approximately half of the demolition materials were roofing materials (26.5 tons). Wood accounted for most of the remaining component (16.4 tons). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	16.4	31%
Drywall	3.1	6%
Roofing	26.5	50%
Masonry	2.1	4%
Metal	2.6	5%
Carpet	2.0	4%
Other	0	0%
Total Demolition Sector	**52.7**	**100%**

Industrial Waste

The Industrial Waste sector was 27.1% of the total waste. A total of 109.3 tons of industrial waste was delivered to the transfer station during the week. The largest industrial component waste was wood pallets (34%). Food waste consisted of cheese from Schreiber Foods and out dated milk products from Milk-Not. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	14.4	13%
Paper	4.5	4%
Food	27.3	25%
Metal	0.0	0%
Wood	37.7	34%
Plastic	23.9	22%
Textiles	1.1	1%
Rubber	0.2	0%
Other	0.2	0%
Total Industrial Sector	**109.3**	**100%**

Other Waste

The 'Other' Waste sector was 0.1% of the total waste. A total of 0.5 tons of 'other' waste was delivered to the landfill during the observation period. All of the waste was tree trunks. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	0	0%
Tree trunks	0.5	100%
Total 'Other' Sector	**0.5**	**100%**

Special Waste

The Special Waste sector was 1.2% of the total waste. The largest component was bulky items at 97%. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. The E-scrap was computers and monitors. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	4.5	97%
Contaminated Soil	0	0%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0.1	3%
Total Special Sector	**4.6**	**100%**

Summary

Table IV-11 represents estimated waste sectors of the Neosho Transfer Station from data collected during the week of September 29-October 3, 2008. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-11: Observed Waste Sectors at the Neosho Transfer Station

Waste Component	Observed Tonnage 9/29-10/3	Estimated % of Waste 9/29-10/3	Estimated 2007 Tonnage
MSW Component	**233.5**	**57.9%**	**10825**
MSW paper	78.5	19.5%	3640
MSW Glass	12.7	3.2%	589
MSW Metal	14.1	3.5%	654
MSW Plastics	40.3	10.0%	1867
MSW Organics	73.8	18.3%	3420
MSW Inorganics	9.7	2.4%	448
MSW Special Waste	4.5	1.1%	207
Construction Component	**2.4**	**0.6%**	**111**
Wood	1.8	0.4%	83
Drywall	0.0	0.0%	0
Masonry	0.0	0.0%	0
Metal	0.0	0.0%	0
Plastic	0.6	0.1%	27
Cardboard	0.0	0.0%	0
Other	0.0	0.0%	0
Demolition Component	**52.7**	**13.1%**	**2441**
Wood	16.4	4.1%	760
Drywall	3.1	0.8%	145
Roofing	26.5	6.6%	1229
Masonry	2.1	0.5%	96
Metal	2.6	0.6%	119
Carpet	2.0	0.5%	93
Other	0.0	0.0%	0
Industrial Component	**109.3**	**27.1%**	**5068**
Cardboard	14.4	3.6%	668
Paper	4.5	1.1%	207
Food	27.3	6.8%	1267
Metal	0.0	0.0%	0
Wood	37.6	9.3%	1744
Plastic	23.8	5.9%	1104
Textiles	1.1	0.3%	53
Rubber	0.2	0.1%	10
Other	0.3	0.1%	15
Other Component	**0.5**	**0.1%**	**22**
Sludge	0.0	0.0%	0
Tree Trunks	0.5	0.1%	22
Special Component	**4.6**	**1.2%**	**216**
Bulky	4.5	1.1%	210
Contaminated Soil	0.0	0.0%	0
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.1	0.0%	6
Total Waste Components	**403.0**	**100.0%**	**18683**

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Pink Hill Acres Demolition Landfill

Kansas City Metropolitan Area

Introduction

Matthew J. Bowen owns and operates the Pink Hill Acres Demolition Landfill in the Kansas City Missouri metropolitan area. According to DNR tonnage reports the Pink Hill Acres Demolition Landfill received 34,659 tons of waste in 2007.

Waste disposal was observed at the Pink Hill Acres Demolition Landfill between Monday October 6, 2008 and Friday October 10, 2008. Observation took place between 7 AM and 5 PM each day for a total of 50 hours. The weather was seasonably mild with no appreciable rain. During the observation period, 129 vehicles unloaded 706.2 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 10/6	29	138.9
Tuesday 10/7	19	177.9
Wednesday 10/8	23	106.1
Thursday 10/9	28	161.7
Friday 10/10	30	121.6
Week's Total	**129**	**706.2**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	0	0%
Construction	35.5	5.1%
Demolition	662.5	93.8%
Industrial	6.2	0.9%
Other	1.0	0.1%
Special	1.0	0.1%
Week's Total	**706.2**	**100%**

Municipal Solid Waste (MSW)

The Pink Hill Acres Demolition Landfill is not permitted to receive Municipal Solid Waste (MSW) and none was observed.

The Pink Hill Acres Demolition Landfill recycles a large portion of the materials it receives. Since these materials are not land filled, they are not reported as tonnage received. The recycled materials were not included in the observation. Only the materials actually deposited into the landfill are included below.

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 5.0% of the total waste. Most of the construction waste was wood (28.4 tons). Masonry consisted of inert materials (sand, dirt, brick, concrete etc.) The 'other' component consisted of insulation, paint, windows, etc. Each construction waste load was visually estimated and allocated into the following components:

Const. Components	Weight in Tons	% of Const. Sector
Wood	28.4	80%
Drywall	0.3	1%
Masonry	0	0%
Metal	0	0%
Plastic	2.2	6%
Cardboard	4.6	13%
Other	0	0%
Total Construction Sector	**35.5**	**100%**

Demolition Waste

The Demolition Waste sector was 93.8% of the total waste. Wood waste (258.6 tons) and roofing shingles (265.5 tons) accounted for most of the demolition wastes. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	258.5	39%
Drywall	13.1	2%
Roofing	265.5	40%
Masonry	116.5	18%
Metal	1.1	0%
Carpet	7.7	1%
Other	0.1	0%
Total Demolition Sector	**662.5**	**100%**

Industrial Waste

The Industrial Waste sector was 0.9% (6.2 tons) of the total waste. The largest percentage of industrial waste was wood (5.9 tons) and consisted mostly of wooden pallets. Pink Hill recycled quite a bit of the wood and all of the cardboard before it reached the landfill area. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	0	0%
Paper	0.3	5%
Food	0	0%
Metal	0	0%
Wood	5.9	95%
Plastic	0	0%
Textiles	0	0%
Rubber	0	0%
Other	0	0%
Total Industrial Sector	**6.2**	**100%**

Other Waste

The 'Other' Waste sector was 0.1% (1.0 tons) of the total waste. The entire amount consisted of one small load of large tree limbs and tree trunks. 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	0	0%
Street sweepings and tree trunks	1.0	100%
Total 'Other' Sector	**1.0**	**100%**

Special Waste

The Special Waste sector was 0.1% (0.9 tons) of the total waste. The entire special waste sector was bulky items. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	1.0	100%
Contaminated Soil	0	0%
Asbestos	0	0%
Tritium	0	0%
E-scrap	0	0%
Total Special Sector	**1.0**	**100%**

Summary

Table IV-12 represents estimated waste sectors of the Pink Hill Acres Demolition landfill from data collected during the week of October 6 through October 10, 2008. There was no MSW observed at the landfill. The components for the remainder were visually estimated as waste was received from 10/6-10/10. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-12: Observed Waste Sectors at the Pink Hill Acres Demolition Landfill

Waste Component	Observed Tonnage 10/6-10/10	Estimated % of Waste 10/6-10/10	Estimated 2007 Tonnage
MSW Component	**0**	**0.0%**	**0**
MSW paper	0	0.0%	0
MSW Glass	0	0.0%	0
MSW Metal	0	0.0%	0
MSW Plastics	0	0.0%	0
MSW Organics	0	0.0%	0
MSW Inorganics	0	0.0%	0
MSW Special Waste	0	0.0%	0
Construction Component	**35.5**	**5.0%**	**1744**
Wood	28.4	4.0%	1395
Drywall	0.3	0.0%	15
Masonry	0.0	0.0%	0
Metal	0.0	0.0%	0
Plastic	2.2	0.3%	106
Cardboard	4.6	0.7%	228
Other	0.0	0.0%	0
Demolition Component	**662.5**	**93.8%**	**32516**
Wood	258.6	36.6%	12691
Drywall	13.1	1.8%	641
Roofing	265.5	37.6%	13030
Masonry	116.5	16.5%	5719
Metal	1.1	0.2%	52
Carpet	7.7	1.1%	378
Other	0.1	0.0%	6
Industrial Component	**6.2**	**0.9%**	**304**
Cardboard	0.0	0.0%	0
Paper	0.3	0.0%	14
Food	0.0	0.0%	0
Metal	0.0	0.0%	0
Wood	5.9	0.8%	290
Plastic	0.0	0.0%	0
Textiles	0.0	0.0%	0
Rubber	0.0	0.0%	0
Other	0.0	0.0%	0
Other Component	**1.0**	**0.1%**	**48**
Sludge	0.0	0.0%	0
Tree Trunks	1.0	0.1%	48
Special Component	**1.0**	**0.1%**	**47**
Bulky	1.0	0.1%	47
Contaminated Soil	0.0	0.0%	0
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	0.0	0.0%	0
Total Waste Components	**706.2**	**100.0%**	**34659**

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Prairie View Sanitary Landfill

Lamar, Missouri

Introduction

Allied Waste Industries Inc. owns and operates the Prairie View Sanitary Landfill near Lamar, MO. According to DNR tonnage reports the Prairie View Landfill received 581,253 tons of waste in 2007.

Waste disposal was observed at the Prairie View Landfill between Monday September 15, 2008 and Friday September 19, 2008. Observation took place between 7 AM and 4:00 PM each day for a total of 45 hours. The weather was seasonal with no rain. During the observation period, 345 vehicles unloaded 7,887.3 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 9/15	77	2021.6
Tuesday 9/16	68	1589.4
Wednesday 9/17	75	1741.6
Thursday 9/18	74	1471.6
Friday 9/19	51	1063.1
Week's Total	**345**	**7887.3**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	5459.3	69.2%
Construction	57.2	0.7%
Demolition	950.2	12.1%
Industrial	1020.9	12.9%
Other	159.7	2.0%
Special	240.0	3.1%
Week's Total	**7887.3**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 69% of the total waste. The MSW was delivered to the landfill primarily by packer trucks and transfer trailers. Transfer trailers came from Springfield, MO., Reeds Spring, MO., Galena, KS, and Bella Vista, AR. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 9/15	1472.0	73%
Tuesday 9/16	1166.3	74%
Wednesday 9/17	1134.0	65%
Thursday 9/18	1017.5	69%
Friday 9/19	669.5	63%
Week's Total	**5459.3**	**69.2%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.7% of the total waste. The largest component was plastic (vinyl) siding. Each construction waste load was visually estimated and allocated into the following components:

Const. Component	Weight in Tons	% of Const. Sector
Wood	17.3	30%
Drywall	10.7	19%
Masonry	0.6	1%
Metal	4.7	8%
Plastic	22.0	38%
Cardboard	1.0	2%
Other	0.9	2%
Total Construction Sector	**57.2**	**100%**

Demolition Waste

The Demolition Waste sector was 12% of the total waste. The largest component was wood (68%). Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	643.0	68%
Drywall	82.5	9%
Roofing	104.8	11%
Masonry	21.2	2%
Metal	19.2	2%
Carpet	76.4	8%
Other	3.1	0%
Total Demolition Sector	**950.2**	**100%**

Industrial Waste

The Industrial Waste sector was 12.9% of the total waste. The largest industrial component was the 'other' category. Most of that material was auto fluff from Springfield Iron and Metal Co. (528.4 tons). The industrial food components were milk, cheese, and turkey feathers. Industrial cardboard was also a significant waste item (122 tons). Each industrial waste load was visually estimated and allocated into the following components:

Industrial Components	Weight in Tons	% of Industrial
Cardboard	121.8	12%
Paper	9.8	1%

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Food	209.4	21%
Metal	5.9	1%
Wood	87.7	9%
Plastic	50.8	5%
Textiles	4.2	0%
Rubber	2.9	0%
Other	528.4	51%
Total Industrial Sector	**1020.9**	**100%**

Other Waste

The 'Other' waste sector was 2% of the total waste. The sludge component consisted of human and hog waste The 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	**Weight in Tons**	**% of Other Waste**
Sludge	156.7	98%
Street sweepings and tree trunks	3.0	2%
Total 'Other' Sector	**159.7**	**100%**

Special Waste

The Special Waste sector was 3% of the total waste. Contaminated soil primarily came from a railroad renovation project. The asbestos was non-friable. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. Each special load was visually estimated and allocated into the following components:

Special Components	**Weight in Tons**	**% of Special Waste**
Bulky	93.8	39%
Contaminated Soil	117.5	49%
Asbestos	28.6	12%
Tritium	0	0%
E-scrap	0.1	0%
Total Special Sector	**240.0**	**100%**

Summary

Table IV-13 represents estimated waste sectors of the Prairie View Sanitary Landfill from data collected during the week of September 15-19, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 9/15-9/19. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-13: Observed Waste Sectors at the Prairie View Landfill

Waste Component	Observed Tonnage 9/15-9/19	Estimated % of Waste 9/15-9/19	Estimated 2007 Tonnage
MSW Component	**5459.3**	**69.2%**	**402325**
MSW paper	1270.8	23.3%	135302
MSW Glass	205.6	3.8%	21886
MSW Metal	228.2	4.2%	24300
MSW Plastics	651.8	11.9%	69401
MSW Organics	1193.7	21.9%	127095
MSW Inorganics	156.4	2.9%	16656
MSW Special Waste	72.2	1.3%	7684
Construction Component	**57.2**	**0.7%**	**4217**
Wood	17.3	0.2%	1273
Drywall	10.7	0.1%	786
Masonry	0.6	0.0%	44
Metal	4.7	0.1%	347
Plastic	22.1	0.3%	1627
Cardboard	1.0	0.0%	71
Other	0.9	0.0%	68
Demolition Component	**950.2**	**12.0%**	**70020**
Wood	643.0	8.2%	47383
Drywall	82.5	1.0%	6076
Roofing	104.8	1.3%	7722
Masonry	21.2	0.3%	1564
Metal	19.2	0.2%	1415
Carpet	76.4	1.0%	5630
Other	3.1	0.0%	229
Industrial Component	**1020.9**	**12.9%**	**75238**
Cardboard	121.9	1.5%	8987
Paper	9.8	0.1%	722
Food	209.4	2.7%	15432
Metal	5.9	0.1%	438
Wood	87.7	1.1%	6460
Plastic	50.8	0.6%	3741
Textiles	4.2	0.1%	306
Rubber	2.9	0.0%	210
Other	528.4	6.7%	38941
Other Component	**159.7**	**2.0%**	**11770**
Sludge	156.7	2.0%	11548
Tree Trunks	3.0	0.0%	222
Special Component	**240.0**	**3.0%**	**17683**
Bulky	93.8	1.2%	6914
Contaminated Soil	117.5	1.5%	8657
Asbestos	28.6	0.4%	2108
Tritium	0.0	0.0%	0
E-scrap	0.1	0.0%	4
Total Waste Components	**7887.3**	**100.0%**	**581253**

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Show-Me Sanitary Landfill

Warrensburg, Missouri

Introduction

Allied Waste Industries Inc. owns and operates the Show-Me sanitary landfill near Warrensburg, MO. According to DNR tonnage reports the Show-Me Landfill received 173,894 tons of waste in 2007.

Waste disposal was observed at the Show-Me Landfill between Monday June 9, 2008 and Friday June 13, 2008. Observation took place between 7 AM and 4:30 PM each day for a total of 47 hours. The weather was unseasonably cool, wet, and windy. During the observation period, 345 vehicles unloaded 4,053 tons of waste into the landfill. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 6/9	61	757.5
Tuesday 6/10	70	736.9
Wednesday 6/11	83	852.2
Thursday 6/12	61	839.2
Friday 6/13	70	867.4
Week's Total	**345**	**4053.2**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	3260.4	80.4%
Construction	12.4	0.3%
Demolition	162.5	4.0%
Industrial	448.9	11.1%
Other	146.0	3.6%
Special	23.0	0.6%
Week's Total	**4053.2**	**100%**

Municipal Solid Waste (MSW)

The Municipal Solid Waste (MSW) sector was 80% of the total waste. The MSW was delivered to the landfill primarily by packer trucks. Transfer trailers came from the Town and Country transfer station in Harrisonville. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 6/9	642.7	85%
Tuesday 6/10	615.1	83%
Wednesday 6/11	623.5	73%
Thursday 6/12	675.4	80%
Friday 6/13	703.7	81%
Week's Total	**3260.4**	**80%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was 0.3% of the total waste. This was a much lower percentage than was observed at other sites. The relatively small amount of construction waste was delivered to the landfill by private construction companies. Each construction waste load was visually estimated and allocated into the following components:

Const. Component	Weight in Tons	% of Const. Sector
Wood	4.3	34%
Drywall	3.3	27%
Masonry	0.6	5%
Metal	0.5	4%
Plastic	1.6	13%
Cardboard	1.1	9%
Other	1.0	8%
Total Construction Sector	**12.4**	**100%**

Demolition Waste

The Demolition Waste sector was 4.0% of the total waste. Demolition waste was delivered to the landfill primarily in open top roll-off containers, dump trucks, dump trailers, and self haul vehicles. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	51.2	32%
Drywall	11.3	7%
Roofing	52.3	32%
Masonry	11.8	7%
Metal	5.0	3%
Carpet	13.6	8%
Other	17.3	11%
Total Demolition Sector	**162.5**	**100%**

Industrial Waste

The Industrial Waste sector was 11.1% of the total waste. The percentage of industrial food waste was especially high due to several loads of chicken parts from the local Tyson Chicken processing plant. The chicken parts were delivered to the landfill in special 40' trailers. Other industrial waste was delivered to the landfill in roll-off containers. Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	88.9	20%
Paper	1.5	0%
Food	226.3	50%
Metal	2.0	1%
Wood	51.8	12%
Plastic	48.6	11%
Textiles	0	0%
Rubber	5.8	1%
Other	24.0	5%
Total Industrial Sector	**448.9**	**100%**

Other Waste

The 'Other' Waste sector was 3.6% of the total waste. The sludge sector was dewatered chicken sludge. A large amount of tree trunks were disposed during the observation period. 'Other' waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	27	18%
Street sweepings and tree trunks	119	82%
Total 'Other' Sector	**146**	**100%**

Special Waste

The Special Waste sector was 0.6% of the total waste. Special waste was delivered to the landfill primarily in closed trucks (asbestos) and self haul vehicles (bulky and e-waste). A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. There was no contaminated soil or tritium observed. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	18.2	79%
Contaminated Soil	0	0%
Asbestos	4.0	18%
Tritium	0	0%
E-scrap	0.8	3%
Total Special Sector	**23.0**	**100%**

Summary

Table IV-14 represents estimated waste sectors of the Show-Me Sanitary Landfill from data collected during the week of June 9-13, 2008. The MSW component percentages were determined during the study conducted in 2006-07. The components for the remainder were visually estimated as waste was received from 6/9-6/13. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-14: Observed Waste Sectors at the Show-Me Landfill

Waste Component	Observed Tonnage 6/9-6/13	Estimated % of Waste 6/9-6/13	Estimated 2007 Tonnage
MSW Component	**3260.4**	**80.4%**	**139882**
MSW paper	882.0	27.1%	47042
MSW Glass	142.7	4.4%	7610
MSW Metal	158.4	4.9%	8449
MSW Plastics	452.4	13.9%	24130
MSW Organics	828.5	25.4%	44189
MSW Inorganics	108.6	3.3%	5791
MSW Special Waste	50.1	1.5%	2672
			0
Construction Component	**12.4**	**0.3%**	**533**
Wood	4.3	0.1%	183
Drywall	3.3	0.1%	142
Masonry	0.6	0.0%	25
Metal	0.5	0.0%	22
Plastic	1.6	0.0%	67
Cardboard	1.1	0.0%	49
Other	1.0	0.0%	44
Demolition Component	**162.5**	**4.0%**	**6970**
Wood	51.2	1.3%	2197
Drywall	11.3	0.3%	483
Roofing	52.3	1.3%	2243
Masonry	11.8	0.3%	505
Metal	5.0	0.1%	214
Carpet	13.6	0.3%	585
Other	17.3	0.4%	742
Industrial Component	**448.9**	**11.1%**	**19259**
Cardboard	88.9	2.2%	3812
Paper	1.5	0.0%	65
Food	226.3	5.6%	9708
Metal	2.0	0.1%	87
Wood	51.8	1.3%	2223
Plastic	48.6	1.2%	2085
Textiles	0.0	0.0%	0
Rubber	5.8	0.1%	248
Other	24.0	0.6%	1030
Other Component	**145.9**	**3.6%**	**6261**
Sludge	27.0	0.7%	1157
Tree Trunks	119.0	2.9%	5104
Special Component	**23.0**	**0.6%**	**989**
Bulky	18.3	0.5%	784
Contaminated Soil	0.0	0.0%	0
Asbestos	4.0	0.1%	172
Tritium	0.0	0.0%	0
E-scrap	0.8	0.0%	33
Total Waste Components	**4053.2**	**100.0%**	**173894**

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St. Louis North Metro Transfer Station

Introduction
Waste Management Industries (WMI) operates the St. Louis Solid Waste Processing Facility in St. Louis, MO. The waste is disposed in the WMI landfill in Illinois. According to DNR tonnage reports the North Metro Transfer Station received 202,891 tons of waste in 2007.

Waste disposal was observed at the St. Louis Solid Waste Processing Facility between Monday August 4, 2008 and Friday August 8, 2008. The transfer station was observed for ten hours each day. The hours varied from 5 AM to 5 PM in order to get a good, representative sample of the waste. During the observation period 780 vehicles unloaded 3,164.1 tons of waste into the transfer station. The breakdown by day is as follows:

Data Collection

Day	# of Vehicles	Weight in Tons
Monday 8/4	164	774.2
Tuesday 8/5	150	604.2
Wednesday 8/6	92	284.5
Thursday 8/7	189	746.6
Friday 8/8	185	754.6
Week's Total	**780**	**3164.1**

During the observation week the waste composition was visually assessed and categorized into the following major sectors:

Type of waste	Weight in Tons	Percent of the Total
MSW	2058.8	65.1%
Construction	53.4	1.7%
Demolition	260.7	8.2%
Industrial	153.6	4.9%
Other	402.7	12.7%
Special	234.9	7.4%
Week's Total	**3164.1**	**100%**

Municipal Solid Waste (MSW)
The Municipal Solid Waste (MSW) sector was 65.1% of the total waste. MSW was delivered to the transfer station primarily by packer trucks operated by the City of St. Louis and WMI. The daily breakdown was:

Day	Weight in Tons	Percent of the Total
Monday 8/4	583.3	75%
Tuesday 8/5	420.3	70%
Wednesday 8/6	147.9	52%
Thursday 8/7	490.5	66%
Friday 8/8	416.8	55%
Week's Total	**2058.8**	**65.1%**

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Construction and Demolition loads were assessed separately instead of combining them into a collective C&D category. The reasoning was that construction waste is cleaner and more easily separated than demolition waste. Therefore if a material recycling program was instituted it would be easier to source separate and reclaim construction waste. Waste was classified as demolition if the materials were attached to each other, pulverized, or unable to be easily separated.

Construction Waste

The Construction Waste sector was only 1.7% of the total waste. A total of 53.4 tons of construction waste was delivered to the transfer station during the week. Most of this waste (82%) was wood. Each construction waste load was visually estimated and allocated into the following components:

Const. Component	Weight in Tons	% of Const. Sector
Wood	43.9	82%
Drywall	4.4	8%
Masonry	0	0%
Metal	0	0%
Plastic	2.6	5%
Cardboard	1.5	3%
Other	1.0	2%
Total Construction Sector	**53.4**	**100%**

Demolition Waste

The Demolition Waste sector was 8.2% of the total waste. A total of 260.8 tons of demolition waste was delivered to the transfer station during the week. The largest component was wood at 47% of the total demolition waste sector. Each demolition load was visually estimated and allocated into the following components:

Demolition Components	Weight in Tons	% of Demolition
Wood	122.6	47%
Drywall	28.3	11%
Roofing	44.5	17%
Masonry	42.2	16%
Metal	3.0	1%
Carpet	19.7	8%
Other	0.4	0%
Total Demolition Sector	**260.7**	**100%**

Industrial Waste

The Industrial Waste sector was 4.9% of the total waste. A total of 153.5 tons of industrial waste was delivered to the transfer station during the week. The largest industrial component waste was cardboard (45%) and wood pallets (21%). Each industrial waste load was visually estimated and allocated into the following components:

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Industrial Components	Weight in Tons	% of Industrial
Cardboard	69.5	45%
Paper	19.6	13%
Food	5.2	3%
Metal	0.2	0%
Wood	31.6	21%
Plastic	16.2	11%
Textiles	0.3	0%
Rubber	0	0%
Other	11.0	7%
Total Industrial Sector	**153.6**	**100%**

Other Waste

The 'Other' Waste sector was 12.7% of the total waste. A total of 402.7 tons of 'other' waste was delivered to the landfill during the observation period. All of the waste was tree trunks. Waste loads were visually estimated and allocated into the following components:

Other Components	Weight in Tons	% of Other Waste
Sludge	0	0%
Tree trunks	402.7	100%
Total 'Other' Sector	**402.7**	**100%**

Special Waste

The Special Waste sector was 7.4% of the total waste. The largest component was bulky items at 92%. A bulky item was defined as MSW that was too large for normal trash pick-up and therefore not included in the 2006-2007 MSW waste sorts. The contaminated soil component was contaminated river mud. Each special load was visually estimated and allocated into the following components:

Special Components	Weight in Tons	% of Special Waste
Bulky	216.9	92%
Contaminated Soil	15.4	7%
Asbestos	0	0%
Tritium	0	0%
E-scrap	2.6	1%
Total Special Sector	**234.9**	**100%**

Summary

Table IV-15 represents estimated waste sectors of the North Metro Transfer Station in St. Louis from data collected during the week of August 4-8, 2008. The percentages for all components were applied to the tonnage received in 2007 to provide estimated annual tonnage for each material.

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Table IV-15: Observed Waste Sectors at the St. Louis Metro North Transfer Station

Waste Component	Observed Tonnage 8/4-8/8	Estimated % of Waste 8/4-8/8	Estimated 2007 Tonnage
MSW Component	**2058.8**	**65.1%**	**132018**
MSW paper	450.5	21.9%	44398
MSW Glass	72.9	3.5%	7182
MSW Metal	80.9	3.9%	7974
MSW Plastics	231.1	11.2%	22773
MSW Organics	423.2	20.6%	41705
MSW Inorganics	55.5	2.7%	5466
MSW Special Waste	25.6	1.2%	2522
Construction Component	**53.4**	**1.7%**	**3423**
Wood	43.9	1.4%	2814
Drywall	4.4	0.1%	283
Masonry	0.0	0.0%	0
Metal	0.0	0.0%	0
Plastic	2.6	0.1%	168
Cardboard	1.5	0.0%	96
Other	1.0	0.0%	62
Demolition Component	**260.7**	**8.2%**	**16721**
Wood	122.6	3.9%	7863
Drywall	28.3	0.9%	1818
Roofing	44.5	1.4%	2852
Masonry	42.2	1.3%	2708
Metal	3.0	0.1%	194
Carpet	19.7	0.6%	1260
Other	0.4	0.0%	26
Industrial Component	**153.6**	**4.9%**	**9846**
Cardboard	69.5	2.2%	4457
Paper	19.6	0.6%	1257
Food	5.2	0.2%	333
Metal	0.2	0.0%	13
Wood	31.6	1.0%	2024
Plastic	16.2	0.5%	1036
Textiles	0.3	0.0%	22
Rubber	0.0	0.0%	0
Other	11.0	0.3%	705
Other Component	**402.7**	**12.7%**	**25822**
Sludge	0.0	0.0%	0
Tree Trunks	402.7	12.7%	25822
Special Component	**234.9**	**7.4%**	**15060**
Bulky	216.9	6.9%	13906
Contaminated Soil	15.4	0.5%	986
Asbestos	0.0	0.0%	0
Tritium	0.0	0.0%	0
E-scrap	2.6	0.1%	168
Total Waste Components	**3164.1**	**100.0%**	**202891**

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