

Appendix 9
Phelps County Transfer Station

APPENDIX 9 – PHELPS COUNTY TRANSFER STATION

Phelps County Transfer Station is located in Rolla just off I-44 which is in Solid Waste Management District K. Rolla is home to one of the University of Missouri campuses.

Demographics:

	<u>Rolla</u>	<u>Phelps County</u>
Population	16,540	39,825
Number of Households	6,544	15,677
Average Household Size	2.21	2.38
Median Household Income	\$26,479	\$29,378

Solid Waste Collection

The city of Rolla provides refuse and recycling collection within city limits. Waste Corporation of America is the primary collection provider outside Rolla city limits in the Phelps County Transfer Station service area. Several other private haulers utilize the facility as well.

Solid Waste Disposal

The Phelps County Transfer Station is owned by the city of Rolla and operated by Waste Corporation of America. Waste is bulked and then transferred to the Hartville Landfill. Current tipping fees are \$40.63 per ton and approximately 200 tons per day are processed through the facility.

Waste Reduction, Recycling, and Recovery Programs

The city of Rolla operates a curbside recycling program as well as a recycling facility where drop-offs are accepted. The nearby city of St. James collects recycling curbside weekly and hauls the material to the Rolla recycling facility. The facility also processes recycling brought in from other nearby communities. Over 2,685 tons of recyclables were processed at the facility in 2006.

Phelps County Transfer Station Sort Results

Sampling information and composition results are listed in Tables 9.1 through 9.6 and exhibited in Charts 9.1 through 9.4. Yard waste was noted in one of the samples during the spring sort. Nothing else extraordinary was noted. Comparing the results to the 1996-1997 WCS, there was very little variance among categories, with the greatest being 1.6% more Plastics than in the previous study.

The Phelps County results were also very near the overall 2006-2007 average with the greatest variance being in Plastics (1.3% less) and Organics (1.3% more). When compared to the other sites sampled, the highest percentage by weight in High Grade Paper(9.21) was at Phelps County, while the lowest percentage by weight in PET #1 Plastic(1.81) and the lowest percentage by volume in PET #1 Plastic(3.29), Other Plastic(10.98) and Total Plastic(28.53) were also at this facility.

Table 9.1 - Sample Summary - Phelps County Transfer Station

Fall 2006 Sample #	Sample Size		Composition		Collection Location
	Weight(lbs)	Volume(cy)	Res.	Comm.	
1	191	1.5	95%	5%	Salem/Bunker
2	216	1.8	95%	5%	Vida/South of Rolla
3	198	1.5	90%	10%	Lenox/South of Rolla
4	218	2.2	80%	20%	St. James
5	243	2.1	90%	10%	Rural South of Rolla
6	227	2.1	95%	5%	Rural NW of Rolla
7	260	2.0	90%	10%	Rolla
8	302	2.2	95%	5%	Rolla
Total Fall	1855	15.3			
Average	232	1.9	91%	9%	
Spring 2007 Sample #	Sample Size		Composition		Collection Location
	Weight(lbs)	Volume(cy)	Res.	Comm.	
1	332	2.4	80%	20%	St. James/School & Soldier's Home
2	235	2.2	70%	30%	St. James
3	298	2.3	80%	20%	Leasburg/Bourbon
4	279	2.3	90%	10%	Rural Belle & High Gate
5	223	1.8	90%	10%	Rural Salem
6	250	2.0	95%	5%	Rolla
7	358	2.4	80%	20%	St. James
8	306	2.9	90%	10%	Rolla
Total Spring	2281	18.2			
Average	285	2.3	84%	16%	
Site Total	4136	33.5			
Average	259	2.1	88%	12%	
Estimated Waste (lbs.) Accepted at Site During Sample Periods					1,200,000

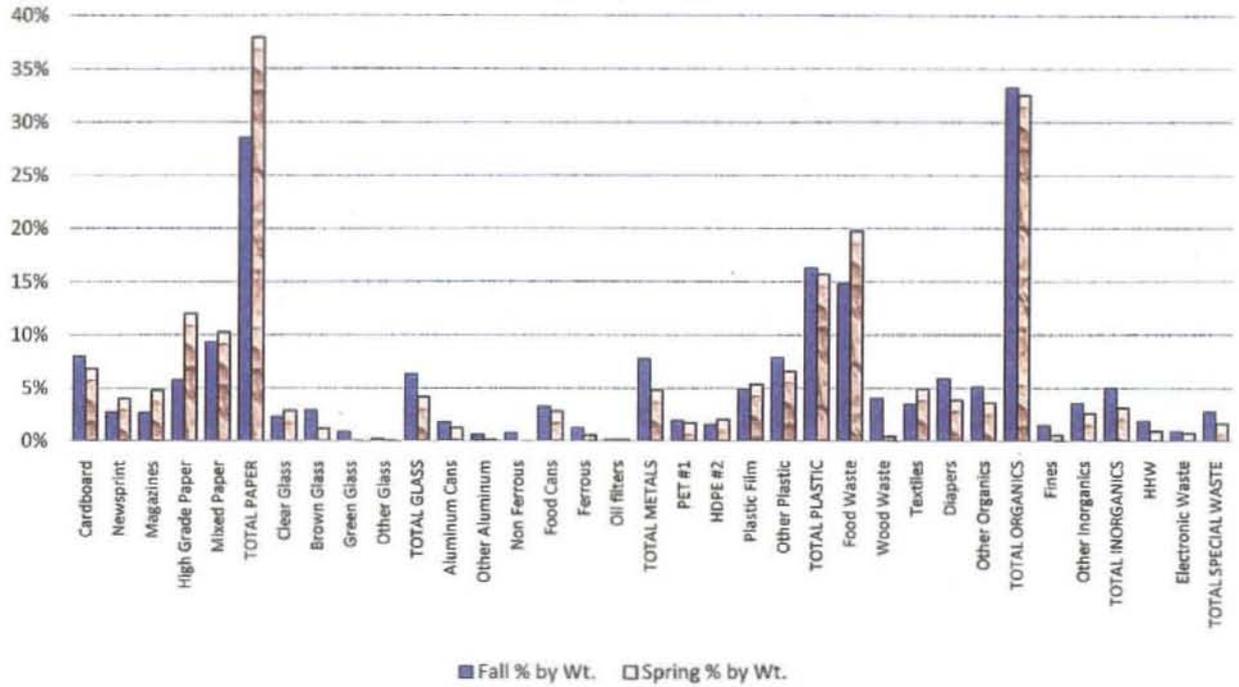
Table 9.2 - Phelps County Transfer Station Fall 2006 Sort Results

	WT.(lbs.)	Avg.Wt.Per Load	% by Wt.	VOL.(c.y.)	Avg.Vol.Per Load	% by Vol.
Cardboard	149	18.6	8.0%	2.05	0.256	13.4%
Newsprint	51	6.4	2.7%	0.3	0.038	2.0%
Magazines	50	6.3	2.7%	0.25	0.031	1.6%
High Grade Paper	107	13.4	5.8%	1	0.125	6.5%
Mixed Paper	173	21.6	9.3%	1.55	0.194	10.1%
PAPER TOTALS	530	66.3	28.6%	5.15	0.644	33.6%
Clear Glass	43	5.4	2.3%	0.2	0.025	1.3%
Brown Glass	54	6.8	2.9%	0.25	0.031	1.6%
Green Glass	17	2.1	0.9%	0.125	0.016	0.8%
Other Glass	4	0.5	0.2%	0.025	0.003	0.2%
GLASS TOTALS	118	14.8	6.4%	0.6	0.075	3.9%
Aluminum Cans	33	4.1	1.8%	0.475	0.059	3.1%
Other Aluminum	11	1.4	0.6%	0.15	0.019	1.0%
Non Ferrous	14	1.8	0.8%	0.125	0.016	0.8%
Food Cans	61	7.6	3.3%	0.4	0.050	2.6%
Ferrous	23	2.9	1.2%	0.15	0.019	1.0%
Oil filters (one)	2	0.3	0.1%	0.025	0.003	0.2%
METAL TOTALS	144	18.0	7.8%	1.325	0.166	8.6%
PET #1	36	4.5	1.9%	0.525	0.066	3.4%
HDPE #2	29	3.6	1.6%	0.5	0.063	3.3%
Plastic Film	91	11.4	4.9%	1.55	0.194	10.1%
Other Plastic	146	18.3	7.9%	1.875	0.234	12.2%
PLASTIC TOTALS	302	37.8	16.3%	4.45	0.556	29.0%
Food Waste	275	34.4	14.8%	1	0.125	6.5%
Wood Waste	74	9.3	4.0%	0.3	0.038	2.0%
Textiles	64	8.0	3.5%	0.425	0.053	2.8%
Diapers	109	13.6	5.9%	0.575	0.072	3.8%
Other Organics	95	11.9	5.1%	0.625	0.078	4.1%
ORGANIC TOTALS	617	77.1	33.3%	2.925	0.366	19.1%
Fines	27	3.4	1.5%	0.2	0.025	1.3%
Other Inorganics	66	8.3	3.6%	0.45	0.056	2.9%
INORGANIC TOTALS	93	11.6	5.0%	0.65	0.081	4.2%
HHW	35	4.4	1.9%	0.15	0.019	1.0%
Electronic Waste	16	2.0	0.9%	0.075	0.009	0.5%
SPECIAL WASTE TOTALS	51	6.4	2.7%	0.225	0.028	1.5%
TOTAL	1855	231.9	100%	15.325	1.916	100%

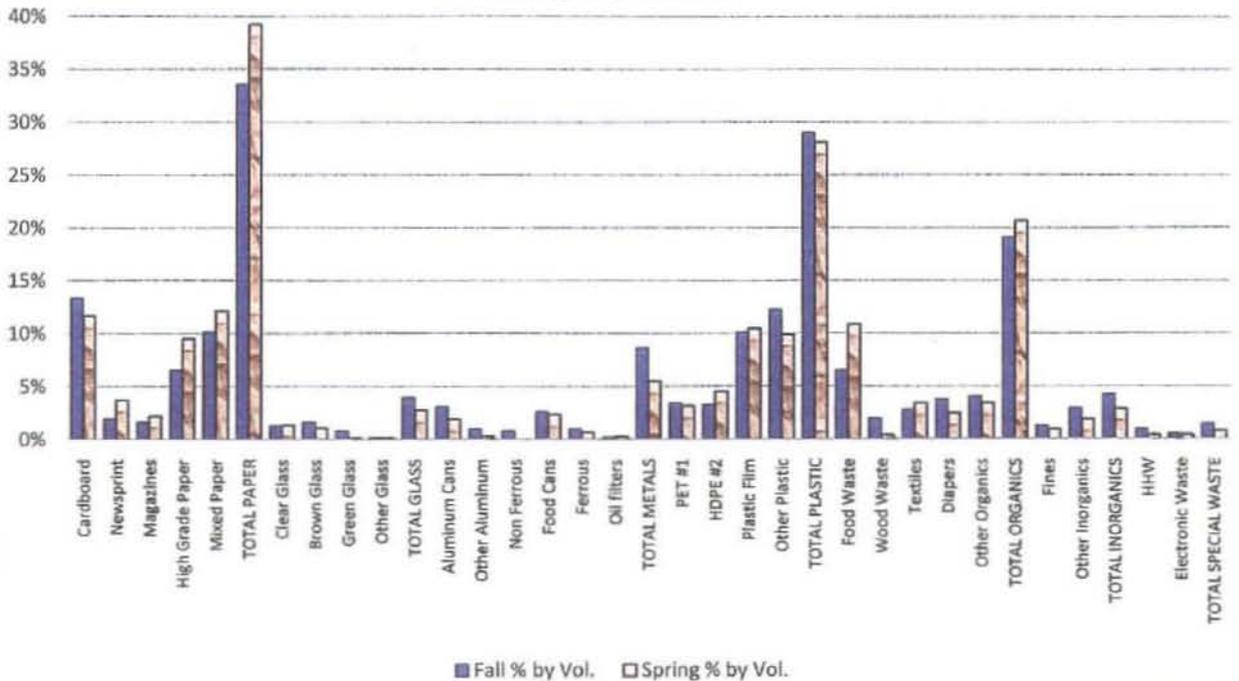
Table 9.3 - Phelps County Transfer Station Spring 2007 Sort Results

	WT.(lbs.)	Avg.Wt.Per Load	% by Wt.	VOL.(c.y.)	Avg.Vol.Per Load	% by Vol.
Cardboard	156	19.5	6.8%	2.125	0.266	11.7%
Newsprint	92	11.5	4.0%	0.675	0.084	3.7%
Magazines	110	13.8	4.8%	0.4	0.050	2.2%
High Grade Paper	274	34.3	12.0%	1.725	0.216	9.5%
Mixed Paper	234	29.3	10.3%	2.2	0.275	12.1%
PAPER TOTALS	866	108.3	38.0%	7.125	0.891	39.3%
Clear Glass	66	8.3	2.9%	0.25	0.031	1.4%
Brown Glass	27	3.4	1.2%	0.2	0.025	1.1%
Green Glass	1	0.1	0.0%	0.025	0.003	0.1%
Other Glass	1	0.1	0.0%	0.025	0.003	0.1%
GLASS TOTALS	95	11.9	4.2%	0.5	0.063	2.8%
Aluminum Cans	29	3.6	1.3%	0.35	0.044	1.9%
Other Aluminum	2	0.3	0.1%	0.05	0.006	0.3%
Non Ferrous	0	0.0	0.0%	0	0.000	0.0%
Food Cans	64	8.0	2.8%	0.425	0.053	2.3%
Ferrous	13	1.6	0.6%	0.125	0.016	0.7%
Oil filters (one)	2	0.3	0.1%	0.05	0.006	0.3%
METAL TOTALS	110	13.8	4.8%	1	0.125	5.5%
PET #1	39	4.9	1.7%	0.575	0.072	3.2%
HDPE #2	47	5.9	2.1%	0.825	0.103	4.6%
Plastic Film	122	15.3	5.3%	1.9	0.238	10.5%
Other Plastic	150	18.8	6.6%	1.8	0.225	9.9%
PLASTIC TOTALS	358	44.8	15.7%	5.1	0.638	28.1%
Food Waste	450	56.3	19.7%	1.975	0.247	10.9%
Wood Waste	10	1.3	0.4%	0.075	0.009	0.4%
Textiles	112	14.0	4.9%	0.625	0.078	3.4%
Diapers	88	11.0	3.9%	0.45	0.056	2.5%
Other Organics	82	10.3	3.6%	0.625	0.078	3.4%
ORGANIC TOTALS	742	92.8	32.5%	3.75	0.469	20.7%
Fines	12	1.5	0.5%	0.175	0.022	1.0%
Other Inorganics	60	7.5	2.6%	0.35	0.044	1.9%
INORGANIC TOTALS	72	9.0	3.2%	0.525	0.066	2.9%
HHW	21	2.6	0.9%	0.075	0.009	0.4%
Electronic Waste	17	2.1	0.7%	0.075	0.009	0.4%
SPECIAL WASTE TOTALS	38	4.8	1.7%	0.15	0.019	0.8%
TOTAL	2281	285.1	100%	18.15	2.269	100%

**Chart 9.1 - Phelps Co. Results Fall 2006 vs. Spring 2007
Percentage by Weight**



**Chart 9.2 - Phelps Co. Results Fall 2006 vs. Spring 2007
Percentage by Volume**



**Table 9.4 - Waste Composition Summary and Comparison
Phelps County Transfer Station 1996-1997 to 2006-2007**

	Fall Sort - 10/31-11/1/06				Spring Sort - 4/5-4/6/07				Total 2006-2007 Site Results				1996-1997	2006-2007	Difference
	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	% by Wt.	% by Wt.	% by Wt.
Cardboard	149	8.0%	2.050	13%	156	6.8%	2.13	11.7%	305	7.37%	4.18	12.47%	6.9%	7.4%	0.5%
Newsprint	51	2.7%	0.300	2%	92	4.0%	0.68	3.7%	143	3.46%	0.98	2.91%	7.4%	3.5%	-3.9%
Magazines	50	2.7%	0.250	2%	110	4.8%	0.40	2.2%	160	3.87%	0.65	1.94%	3.8%	3.9%	0.1%
High Grade Paper	107	5.8%	1.000	7%	274	12.0%	1.73	9.5%	381	9.21%	2.73	8.14%	4.2%	9.2%	5.0%
Mixed Paper	173	9.3%	1.550	10%	234	10.3%	2.20	12.1%	407	9.84%	3.75	11.20%	12.9%	9.8%	-3.1%
TOTAL PAPER	530	28.6%	5.150	34%	866	38.0%	7.13	39.3%	1,396	33.75%	12.28	36.67%	35.2%	33.8%	-1.4%
Clear Glass	43	2.3%	0.200	1%	66	2.9%	0.25	1.4%	109	2.64%	0.45	1.34%	3.4%	2.6%	-0.8%
Brown Glass	54	2.9%	0.250	2%	27	1.2%	0.20	1.1%	81	1.96%	0.45	1.34%	1.5%	2.0%	0.5%
Green Glass	17	0.9%	0.125	1%	1	0.0%	0.03	0.1%	18	0.44%	0.15	0.45%	0.4%	0.4%	0.0%
Other Glass	4	0.2%	0.025	0%	1	0.0%	0.03	0.1%	5	0.12%	0.05	0.15%	0.6%	0.1%	-0.5%
TOTAL GLASS	118	6.4%	0.600	4%	95	4.2%	0.50	2.8%	213	5.15%	1.10	3.29%	5.9%	5.1%	-0.8%
Aluminum Cans	33	1.8%	0.475	3%	29	1.3%	0.35	1.9%	62	1.50%	0.83	2.46%	1.3%	1.5%	0.2%
Other Aluminum	11	0.6%	0.150	1%	2	0.1%	0.05	0.3%	13	0.31%	0.20	0.60%	0.7%	0.3%	-0.4%
Non Ferrous	14	0.8%	0.125	1%	-	0.0%	-	0.0%	14	0.34%	0.13	0.37%	0.2%	0.3%	0.1%
Food Cans	61	3.3%	0.400	3%	64	2.8%	0.43	2.3%	125	3.02%	0.83	2.46%	3.4%	3.0%	-0.4%
Ferrous	23	1.2%	0.150	1%	13	0.6%	0.13	0.7%	36	0.87%	0.28	0.82%	1.1%	0.9%	-0.2%
Oil filters	2	0.1%	0.025	0%	2	0.1%	0.05	0.3%	4	0.10%	0.08	0.22%	0.1%	0.1%	0.0%
TOTAL METALS	144	7.8%	1.325	9%	110	4.8%	1.00	5.5%	254	6.14%	2.33	6.95%	6.8%	6.1%	-0.7%
PET #1	36	1.9%	0.525	3%	39	1.7%	0.58	3.2%	75	1.81%	1.10	3.29%	1.6%	1.8%	0.2%
HDPE #2	29	1.6%	0.500	3%	47	2.1%	0.83	4.5%	76	1.84%	1.33	3.96%	2.0%	1.8%	-0.2%
Plastic Film	91	4.9%	1.550	10%	122	5.3%	1.90	10.5%	213	5.15%	3.45	10.31%	4.0%	5.1%	1.1%
Other Plastic	146	7.9%	1.875	12%	150	6.6%	1.80	9.9%	296	7.16%	3.68	10.98%	6.8%	7.2%	0.4%
TOTAL PLASTIC	302	16.3%	4.450	29%	358	15.7%	5.10	28.1%	660	15.96%	9.55	28.53%	14.4%	16.0%	1.6%
Food Waste	275	14.8%	1.000	7%	450	19.7%	1.98	10.9%	725	17.53%	2.98	8.89%	22.1%	17.5%	-4.6%
Wood Waste	74	4.0%	0.300	2%	10	0.4%	0.08	0.4%	84	2.03%	0.38	1.12%	0.6%	2.0%	1.4%
Textiles	64	3.5%	0.425	3%	112	4.9%	0.63	3.4%	176	4.26%	1.05	3.14%	3.9%	4.3%	0.4%
Diapers	109	5.9%	0.575	4%	88	3.9%	0.45	2.5%	197	4.76%	1.03	3.06%	4.2%	4.8%	0.6%
Other Organics	95	5.1%	0.625	4%	82	3.6%	0.63	3.4%	177	4.28%	1.25	3.73%	3.0%	4.3%	1.3%
TOTAL ORGANICS	617	33.3%	2.925	19%	742	32.5%	3.75	20.7%	1,359	32.86%	6.68	19.94%	33.8%	32.9%	-0.9%
Fines	27	1.5%	0.200	1%	12	0.5%	0.18	1.0%	39	0.94%	0.38	1.12%	2.3%	0.9%	-1.4%
Other Inorganics	66	3.6%	0.450	3%	60	2.6%	0.35	1.9%	126	3.05%	0.80	2.39%	0.8%	3.0%	2.2%
TOTAL INORGANICS	93	5.0%	0.650	4%	72	3.2%	0.53	2.9%	165	3.99%	1.18	3.51%	3.1%	4.0%	0.9%
HHW	35	1.9%	0.150	1%	21	0.9%	0.08	0.4%	56	1.35%	0.23	0.67%	n/a	1.4%	1.4%
Electronic Waste	16	0.9%	0.075	0%	17	0.7%	0.08	0.4%	33	0.80%	0.15	0.45%	n/a	0.8%	0.8%
TOTAL SPECIAL WASTE	51	2.7%	0.225	1%	38	1.7%	0.15	0.8%	89	2.15%	0.38	1.12%		2.2%	2.2%
TOTAL COMPOSITION	1,855	100%	15.33	100%	2,281	100%	18.15	100%	4,136	100%	33.48	100%	100%	100%	0%

**Table 9.5 - Waste Composition Summary and Comparison Phelps County Transfer Station
Site to 2006-2007 Overall Average**

	Fall Sort - 10/31-11/1/06				Spring Sort - 4/5-4/6/07				Total 2006-2007 Results for Site				Avg. All Sites	Phelps Co.	Difference
	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	% by Wt.	% by Wt.	% by Wt.
Cardboard	149	8.0%	2.050	13%	156	6.8%	2.13	11.7%	305	7.37%	4.18	12.47%	8.20%	7.37%	-0.8%
Newsprint	51	2.7%	0.300	2%	92	4.0%	0.68	3.7%	143	3.46%	0.98	2.91%	5.17%	3.46%	-1.7%
Magazines	50	2.7%	0.250	2%	110	4.8%	0.40	2.2%	160	3.87%	0.65	1.94%	3.66%	3.87%	0.2%
High Grade Paper	107	5.8%	1.000	7%	274	12.0%	1.73	9.5%	381	9.21%	2.73	8.14%	6.40%	9.21%	2.8%
Mixed Paper	173	9.3%	1.550	10%	234	10.3%	2.20	12.1%	407	9.84%	3.75	11.20%	10.20%	9.84%	-0.4%
TOTAL PAPER	530	28.6%	5.150	34%	866	38.0%	7.13	39.3%	1,396	33.75%	12.28	36.67%	33.63%	33.75%	0.1%
Clear Glass	43	2.3%	0.200	1%	66	2.9%	0.25	1.4%	109	2.64%	0.45	1.34%	2.71%	2.64%	-0.1%
Brown Glass	54	2.9%	0.250	2%	27	1.2%	0.20	1.1%	81	1.96%	0.45	1.34%	1.77%	1.96%	0.2%
Green Glass	17	0.9%	0.125	1%	1	0.0%	0.03	0.1%	18	0.44%	0.15	0.45%	0.63%	0.44%	-0.2%
Other Glass	4	0.2%	0.025	0%	1	0.0%	0.03	0.1%	5	0.12%	0.05	0.15%	0.32%	0.12%	-0.2%
TOTAL GLASS	118	6.4%	0.600	4%	95	4.2%	0.50	2.8%	213	5.15%	1.10	3.29%	5.44%	5.15%	-0.3%
Aluminum Cans	33	1.8%	0.475	3%	29	1.3%	0.35	1.9%	62	1.50%	0.83	2.46%	1.59%	1.50%	-0.1%
Other Aluminum	11	0.6%	0.150	1%	2	0.1%	0.05	0.3%	13	0.31%	0.20	0.60%	0.34%	0.31%	0.0%
Non Ferrous	14	0.8%	0.125	1%	-	0.0%	-	0.0%	14	0.34%	0.13	0.37%	0.23%	0.34%	0.1%
Food Cans	61	3.3%	0.400	3%	64	2.8%	0.43	2.3%	125	3.02%	0.83	2.46%	2.93%	3.02%	0.1%
Ferrous	23	1.2%	0.150	1%	13	0.6%	0.13	0.7%	36	0.87%	0.28	0.82%	0.87%	0.87%	0.0%
Oil filters	2	0.1%	0.025	0%	2	0.1%	0.05	0.3%	4	0.10%	0.08	0.22%	0.08%	0.10%	0.0%
TOTAL METALS	144	7.8%	1.325	9%	110	4.8%	1.00	5.5%	254	6.14%	2.33	6.95%	6.04%	6.14%	0.1%
PET #1	36	1.9%	0.525	3%	39	1.7%	0.58	3.2%	75	1.81%	1.10	3.29%	2.55%	1.81%	-0.7%
HDPE #2	29	1.6%	0.500	3%	47	2.1%	0.83	4.5%	76	1.84%	1.33	3.96%	1.90%	1.84%	-0.1%
Plastic Film	91	4.9%	1.550	10%	122	5.3%	1.90	10.5%	213	5.15%	3.45	10.31%	4.82%	5.15%	0.3%
Other Plastic	146	7.9%	1.875	12%	150	6.6%	1.80	9.9%	296	7.16%	3.68	10.98%	7.99%	7.16%	-0.8%
TOTAL PLASTIC	302	16.3%	4.450	29%	358	15.7%	5.10	28.1%	660	15.96%	9.55	28.53%	17.25%	15.96%	-1.3%
Food Waste	275	14.8%	1.000	7%	450	19.7%	1.98	10.9%	725	17.53%	2.98	8.89%	17.22%	17.53%	0.3%
Wood Waste	74	4.0%	0.300	2%	10	0.4%	0.08	0.4%	84	2.03%	0.38	1.12%	1.19%	2.03%	0.8%
Textiles	64	3.5%	0.425	3%	112	4.9%	0.63	3.4%	176	4.26%	1.05	3.14%	4.73%	4.26%	-0.5%
Diapers	109	5.9%	0.575	4%	88	3.9%	0.45	2.5%	197	4.76%	1.03	3.06%	5.48%	4.76%	-0.7%
Other Organics	95	5.1%	0.625	4%	82	3.6%	0.63	3.4%	177	4.28%	1.25	3.73%	2.97%	4.28%	1.3%
TOTAL ORGANICS	617	33.3%	2.925	19%	742	32.5%	3.75	20.7%	1,359	32.86%	6.68	19.94%	31.59%	32.86%	1.3%
Fines	27	1.5%	0.200	1%	12	0.5%	0.18	1.0%	39	0.94%	0.38	1.12%	0.93%	0.94%	0.0%
Other Inorganics	66	3.6%	0.450	3%	60	2.6%	0.35	1.9%	126	3.05%	0.80	2.39%	3.21%	3.05%	-0.2%
TOTAL INORGANICS	93	5.0%	0.650	4%	72	3.2%	0.53	2.9%	165	3.99%	1.18	3.51%	4.14%	3.99%	-0.2%
HHW	35	1.9%	0.150	1%	21	0.9%	0.08	0.4%	56	1.35%	0.23	0.67%	0.92%	1.35%	0.4%
Electronic Waste	16	0.9%	0.075	0%	17	0.7%	0.08	0.4%	33	0.80%	0.15	0.45%	0.99%	0.80%	-0.2%
TOTAL SPECIAL WASTE	51	2.7%	0.225	1%	38	1.7%	0.15	0.8%	89	2.15%	0.38	1.12%	1.91%	2.15%	0.2%
TOTAL COMPOSITION	1,855	100%	15.33	100%	2,281	100%	18.15	100%	4,136	100%	33.48	100%	100%	100%	0%

Chart 9.3 - Phelps Co. Results 2006-2007 vs. 1996-1997
 (Special Waste Category new in 2006-2007)

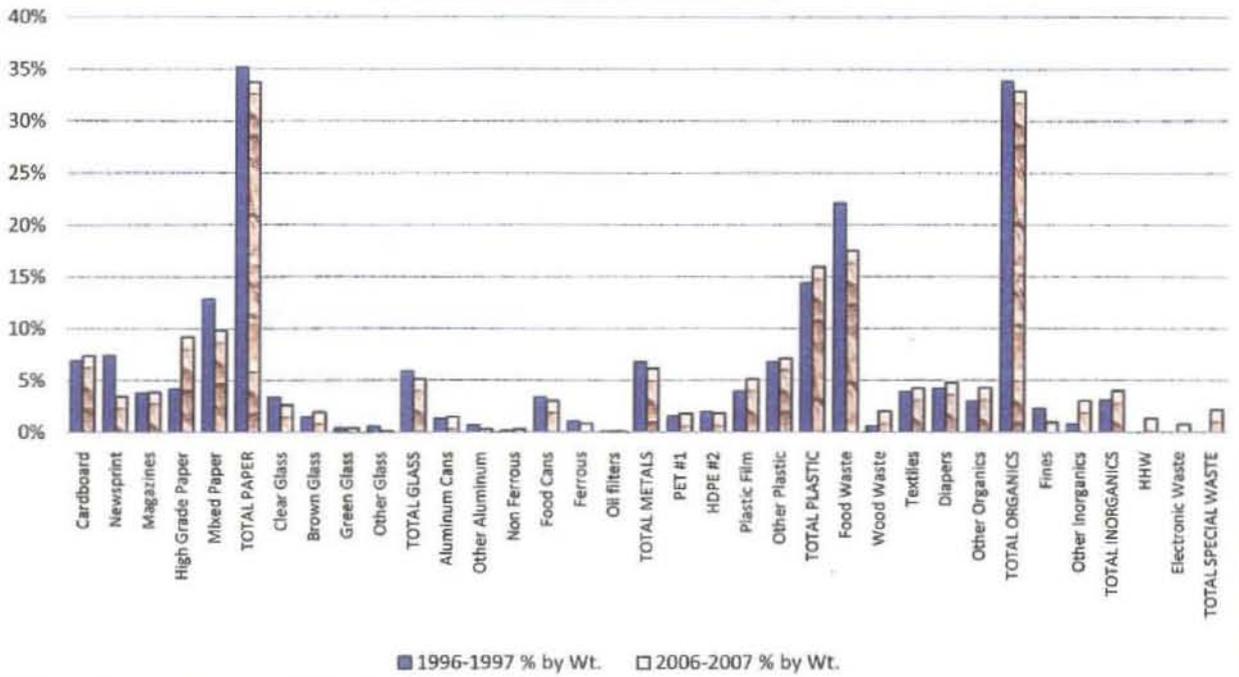


Chart 9.4 - Phelps Co. Results 2006-2007 vs. 2006-2007 Sort Average

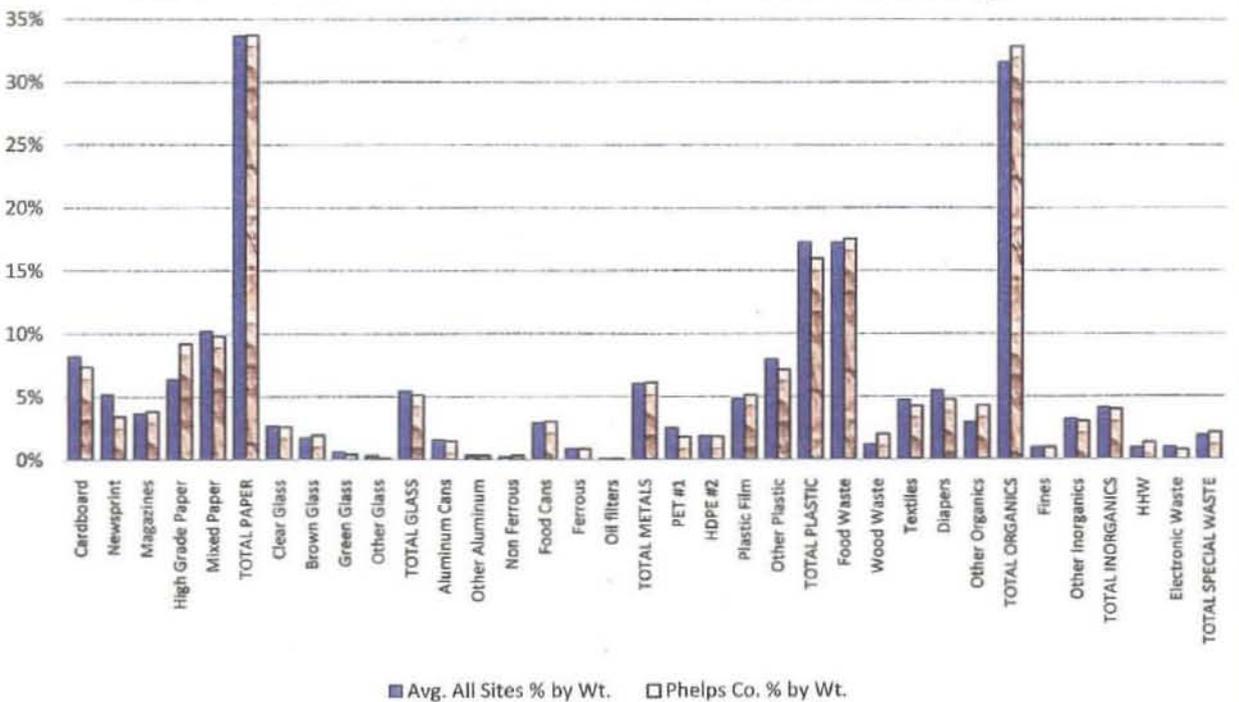


Table 9.6 - Special Waste Sorted at Phelps County Transfer Station

	Fall 2006	Spring 2007
ELECTRONICS		
Musical item (CD player, radio, boom box, etc.)	1	1
Small Appliances (toaster, clock, coffee maker, calculator/adding machine, elec. tooth brush, etc.)	2	
TV, VCR, DVD player, Game Stations, etc.		
Remote Control or Game Controller		
Electronic Toy or Game	4	1
Computer Hard Drive		
Computer Monitor		
Computer Keyboard		
Computer Mouse	2	
Computer Printer		1
Toner Cartridge		1
Telephone/Answering Machine		
Cell Phones, Chargers	2	1
HOUSEHOLD HAZARDOUS WASTE (Containers with Contents)		
Needles/Syringes	1 milk jug full	
Paint, Thinner, etc.	2	1
Automotive Fluids (oil, fuel, starting fluid, etc.)	1	
Oil Filters		
Household Cleaners	7	
Yard & Garden Spray, Powder, etc.		
Insect & Animal Repellant Spray, Powder, Poison, etc.	2	2
Over The Counter & Prescription Medicine	24	1
Beauty & Hygiene Products	4	2
Disposable Razors	13	
Alkaline Batteries	32	12
Lithium & Other Batteries		
Smoke Alarm	1	
Other		cigarette lighter

Weight of Batteries Reported by RBRC

71 oz.

13.6 oz.