

Chapter 4: Reeds Spring

COMMUNITY PROFILE

Reeds Spring is a rural community in the hilly Ozark region of Southwest Missouri and is a member of the Southwest Missouri Solid Waste Management District (District N). It is located in Stone county and accepts waste from both Stone and Taney Counties at the Reeds Spring Transfer Station.

The largest generator of solid waste is the City of Branson. Although Branson has a relatively small population, it is a booming tourist location. On an average Summer day over 50,000 tourist visit Branson, with many spending the night in local motels. The surrounding communities are small and provide much of the work force for the Branson tourist industry. This heavy seasonal tourist flow makes the Reeds Spring waste stream rather unique.

Reeds Spring is located on highway 13. It is 43 miles south of Springfield, 211 miles southeast of Kansas City, and 251 miles southwest of St. Louis.

Demographics:

	Stone County	Taney County
Area (sq. miles)	463	632
Population (1992)	20,864	27,592
Density (per sq. mile)	45	44
Pop. Change since 1980	33.9%	34.8%
Number of households	6,035	7,570
Persons per household	2.40	2.36
High school graduates	70.6%	70.8%
Median Family Income	\$23,772	\$24,229
Percent below poverty level	14.7%	13.6%

Solid waste collection

American Disposal operates a fleet of packer trucks and collects most of the solid waste in Stone and Taney counties. All samples were taken from American Disposal trucks.

Solid waste disposal

American Disposal owns and operates the Transfer station at Reeds Springs. Waste is consolidated and shipped to a landfill in Kansas. They receive approximately 66,000 tons of waste per year. The current tipping fee at the transfer station is \$44.00.

Waste reduction and recycling programs

American Disposal offers some curbside service to residents in Hollister and collects recyclable materials from several commercial accounts. The City of Branson operates a drop-off center for recyclables. American Disposal also operates a material recovery facility (MRF) at the Reeds Spring location. In 1995 approximately 2,312 tons of material was recycled at the Reeds Spring location.

Reeds Spring Results

Information about sample size and composition are listed in tables 4-1 through 4-8

All weights are listed in pounds and all volumes are in cubic feet.

SORT # 1

Sort Conditions

The first sort was conducted February 12th through the 15th. American Disposal provided a sort area inside a metal building next to the tipping and loading area. The tent used for the sorting facility was not required during this sort. The weather was mild and sunny; unseasonably warm for the time of year.

Statistics	
Estimated MSW (lbs) Collected by Site During Sampling Period	454,000
Total Sample Weight (lbs)	3,846.0
Significance Test Results	.000
Number of Samples	14

OTHER WASTE CATEGORIES			
Over-the-counter Medication (OTC)	2	Beauty/Hygiene Aerosol Products	1
Prescription Medication (Rx)	5	Household Cleaning Aerosol Products	0
Beauty/Hygiene Products	1	Gardening/Yard Care Products	0
Household Cleaning Products	0	Pet Groom Products	0
Sharps/Blades	0	Disposable Razors	0
Syringes	20	Alkaline Batteries	24
Hardware/Shop Products	4	Automobile Maintenance/Cleaning Products	0
Aerosol Cans	1		
Miscellaneous items: 20 lbs. Of paint, part of a broken fluorescent tube, 1 shotgun shell.			

**REEDS SPRING
SORT #1**

Sample #	Sample Size		Composition		Recycling Activities	Collection Location
	Weight	Volume	Res.	Comm.		
1	302.0	68.2	100%	0%	None	Crane, Stone Co
2	426.0	80.8	75%	25%	None	Rural So. Stone Co.
3	484.0	77.9	5%	95%	Drop-off	Branson, Stone Co.
4	474.0	68.8	90%	10%	None	Blue Eye, Stone Co.
5	201.0	47.7	75%	25%	Curb side	Hollister, Taney Co.
6	163.0	40.0	0%	100%	Drop-off	Branson, Taney Co.
7	232.0	42.0	80%	20%	None	Forsythe, Taney Co.
8	304.0	72.0	95%	5%	None	Reeds Spring, Spokane, Stone
9	155.0	41.0	75%	25%	None	Cape Fair, Galena, Stone Co.
10	269.0	40.8	90%	10%	Curb side	Hollister, Taney Co.
11	124.0	42.6	1%	99%	Drop-off	Branson, Stone Co.
12	152.0	49.3	100%	0%	Drop-off	Point Royale Condo's
13	251.0	67.1	100%	0%	None	Kinberling City, Stone Co.
14	309.0	57.6	60%	40%	None	Forsythe, Taney Co.
TOTALS	3846.0	795.8				
AVERAGE	274.7	56.8	68%	32%		

TABLE 4-1

CATEGORY	REEDS SPRING				SORT #1	
	TOTALS		AVERAGE		PERCENTAGE	
	wt.	vol.	wt.	vol.	Pct. by wt.	Pct. by vol.
Cardboard	332.6	137.0	23.8	9.8	8.62%	17.21%
Newsprint	263.1	43.0	18.8	3.1	6.82%	5.40%
Magazines	143.2	18.0	10.2	1.3	3.71%	2.26%
High Grade	77.8	18.6	5.6	1.3	2.02%	2.34%
Mixed	588.1	118.2	42.0	8.4	15.25%	14.85%
PAPER TOTALS	1404.8	334.8	100.3	23.9	36.42%	42.07%
Clear	161.2	15.0	11.5	1.1	4.18%	1.88%
Brown	75.4	7.0	5.4	0.5	1.96%	0.88%
Green	22.5	2.4	1.6	0.2	0.58%	0.30%
Other	11.9	1.3	0.9	0.1	0.31%	0.16%
GLASS TOTALS	271.0	25.6	19.4	1.8	7.03%	3.22%
Alum. Cans	44.4	15.7	3.2	1.1	1.15%	1.97%
Other Alum	20.0	7.3	1.4	0.5	0.52%	0.92%
Non ferrous	7.7	1.3	0.6	0.1	0.20%	0.16%
Food Cans	134.1	24.0	9.6	1.7	3.48%	3.01%
Ferrous	73.4	7.9	5.2	0.6	1.90%	0.99%
Oil Filters	17.5	1.0	1.3	0.1	0.45%	0.13%
METAL TOTALS	297.1	57.1	21.2	4.1	7.70%	7.18%
PET # 1	63.2	32.5	4.5	2.3	1.64%	4.09%
HDPE # 2	70.7	37.0	5.1	2.6	1.83%	4.65%
Film	153.9	86.0	11.0	6.1	3.99%	10.81%
Other Plastic	255.3	97.0	18.2	6.9	6.62%	12.19%
PLASTIC TOTALS	543.1	252.5	38.8	18.0	14.08%	31.73%
Food Waste	601.7	36.0	43.0	2.6	15.60%	4.52%
Wood Waste	58.6	8.5	4.2	0.6	1.52%	1.07%
Textiles	149.0	34.5	10.6	2.5	3.86%	4.34%
Diapers	105.7	13.3	7.6	0.9	2.74%	1.66%
Other Organics	68.0	10.3	4.9	0.7	1.76%	1.30%
ORGANIC TOTALS	983.0	102.6	70.2	7.3	25.49%	12.89%
Fines	281.4	16.5	20.1	1.2	7.30%	2.07%
Other Inorganics	76.3	6.8	5.5	0.5	1.98%	0.85%
INORGANIC TOTALS	357.7	23.3	25.6	1.7	9.28%	2.92%
TOTAL SORT	3856.6	795.8	275.5	56.8	100.00%	100.00%

TABLE 4-2

SORT # 2

Sort Conditions

The second sort was conducted May 20th through the 22nd. The sorting procedure used for the first round of sorts was also used for this sort. The sort facility was set approximately 500 yards south of the transfer building. The weather was overcast and seasonably mild.

Statistics	
Estimated MSW (lbs) Collected by Site During Sampling Period	454,000
Total Sample Weight (lbs)	2,863.1
Significance Test Results	.000
Number of Samples	14

OTHER WASTE CATEGORIES			
Over-the-counter Medication (OTC)	4	Beauty/Hygiene Aerosol Products	6
Prescription Medication (Rx)	5	Household Cleaning Aerosol Products	5
Beauty/Hygiene Products	5	Gardening/Yard Care Products	2
Household Cleaning Products	2	Pet Groom Products	0
Sharps/Blades	0	Disposable Razors	19
Syringes	5	Alkaline Batteries	9
Hardware/Shop Products	0	Automobile Maintenance/Cleaning Products	0
Aerosol Cans	3		
Miscellaneous items: 1 butane lighter, 1 container of isopropyl alcohol, 1 can of "Silly String"			

**REEDS SPRING
SORT # 2**

Sample #	Sample Size		Composition		Recycling Activities	Collection Location
	Weight	Volume	Res.	Comm.		
1	217	48.5	0%	100%	Drop-off	Branson
2	235	47.5	0%	100%	Drop-off	Branson
3	210	46.1	90%	10%	None	Branson West
4	192	50.3	0%	100%	Drop-off	Branson
5	207	49.1	0%	100%	None	Kimberling City
6	208.5	40.8	0%	100%	Drop-off	Branson/College of the Ozarks
7	184	40.3	0%	100%	None	Forsythe
8	185	38.1	100%	0%	Drop-off	Branson
9	249	48.9	0%	100%	Drop-off	Branson
10	200	40.5	90%	10%	None	Cape Fair/ Galena
11	194	46.4	0%	100%	Drop-off	Branson
12	231.5	47.2	0%	100%	Drop-off	Branson/Point Royale
13	176.6	39.3	40%	60%	Drop-off	Branson
14	173.5	40.5	0%	100%	Drop-off	Branson
TOTALS	2863.1	623.5				
AVERAGE	204.5	44.5	23%	77%		

TABLE 4-3

CATEGORY	REED SPRINGS				SORT # 2	
	TOTALS		AVERAGE		PERCENTAGES	
	wt.	vol.	wt.	vol.	Pct. by wt.	Pct. by vol.
Cardboard	153.0	55.2	10.9	3.9	5.35%	8.86%
Newsprint	236.0	44.2	16.9	3.2	8.24%	7.08%
Magazines	89.0	10.7	6.4	0.8	3.11%	1.72%
High Grade	149.0	30.3	10.6	2.2	5.21%	4.86%
Mixed	669.5	130.8	47.8	9.3	23.39%	20.98%
PAPER TOTALS	1296.5	271.1	92.6	19.4	45.29%	43.49%
Clear	100.8	10.0	7.2	0.7	3.52%	1.60%
Brown	55.5	5.2	4.0	0.4	1.94%	0.83%
Green	16.5	1.4	1.2	0.1	0.58%	0.22%
Other	21.5	2.0	1.5	0.1	0.75%	0.32%
GLASS TOTALS	194.3	18.6	13.9	1.3	6.79%	2.98%
Alum. Cans	56.5	23.0	4.0	1.6	1.97%	3.69%
Other Alum	24.6	7.7	1.8	0.6	0.86%	1.24%
Non ferrous	7.5	0.6	0.5	0.0	0.26%	0.10%
Food Cans	52.0	9.7	3.7	0.7	1.82%	1.56%
Ferrous	25.0	3.7	1.8	0.3	0.87%	0.59%
Oil Filters	0.0	0.0	0.0	0.0	0.00%	0.00%
METAL TOTALS	165.6	44.7	11.8	3.2	5.79%	7.17%
PET # 1	51.5	23.3	3.7	1.7	1.80%	3.74%
HDPE # 2	48.5	23.9	3.5	1.7	1.69%	3.83%
Film	149.5	57.0	10.7	4.1	5.22%	9.14%
Other Plastic	299.0	102.0	21.4	7.3	10.45%	16.36%
PLASTIC TOTALS	548.5	206.2	39.2	14.7	19.16%	33.07%
Food Waste	301.5	29.6	21.5	2.1	10.53%	4.75%
Wood Waste	11.0	1.0	0.8	0.1	0.38%	0.16%
Textiles	87.0	14.6	6.2	1.0	3.04%	2.33%
Diapers	56.5	7.4	4.0	0.5	1.97%	1.19%
Other Organics	60.0	11.3	4.3	0.8	2.10%	1.81%
ORGANIC TOTALS	516.0	63.9	36.9	4.6	18.03%	10.24%
Fines	110.0	14.2	7.9	1.0	3.84%	2.28%
Other Inorganics	31.5	4.7	2.3	0.3	1.10%	0.75%
INORGANIC TOTALS	141.5	18.9	10.1	1.4	4.94%	3.03%
TOTAL SORT	2862.4	623.3	204.5	44.5	100.00%	100.00%

TABLE 4-4

SORT # 3

Sort Conditions

The third sort was conducted September 9th through the 11th. The sort facility was set up in the same area as Sort #2. Weather conditions were clear and warm.

Statistics	
Estimated MSW (lbs) Collected by Site During Sampling Period	454,000
Total Sample Weight (lbs)	2,573.2
Significance Test Results	.000
Number of Samples	12

OTHER WASTE CATEGORIES			
Over-the-counter Medication (OTC)	1	Beauty/Hygiene Aerosol Products	0
Prescription Medication (Rx)	0	Household Cleaning Aerosol Products	0
Beauty/Hygiene Products	4	Gardening/Yard Care Products	0
Household Cleaning Products	2	Pet Groom Products	0
Sharps/Blades	0	Disposable Razors	1
Syringes	1	Alkaline Batteries	7
Hardware/Shop Products	2	Automobile Maintenance/Cleaning Products	0
Aerosol Cans	0		
Miscellaneous items: Flea killer for upholstery, caps for a play gun.			

**REEDS SPRING
SORT # 3**

Sample #	Sample Size		Composition		Recycling Activities	Collection Location
	Weight	Volume	Res.	Comm.		
1	218	51.5	10%	90%	None	Kimberling City-south
2	232	50.3	0%	100%	None	Branson West
3	246	56.9	50%	50%	None	Crane
4	281	79.6	100%	0%	Drop-off	Branson/ Point Royale
5	193	55.2	80%	20%	None	Hwy 86/ Taney Co.
6	246.5	55.4	0%	100%	None	Hwy 13/ Stone Co.
7	196	52.8	0%	100%	Drop-off	Branson
8	220	57.9	0%	100%	None	Kimberling City
9	150	26.8	60%	40%	None	Reeds Spring
10	174	30.7	0%	100%	Curbside	Hollister
11	202	46.5	60%	40%	Drop-off	Table Rock
12	214.7	48.8	95%	5%	Drop-off	Branson
TOTALS	2573.2	612.4				
AVERAGE	214.4	51.0	38%	62%		

TABLE 4-5

REEDS SPRING

SORT # 3

CATEGORY	TOTALS		AVERAGE		PERCENTAGE	
	wt.	vol.	wt.	vol.	Pct. by wt.	Pct. by vol.
Cardboard	225.7	84.2	18.8	7.0	8.78%	13.75%
Newsprint	175.0	33.2	14.6	2.8	6.81%	5.42%
Magazines	91.0	8.2	7.6	0.7	3.54%	1.34%
High Grade	104.0	16.7	8.7	1.4	4.05%	2.73%
Mixed	461.5	113.2	38.5	9.4	17.96%	18.48%
PAPER TOTALS	1057.2	255.5	88.1	21.3	41.13%	41.72%
Clear	103.5	12.0	8.6	1.0	4.03%	1.96%
Brown	60.5	6.0	5.0	0.5	2.35%	0.98%
Green	9.0	1.4	0.8	0.1	0.35%	0.23%
Other	15.0	0.8	1.3	0.1	0.58%	0.13%
GLASS TOTALS	188.0	20.2	15.7	1.7	7.31%	3.30%
Alum. Cans	69.5	27.6	5.8	2.3	2.70%	4.51%
Other Alum	22.0	2.5	1.8	0.2	0.86%	0.41%
Non ferrous	0.0	0.0	0.0	0.0	0.00%	0.00%
Food Cans	83.5	12.5	7.0	1.0	3.25%	2.04%
Ferrous	40.5	2.4	3.4	0.2	1.58%	0.39%
Oil Filters	0.0	0.0	0.0	0.0	0.00%	0.00%
METAL TOTALS	215.5	45.0	18.0	3.8	8.38%	7.35%
PET # 1	79.0	35.3	6.6	2.9	3.07%	5.76%
HDPE # 2	94.5	42.9	7.9	3.6	3.68%	7.01%
Film	115.0	57.7	9.6	4.8	4.47%	9.42%
Other Plastic	225.5	86.2	18.8	7.2	8.77%	14.08%
PLASTIC TOTALS	514.0	222.1	42.8	18.5	20.00%	36.27%
Food Waste	289.0	27.8	24.1	2.3	11.24%	4.54%
Wood Waste	13.0	2.8	1.1	0.2	0.51%	0.46%
Textiles	86.5	15.2	7.2	1.3	3.37%	2.48%
Diapers	47.5	5.5	4.0	0.5	1.85%	0.90%
Other Organics	63.0	8.2	5.3	0.7	2.45%	1.34%
ORGANIC TOTALS	499.0	59.5	41.6	5.0	19.41%	9.72%
Fines	72.0	8.8	6.0	0.7	2.80%	1.44%
Other Inorganics	24.5	1.3	2.0	0.1	0.95%	0.21%
INORGANIC TOTALS	96.5	10.1	8.0	0.8	3.75%	1.65%
TOTAL SORT	2570.2	612.4	214.2	51.0	100.00%	100.00%

TABLE 4-6

SORT SUMMARY

Seasonal variations

- The first sort was mostly residential because the tourist season had not begun. The second and third sorts were mostly commercial and represent the impact of the tourism industry on Branson.
- Paper totals were higher during the second and third round sorts. Most of this increase was promotional brochures for tourist attractions.
- Aluminum cans increased as the weather grew warmer.
- Plastic increased significantly after the first round. Much of this was polystyrene containers from fast food establishments.

Sort results

- Chart 4-1 graphically compares the three seasonal sort results and shows the average waste composition, by major category, for Reeds Spring.
- The sample data for all Reeds Spring waste sorts are listed on table 4-7.
- The sort results for Reeds Spring are listed on table 4-8.
- The summary of statistical relevance for the Reeds Spring sorts is located on page 54.
- The total for all “other wastes” found during the Reeds Spring sorts is on page 54.

All weights are in pounds and volumes are listed in cubic feet.

Comparisons of the Reed’s Spring waste stream to previous studies and other communities can be found in chapter 13.

REED'S SPRING RESULTS BY WEIGHT

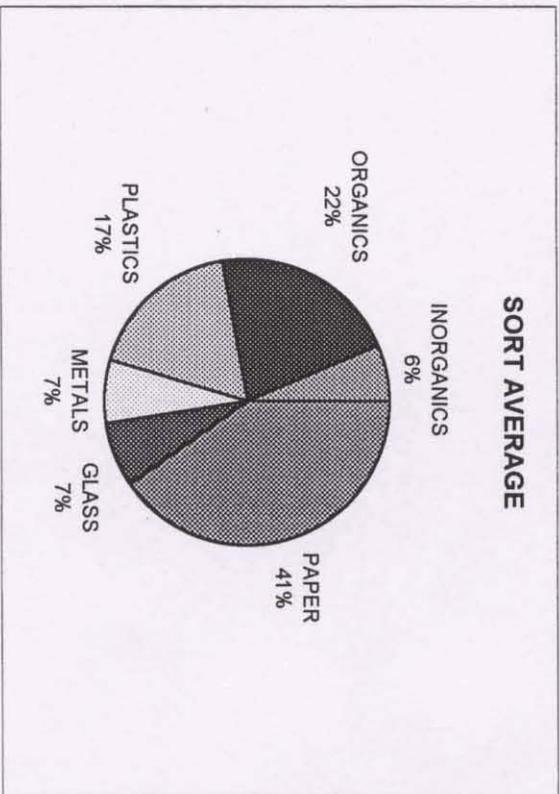
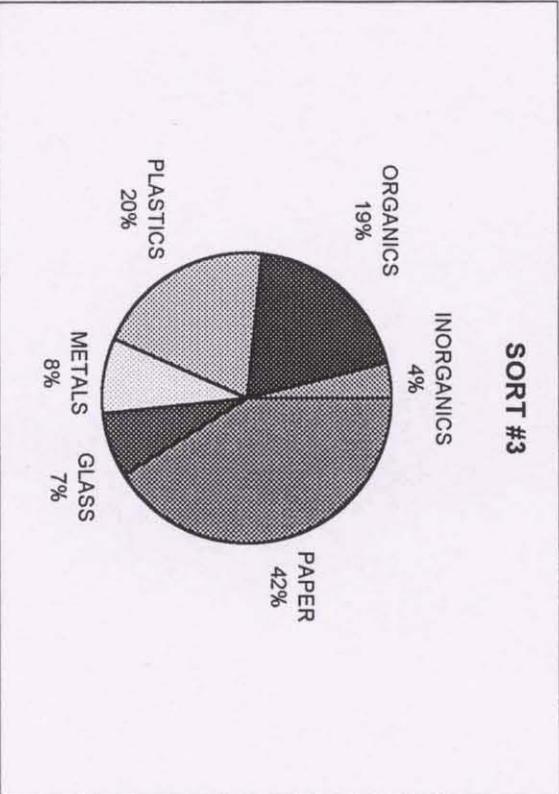
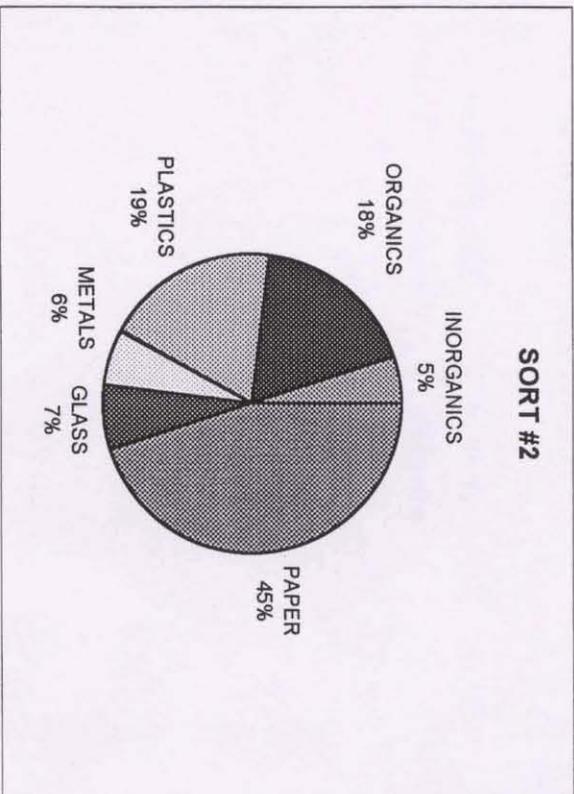
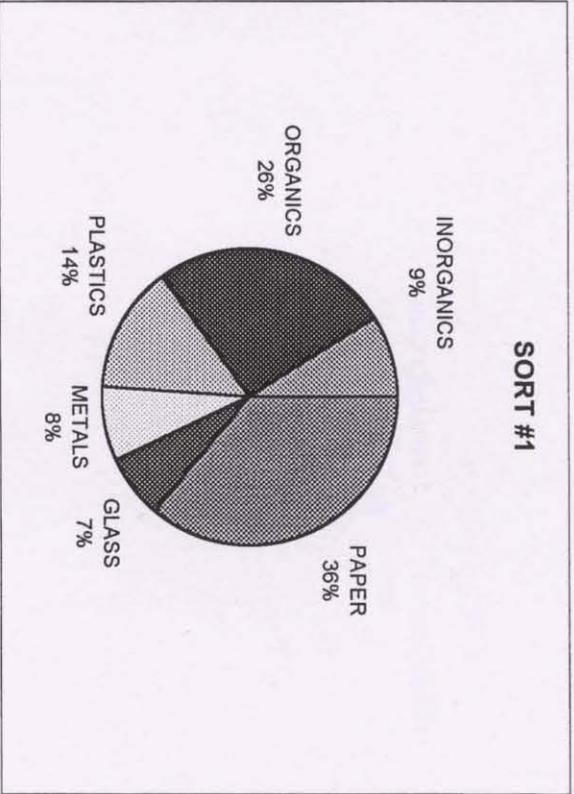


CHART 4-1

**REEDS SPRING
SAMPLE SUMMARY**

Sort #	Dates	Number of Samples	Sample Size		Composition	
			Weight	Volume	Residential	Commercial
1	2/12-2/14	14	3846.0	795.8	68%	32%
2	5/20-5/22	14	2863.1	623.5	23%	77%
3	9/9-9/11	12	2573.2	612.4	38%	62%
TOTALS		40.0	9282.3	2031.7		
AVERAGE		13.3	3094.1	677.2	43%	57%

TABLE 4-7

CATEGORY	REEDS SPRING						SUMMARY	
	SORT # 1		SORT # 2		SORT #3		AVERAGE	
	WT.	VOL.	WT.	VOL.	WT.	VOL.	WT.	VOL.
Cardboard	8.6%	17.2%	5.4%	8.9%	8.8%	13.8%	7.7%	13.6%
Newsprint	6.8%	5.4%	8.2%	7.1%	6.8%	5.4%	7.2%	5.9%
Magazines	3.7%	2.3%	3.1%	1.7%	3.5%	1.3%	3.5%	1.8%
High Grade	2.0%	2.3%	5.2%	4.8%	4.0%	2.7%	3.6%	3.2%
Mixed	15.3%	14.9%	23.4%	21.0%	18.0%	18.5%	18.5%	17.8%
PAPER TOTALS	36.4%	42.1%	45.3%	43.5%	41.1%	41.7%	40.4%	42.3%
Clear	4.2%	1.9%	3.5%	1.6%	4.0%	2.0%	3.9%	1.8%
Brown	1.9%	0.9%	1.9%	0.8%	2.4%	1.0%	2.1%	0.9%
Green	0.6%	0.3%	0.6%	0.2%	0.3%	0.2%	0.5%	0.2%
Other	0.3%	0.1%	0.8%	0.3%	0.6%	0.1%	0.5%	0.2%
GLASS TOTALS	7.0%	3.2%	6.8%	2.9%	7.3%	3.3%	7.1%	3.1%
Alum. Cans	1.2%	2.0%	2.0%	3.7%	2.7%	4.5%	1.8%	3.3%
Other Alum	0.5%	0.9%	0.8%	1.2%	0.8%	0.4%	0.7%	0.9%
Non ferrous	0.2%	0.2%	0.3%	0.1%	0.0%	0.0%	0.2%	0.1%
Food Cans	3.5%	3.0%	1.8%	1.6%	3.3%	2.0%	2.9%	2.3%
Ferrous	1.9%	1.0%	0.9%	0.6%	1.6%	0.4%	1.5%	0.7%
Oil Filters	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%
METAL TOTALS	7.7%	7.2%	5.8%	7.2%	8.4%	7.3%	7.3%	7.3%
PET # 1	1.6%	4.1%	1.8%	3.7%	3.1%	5.8%	2.1%	4.5%
HDPE # 2	1.8%	4.6%	1.7%	3.8%	3.7%	7.0%	2.3%	5.1%
Film	4.0%	10.8%	5.2%	9.1%	4.4%	9.4%	4.5%	9.9%
Other Plastic	6.6%	12.2%	10.5%	16.4%	8.8%	14.1%	8.4%	14.0%
PLASTIC TOTALS	14.0%	31.7%	19.2%	33.0%	20.0%	36.3%	17.3%	33.5%
Food Waste	15.6%	4.5%	10.5%	4.8%	11.2%	4.5%	12.8%	4.6%
Wood Waste	1.5%	1.1%	0.4%	0.2%	0.5%	0.5%	0.9%	0.6%
Textiles	3.9%	4.3%	3.0%	2.3%	3.4%	2.5%	3.5%	3.2%
Diapers	2.7%	1.7%	2.0%	1.2%	1.8%	0.9%	2.3%	1.3%
Other Organics	1.8%	1.3%	2.1%	1.8%	2.5%	1.3%	2.1%	1.4%
ORGANIC TOTALS	25.5%	12.9%	18.0%	10.3%	19.4%	9.7%	21.5%	11.2%
Fines	7.3%	2.1%	3.8%	2.3%	2.8%	1.4%	5.0%	2.0%
Other Inorganics	2.0%	0.8%	1.1%	0.8%	1.0%	0.2%	1.4%	0.6%
INORGANIC TOTALS	9.3%	2.9%	4.9%	3.1%	3.8%	1.6%	6.4%	2.6%
SORT TOTALS	100%	100%	100%	100%	100%	100%	100%	100%

TABLE 4-8

Reeds Spring Statistical Summary	
Estimated MSW (lbs) Collected by Site During Sampling Period	454,000
Total Sample Weight (lbs)	9,282.3
Total Number of Samples Collected	40
Significance Test Results	.000
Mean Sample (lbs) and Confidence Interval (95%)	232.0(+/-)25.18

City of Reeds Spring "Other Waste" Summary			
Over-the-Counter Medication (OTC)	7	Beauty/Hygiene Aerosol Products	7
Prescription Medication (Rx)	10	Household Cleaning Aerosol Products	5
Beauty/Hygiene Products	10	Gardening/Yard Care Products	2
Household Cleaning Products	4	Pet Groom Products	0
Sharps/Blades	0	Disposable Razors	20
Syringes	26	Alkaline Batteries	40
Hardware/Shop Products	6	Automobile Maintenance/Cleaning Products	0
Aerosol Cans	4		
Miscellaneous items: 20 lbs. of paint, part of a broken fluorescent tube, 1 butane lighter, 1 container of isopropyl alcohol, 1 can of "Silly String", flea killer for upholstery, caps for a play gun.			