TECHNICAL MEMORANDUM

kessler consulting inc.
innovative waste solutions

DATE: March 10, 2023

TO: Shannon Culpepper, Recycling & Education Specialist, Chatham County

FROM: Ryan Graunke, Consultant, Kessler Consulting, inc.

SUBJ: Chatham County 2023 Recyclables Characterization Study

PROJ #: 155-04

Kessler Consulting, Inc. (KCI) is pleased to submit this technical memorandum to Chatham County (County) summarizing the Recyclables Characterization Study (RCS) conducted in January 2023.

Background and Purpose

The County owns and operates twelve collection centers located throughout the County at which residents can drop-off solid waste and recyclables, among other materials. Mixed recyclables (i.e., recyclable paper, plastic, and metal accepted in the County's programs) are collected as a commingled stream at each collection center, while glass is collected separately. Four of the centers collect mixed recyclables in compactors, while the other eight collect mixed recyclables in A-frame containers. All twelve centers also have a spare A-frame container for overflow recyclables when the compactor or main A-frame is full or being tipped. In addition to the twelve centers, the County's Solid Waste & Recycling Office (Main Facility) has an A-frame container for mixed recyclables. When full, the County hauls A-frame containers to the County's recyclables transfer station where they are tipped and loaded into a compactor which is transferred to Sonoco's material recovery facility (MRF) in Raleigh. The County also hauls compactors from the centers directly to the MRF.

The County currently contracts with Sonoco to process their mixed recyclables at the MRF. The contract includes revenue sharing of recyclable commodity sales with the County based on the inbound composition of the County's mixed recyclables. The purpose of this RCS is to update the inbound recyclables composition for this contract. In addition, the County will be seeking bids on a new recyclables processing contract later this year and will incorporate this inbound composition in that procurement process. The RCS also provides the County with an understanding of the quantity and types of unaccepted recyclables and contaminants in its recyclables stream.

Methodology

The RCS was conducted from January 24-26, 2023, at the County's recyclables transfer station, located at 28 County Services Road, Pittsboro, North Carolina. Over the course of the three-day RCS, all compactors and A-frame containers with mixed recyclables from each collection center were tipped at the transfer station for sampling. Prior to the study, the County reduced the frequency of container pulls to ensure a sufficient amount of material was collected for sampling. Once tipped at the transfer station, the load was thoroughly mixed with a skid steer and a sample, weighing approximately 150 pounds, was randomly pulled from the mixed load. The sample was then staged for sorting. Table 1 lists each collection center and container, the day it was pulled for the RCS, and the total annual tons (calendar year 2021) collected from the containers (used for statistical analysis discussed below).

Table 1: Sampling Schedule and Annual Tonnage

Collection Center	Tons/Year (2021)	Container	Wed	Thu	Fri
Asbury	42.84	Main		x	
		Spare		x	
Bennett	15.52	Main		x	
		Spare		x	
Bonlee	60.74	Compactor			x
		Spare			x
Cole Park	447.39	Compactor	x		
		Spare	x		
Crutchfield Crossroads	34.88	Main		x	
		Spare			x
Goldston	32.30	Main			x
		Spare			x
Hadley	63.11	Main		x	
		Spare		x	
Harper's Crossroads	22.11	Main	x		
		Spare	x		
Martha's Chapel	87.75	Main	x		
		Spare		x	
Moncure	35.06	Main		x	
		Spare		x	
Pittsboro	307.55	Compactor	x		
		Spare	x		
Siler City	111.12	Compactor	x		
		Spare	x		
Main Facility	11.57	Main			x
Total			**9**	**10**	**6**

*The combined tonnage of both containers at the centers was used for weighting the composition.

Each sample from each container was hand-sorted into 51 material categories according to the *Sampling and Sorting Protocol* approved by the County prior to the RCS. Material categories and their definitions can be found in Appendix A. Throughout the work of sorting each sample, the KCI field manager oversaw a sorting crew and examined all sorting bins to ensure accurate sorting of all material categories. The weight of each sorted material was then recorded for each sample.

Following completion of the fieldwork, KCI combined the results from all 25 samples and calculated the overall weighted average composition of mixed recyclables based on the total annual tonnage of each collection center. This ensures the composition of any collection center is not over or underrepresented. A 90 percent confidence interval was also calculated, using a standard statistical t-test, for each material category. The confidence interval indicates that, with a 90 percent level of confidence, the actual arithmetic mean is within the upper and lower limits of the interval.

Results

Figure 1 shows the weighted average composition of the County's mixed recyclables stream. Table 2 provides the weighted average with a 90 percent confidence interval for each material category measured in the RCS; this table also includes the composition with wet fiber removed from the composition calculation. Table 3 shows the composition of materials found in the Bagged Recyclables. Table 4 compares the composition measured in the RCS to the composition measured in the 2019 RCS. Table 5 shows the average market value (AMV) of the mixed recyclables as measured in this RCS. Appendix B provides the composition of individual samples, and Appendix C includes photos of the RCS.

Key findings of the RCS include:

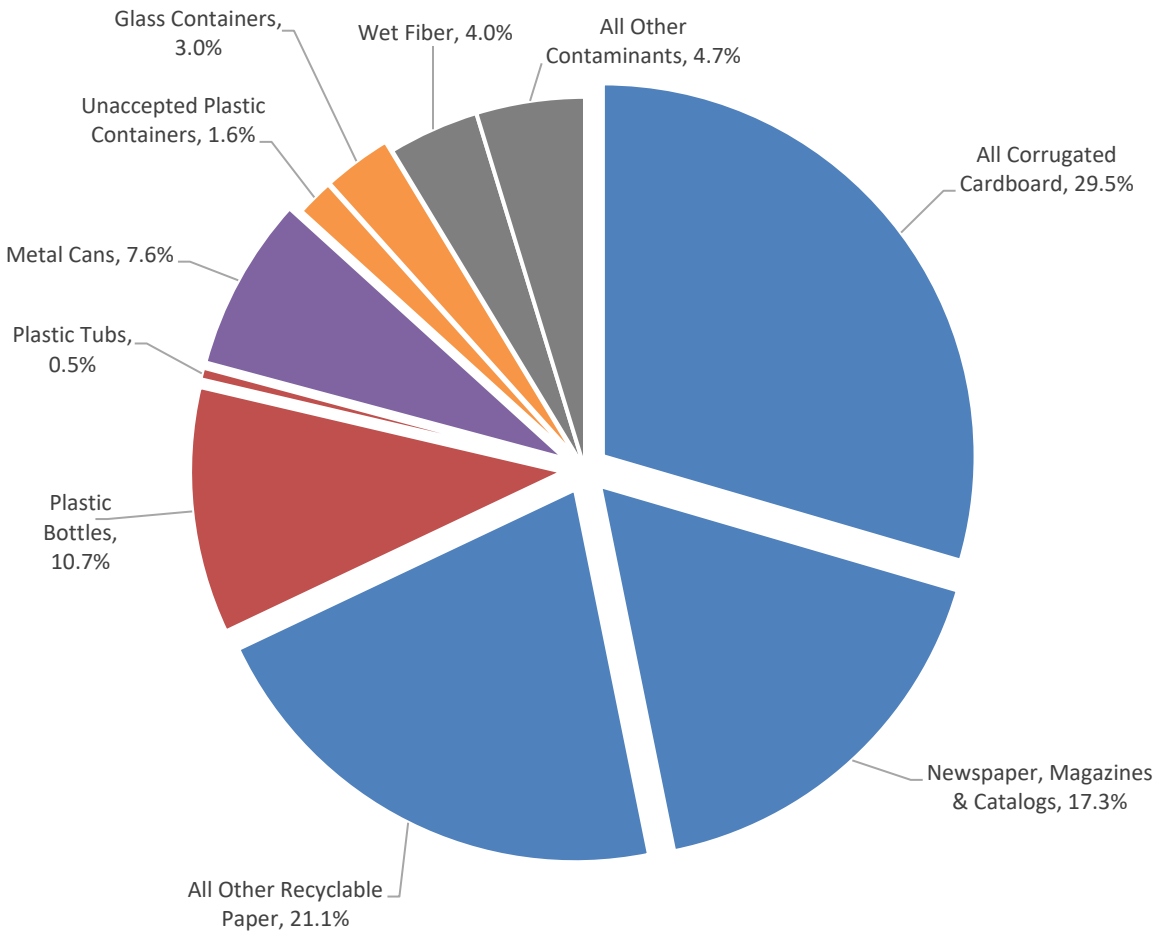
- Nearly a third of the mixed recyclables was Corrugated Cardboard, and over another third was Mixed Recyclable Paper and Magazines and Catalogs. These were by far the most prominent materials. Several samples had very high percentages of Magazines and Catalogs that appeared to be from home clean-outs, including the Cole Park Spare sample, which was 44.6 percent Magazines and Catalogs, and the Crutchfield Main sample, which was 30.0 percent.
- Accepted Plastic Containers comprised about 11 percent of the recyclables. About two-thirds of these were PET Bottles.
- Accepted Metal Containers comprised nearly 8 percent of the recyclables and were about half and half Aluminum Cans and Tin/Steel Cans.
- Unaccepted Containers were less than 5 percent of the waste stream. The largest category of these were Glass Containers. Glass Containers were found in nearly every sample, with several samples around 2-4 percent glass. The Siler City Spare sample had a very high percentage of glass, 28 percent. However, the percentage of Glass Containers was much lower in the County's mixed recyclables than typically found in single stream recyclables, which is usually in the 10-20 percent range on average. Likewise, the number of unaccepted plastic containers was much lower than typically found in single stream recyclables. These results indicate that the County recycling program is effective at reducing these materials in the mixed recyclables stream.
- About 9 percent of the recyclables were Contaminants. Wet paper had the highest percentage of any contaminant; together with Wet Cardboard, wet fiber comprised about 4 percent of the stream. During the week of the RCS, the County had rain, which may have caused the paper in the collection center containers to become wet. Due to this rain, the composition has also been calculated with wet fiber removed. Other Contaminants were less than 3 percent and all other categories of Contaminants had negligible percentages. The Siler City Spare sample had the highest percentage of Other Contaminants, 8.3 percent, which included pieces of wood lumber. That sample also had the highest percentage of Non-Rigid Plastic Film.
- Bagged Recyclables were minimal in the overall composition. Only 4 small bags were found, and they contained mostly Aluminum Cans, PET Bottles, and Colored HDPE Bottles.
- The total contamination rate (Contaminants plus Unaccepted Containers) was 13.3 percent. With wet fiber removed, the total contamination rate was 9.7 percent.
- Comparing the current RCS to the 2019 RCS:
    - The average percentage of Corrugated Cardboard increased. This may be an effect of increased online shopping spurred by the COVID-19 pandemic.
    - The percentage of Newspaper was lower in 2023, indicating continued decrease in Newspaper consumption.
    - The combined average percentage of Accepted Plastic Containers was lower than in 2019.
    - Unaccepted Containers had a higher combined percentage in 2023. This indicates that while the program is still effective in keeping these materials out of the mixed recyclables (compared to typical single stream recyclables), it may have been more effective in 2019.
    - Wet fiber also had a higher percentage in 2023. This is likely due to rain during the RCS.
    - The percentage of Bulky Rigid Plastics was lower in 2023. Some of these materials were accepted recyclables in 2019, hence why the percentage may have been higher then.
- The average market value, using industry standard market indices, of the mixed recyclables is $136.34/ton for March 2023 ($143.33/ton without wet fiber). Note: This is used as an

illustrative example, the actual AMV and commodity categories would need to be negotiated with the County's processor.

This RCS provides a current snapshot of the mixed recyclables that the County collects at its collection centers. Additionally, the data can be used to target specific contaminants in its ongoing education and outreach efforts. Using the individual sample data in Appendix B, the County can focus on centers with higher contamination.

KCI appreciates the opportunity to once again work with the County and looks forward to assisting the County in future solid waste and recycling projects.

Figure 1: Composition of the County's Mixed Recyclables (percent by weight)



Note: For the purpose of this figure, the following material categories have been combined:

- All Corrugated Cardboard includes the categories of Corrugated Cardboard and Clean Pizza Boxes.
- All Other Recyclable Paper includes the categories of Mixed Recyclable Paper and Aseptic Containers/Cartons.
- Plastic Bottles includes the categories of PET Bottles (#1), Natural HDPE Bottles (#2), Colored HDPE Bottles (#2), PP Bottles (#5), and Other Narrow-Neck Bottles (#3,4,6,7).
- Plastic Tubs includes the categories of HDPE Tubs (#2) and PP Tubs (#5).
- Metal Cans include the categories of Tin/Steel Cans, Aluminum Cans, and Nonhazardous Aerosol Cans.
- Unaccepted Plastic Containers includes all Unaccepted Containers categories besides Glass Containers.
- Wet Fiber includes the categories of Wet Corrugated Cardboard and Wet Paper.
- All Other Contaminants includes all Contaminants categories besides Wet Fiber.

Table 2: Composition of the County's Mixed Recyclables (percent by weight)

Material Category	Weighted Average	90% Confidence Interval		Weighted Average (Wet Fiber Removed)
		Lower Bounds	Upper Bounds	
Corrugated Cardboard	**29.2%**	24.0%	34.4%	**30.4%**
Clean Pizza Boxes	**0.3%**	0.1%	0.5%	**0.4%**
Newspaper	**1.7%**	1.1%	2.3%	**1.8%**
Magazines and Catalogs	**15.6%**	12.0%	19.2%	**16.2%**
Mixed Recyclable Paper	**20.6%**	18.7%	22.6%	**21.5%**
Aseptic Containers/ Cartons	**0.5%**	0.4%	0.6%	**0.5%**
Accepted Paper	**68.0%**	**64.3%**	**71.7%**	**70.8%**
PET Bottles (#1)	**7.1%**	5.6%	8.6%	**7.4%**
Natural HDPE Bottles (#2)	**1.8%**	1.5%	2.1%	**1.9%**
Colored HDPE Bottles (#2)	**1.6%**	1.3%	1.9%	**1.7%**
HDPE Tubs (#2)	**0.2%**	0.1%	0.2%	**0.2%**
PP Bottles (#5)	**0.2%**	0.1%	0.2%	**0.2%**
PP Tubs (#5)	**0.4%**	0.3%	0.4%	**0.4%**
Other Narrow-Neck Bottles (#3,4,6,7)	**0.0%**	0.0%	0.1%	**0.0%**
Accepted Plastic Containers	**11.2%**	**9.2%**	**13.2%**	**11.7%**
Tin/Steel Cans	**3.8%**	2.9%	4.8%	**4.0%**
Aluminum Cans	**3.6%**	2.9%	4.4%	**3.8%**
Nonhazardous Aerosol Cans	**0.1%**	0.0%	0.1%	**0.1%**
Accepted Metal Containers	**7.6%**	**6.1%**	**9.1%**	**7.9%**
PET Drink Cups (#1)	**0.2%**	0.2%	0.3%	**0.3%**
PET Clamshells (#1)	**0.3%**	0.3%	0.4%	**0.4%**
Other Non-Bottle PET Containers (#1)	**0.4%**	0.3%	0.5%	**0.4%**
Other Non-Bottle HDPE Containers (#2)	**0.0%**	0.0%	0.0%	**0.0%**
PP Drink Cups (#5)	**0.0%**	0.0%	0.0%	**0.0%**
PP Clamshells (#5)	**0.1%**	0.0%	0.1%	**0.1%**
Other Non-Bottle PP Containers (#5)	**0.3%**	0.2%	0.4%	**0.3%**
Other Plastic Drink Cups (#3,4,6,7)	**0.1%**	0.1%	0.2%	**0.1%**
Plastic Clamshells (#3,4,6,7)	**0.0%**	0.0%	0.0%	**0.0%**
Other Plastic Containers (#3,4,6,7)	**0.1%**	0.0%	0.1%	**0.1%**
Glass Containers	**3.0%**	1.1%	4.9%	**3.1%**
Unaccepted Containers	**4.6%**	**2.8%**	**6.5%**	**4.8%**
Wet Corrugated Cardboard	**0.8%**	-0.2%	1.8%	-
Dirty Pizza Boxes	**0.2%**	0.0%	0.3%	**0.2%**
Wet Paper	**3.2%**	1.8%	4.5%	-
Shredded Paper	**0.0%**	0.0%	0.0%	**0.0%**
Film-Wrapped Paper	**0.0%**	0.0%	0.1%	**0.0%**
Low Grade Paper	**0.4%**	0.3%	0.5%	**0.4%**
Plastic Bottles That Held Toxics	**0.1%**	0.0%	0.1%	**0.1%**
Bulky Rigid Plastics	**0.3%**	0.1%	0.6%	**0.4%**
Expanded Polystyrene (EPS) Foam	**0.1%**	0.0%	0.1%	**0.1%**
Non-Rigid Plastic Film	**0.2%**	0.1%	0.4%	**0.3%**

Table 2: Composition of the County's Mixed Recyclables (percent by weight)(cont.)

Material Category	Weighted Average	90% Confidence Interval		Weighted Average (Wet Fiber Removed
		Lower Bounds	Upper Bounds	
Ferrous Scrap Metals	**0.1%**	0.1%	0.2%	**0.1%**
Aluminum Foil and Trays	**0.0%**	0.0%	0.0%	**0.0%**
Non-Ferrous Scrap Metals	**0.0%**	0.0%	0.1%	**0.0%**
E-Waste & Small Appliances	**0.1%**	0.0%	0.2%	**0.1%**
Bagged Waste	**0.1%**	-0.1%	0.3%	**0.1%**
Bagged Recyclables	**0.1%**	-0.1%	0.2%	**0.1%**
Full Containers	**0.1%**	0.0%	0.2%	**0.1%**
Tanglers	**0.1%**	0.0%	0.2%	**0.1%**
Hazardous/ Special Waste	**0.0%**	0.0%	0.1%	**0.0%**
Spiral Paper Cans	**0.1%**	0.0%	0.1%	**0.1%**
Large Contaminants	**0.0%**	0.0%	0.0%	**0.0%**
Other Contaminants	**2.4%**	1.8%	3.0%	**2.5%**
Grit	**0.3%**	0.2%	0.5%	**0.4%**
Contaminants	**8.7%**	**6.9%**	**10.5%**	**4.9%**
Total	**100.0%**			**100.0%**

Note: Columns may not appear to correctly sum due to rounding.

Table 3: Composition of Bagged Recyclables found in the RCS (percent by weight)

Material Category	Weighted Average
Mixed Recyclable Paper	**6.2%**
PET Bottles (#1)	**21.5%**
Colored HDPE Bottles (#2)	**12.3%**
Aluminum Cans	**47.7%**
Non-Rigid Plastic Film	**6.2%**
Other Contaminants	**6.2%**
Total	**100.0%**

Note: Columns may not appear to correctly sum due to rounding.

Table 4: Comparison of the County's Mixed Recyclables Composition: 2023 vs 2019

	2023			2019		
		90% Confidence Interval			90% Confidence Interval	
Material Category	Weighted Average	Lower Bounds	Upper Bounds	Weighted Average	Lower Bounds	Upper Bounds
Corrugated Cardboard	**29.2%**	24.0%	34.4%	**24.9%**	21.6%	28.2%
Clean Pizza Boxes	**0.3%**	0.1%	0.5%	**0.2%**	0.0%	0.3%
Newspaper	**1.7%**	1.1%	2.3%	**4.4%**	2.4%	6.3%
Magazines and Catalogs	**15.6%**	12.0%	19.2%	**36.6%**	33.2%	40.0%
Mixed Recyclable Paper	**20.6%**	18.7%	22.6%			
Aseptic Containers/ Cartons	**0.5%**	0.4%	0.6%	**0.5%**	0.4%	0.6%
Accepted Paper	**68.0%**	**64.3%**	**71.7%**	**66.5%**	**63.5%**	**69.5%**
PET Bottles (#1)	**7.1%**	5.6%	8.6%	**9.7%**	7.9%	11.4%
Natural HDPE Bottles (#2)	**1.8%**	1.5%	2.1%	**2.2%**	1.8%	2.6%
Colored HDPE Bottles (#2)	**1.6%**	1.3%	1.9%	**1.9%**	1.7%	2.2%
HDPE Tubs (#2)	**0.2%**	0.1%	0.2%	**0.9%**	0.6%	1.1%
PP Tubs (#5)	**0.4%**	0.3%	0.4%			
PP Bottles (#5)	**0.2%**	0.1%	0.2%	**0.1%**	0.0%	0.3%
Other Narrow-Neck Bottles (#3,4,6,7)	**0.0%**	0.0%	0.1%			
Accepted Plastic Containers	**11.2%**	**9.2%**	**13.2%**	**14.8%**	**12.5%**	**17.2%**
Tin/Steel Cans	**3.8%**	2.9%	4.8%	**3.5%**	2.7%	4.4%
Aluminum Cans	**3.6%**	2.9%	4.4%	**4.5%**	3.7%	5.2%
Nonhazardous Aerosol Cans	**0.1%**	0.0%	0.1%	**0.0%**	0.0%	0.1%
Accepted Metal Containers	**7.6%**	**6.1%**	**9.1%**	**8.0%**	**6.7%**	**9.3%**
PET Drink Cups (#1)	**0.2%**	0.2%	0.3%	**0.1%**	0.1%	0.2%
PP Drink Cups (#5)	**0.0%**	0.0%	0.0%			
Other Plastic Drink Cups (#3,4,6,7)	**0.1%**	0.1%	0.2%			
PP Clamshells (#5)	**0.1%**	0.0%	0.1%	**0.5%**	0.4%	0.6%
PET Clamshells (#1)	**0.3%**	0.3%	0.4%			
Plastic Clamshells (#3,4,6,7)	**0.0%**	0.0%	0.0%			
Other Non-Bottle PET Containers (#1)	**0.4%**	0.3%	0.5%	**0.4%**	0.3%	0.5%
Other Non-Bottle HDPE Containers (#2)	**0.0%**	0.0%	0.0%	*	*	*
Other Non-Bottle PP Containers (#5)	**0.3%**	0.2%	0.4%	*	*	*
Other Plastic Containers (#3,4,6,7)	**0.1%**	0.0%	0.1%	*	*	*
Glass Containers	**3.0%**	1.1%	4.9%	**1.1%**	0.7%	1.5%
Unaccepted Containers	**4.6%**	**2.8%**	**6.5%**	**2.1%**	**1.6%**	**2.6%**
Wet Corrugated Cardboard	**0.8%**	-0.2%	1.8%	**0.2%**	-0.2%	0.5%
Dirty Pizza Boxes	**0.2%**	0.0%	0.3%	**0.3%**	0.2%	0.4%
Wet Paper	**3.2%**	1.8%	4.5%	**0.6%**	0.0%	1.1%
Shredded Paper	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Film-Wrapped Paper	**0.0%**	0.0%	0.1%	**0.2%**	0.1%	0.2%
Low Grade Paper	**0.4%**	0.3%	0.5%	**0.8%**	0.7%	1.0%
Plastic Bottles That Held Toxics	**0.1%**	0.0%	0.1%	**0.0%**	0.0%	0.1%
Bulky Rigid Plastics	**0.3%**	0.1%	0.6%	**1.6%**	1.3%	2.0%
Expanded Polystyrene (EPS) Foam	**0.1%**	0.0%	0.1%	**0.1%**	0.1%	0.1%

Table 4: Comparison of the County's Mixed Recyclables Composition: 2023 vs 2019 (cont.)

	2023			2019		
		90% Confidence Interval			90% Confidence Interval	
Material Category	Weighted Average	Lower Bounds	Upper Bounds	Weighted Average	Lower Bounds	Upper Bounds
Non-Rigid Plastic Film	**0.2%**	0.1%	0.4%	**0.3%**	0.2%	0.3%
Ferrous Scrap Metals	**0.1%**	0.1%	0.2%	**0.1%**	0.0%	0.2%
Aluminum Foil and Trays	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Non-Ferrous Scrap Metals	**0.0%**	0.0%	0.1%	**0.1%**	0.0%	0.2%
E-Waste & Small Appliances	**0.1%**	0.0%	0.2%	**0.0%**	0.0%	0.1%
Bagged Waste	**0.1%**	-0.1%	0.3%	**0.2%**	0.1%	0.2%
Bagged Recyclables	**0.1%**	-0.1%	0.2%	**0.2%**	0.1%	0.4%
Full Containers	**0.1%**	0.0%	0.2%	**0.2%**	0.0%	0.3%
Tanglers	**0.1%**	0.0%	0.2%	**0.0%**	-0.1%	0.2%
Hazardous/ Special Waste	**0.0%**	0.0%	0.1%	**0.0%**	0.0%	0.1%
Spiral Paper Cans	**0.1%**	0.0%	0.1%	**3.5%**	2.5%	4.4%
Large Contaminants	**0.0%**	0.0%	0.0%			
Other Contaminants	**2.4%**	1.8%	3.0%			
Grit	**0.3%**	0.2%	0.5%	**0.2%**	0.2%	0.3%
Contaminants	**8.7%**	**6.9%**	**10.5%**	**8.6%**	**7.1%**	**10.1%**
Total	**100.0%**			**100.0%**		

Note: Columns may not appear to correctly sum due to rounding.
*These materials were not separately sorted in 2019.

Table 5: Average Market Value of the County's Mixed Recyclables

				Weighted Average		Weighted Average (Wet Fiber Removed)	
Material	Index Description	Index Value (Mar 2023)[1]	Market Value ($/ton)	Material %	AMV ($/ton)	Material %	AMV ($/ton)
Mixed Paper[2]	Mixed Paper (PS 54) ($/ton, baled, FOB)	$3.00/ton	$3.00	21.1%	$0.63	22.0%	$0.66
Newspaper, Magazines & Catalogs	SRPN (PS 56) ($/ton, baled, FOB)	$32.50/ton	$32.50	17.3%	$5.62	18.0%	$5.85
Corrugated Cardboard[3]	OCC (PS11) ($/ton, baled, FOB)	$32.50/ton	$32.50	29.5%	$9.59	30.7%	$9.98
PET	PET (Baled, ¢/lb., picked up)	16.00 ¢/lb	$320.00	7.1%	$22.72	7.4%	$23.68
HDPE, Natural	Natural HDPE (baled, ¢/lb., picked up)	72.75 ¢/lb	$1,455.00	1.8%	$26.19	1.9%	$27.65
HDPE, Colored	Colored HDPE (baled, ¢/lb., picked up)	14.75 ¢/lb	$295.00	1.6%	$4.72	1.7%	$5.02
PP[4]	PP Post Consumer (baled, ¢/lb., picked up)	8.50 ¢/lb	$170.00	0.5%	$0.85	0.5%	$0.85
Plastics #3, 4, 6, 7[5]	Comingled (#3-7, baled, ¢/lb., picked up)	0.75 ¢/lb	$15.00	0.2%	$0.03	0.2%	$0.03
Aluminum Cans	Aluminum Cans (sorted, baled, ¢lb., picked up)	82.50 ¢/lb	$1,650.00	3.6%	$59.40	3.8%	$62.70
Steel Cans[6]	Steel Cans (sorted, baled, $/ton, picked up)	$185.00/ton	$185.00	3.9%	$7.22	4.1%	$7.59
Contamination[7]	n/a	n/a	$0.00	13.4%	$0.00	9.7%	$0.00
			Total	**100.0%**	**$136.34**	**100.0%**	**$143.33**

[1] All prices are from the average first published price of March 2023 from recyclingmarkets.net for the Southeast region.
[2] Mixed Paper is the percentage of Mixed Recyclable Paper and Aseptic Containers/Cartons.
[3] Corrugated Cardboard is the percentage of Corrugated Cardboard and Clean Pizza Boxes.
[4] PP is the percentage of PP Bottles (#5) and PP Tubs (#5).
[5] Plastics #3-7 is the percentage of HDPE Tubs (#2) and Other Narrow-Neck Bottles (#3,4,6,7).
[6] Steel Cans is the percentage of Tin/Steel Cans and Nonhazardous Aerosol Cans.
[7] Contamination is the percentage of Unaccepted Containers and Contaminants.

Appendix A: Material Category Description

#	Material Categories	Accepted or Contamination	Description of Categories
1	**Corrugated Cardboard**	Accepted	Uncoated brown "cardboard" boxes with a wavy core (no plastic liners or waxy coatings). Does not include cardboard within shrink wrap plastic, such as from a case of bottled water.
2	**Wet Corrugated Cardboard**	Contamination	Corrugated cardboard that is waterlogged or has lost structural integrity due to moisture. Does not include damp cardboard.
3	**Clean Pizza Boxes**	Accepted	Corrugated pizza boxes covered less than 50% by grease or food.
4	**Dirty Pizza Boxes**	Contamination	Corrugated pizza boxes covered 50% or more by grease or food.
5	**Newspaper**	Accepted	Newspaper (loose or tied) including other paper normally distributed inside newspaper such as ads, flyers, etc. Does not include bagged newspaper.
6	**Magazines and Catalogs**	Accepted	All magazines and catalogs, including glossy magazines.
7	**Mixed Recyclable Paper**	Accepted	Printed or unprinted recyclable paper including white, colored, coated and uncoated papers, envelopes, index cards, file folders, telephone books, paperboard, chipboard, Kraft paper, brown paper bags, mail, paperback books, blueprints, and other printed material on glossy and non-glossy paper. Does not include shredded, contaminated, waxy, or metallic paper.
8	**Wet Paper**	Contamination	Other recyclable paper that is waterlogged or has lost structural integrity due to moisture. Does not include damp paper.
9	**Shredded Paper**	Contamination	All significant amounts of shredded paper that can be manually separated. Includes bagged shredded paper. Any negligible amounts of shredded paper will be included in Grit or Low-Grade Paper.
10	**Film-Wrapped Paper**	Contamination	Newspaper or magazines inside plastics sleeves. OCC within shrink wrap plastic, such as that from a case of bottled water.
11	**Aseptic Containers/ Cartons**	Accepted	Gable-top cartons, aseptic juice boxes, and other similar containers made of coated paperboard.
12	**Low Grade Paper**	Contamination	All non-recyclable paper including paper towels, napkins, tissue paper, paper cups, fast food wraps, other paper containers (e.g., ice cream tubs), shredded, contaminated, waxy, or metallic paper.
13	**PET Bottles (#1)**	Accepted	Clear and colored bottles and jars coded polyethylene

#	Material Categories	Accepted or Contamination	Description of Categories
			terephthalate (PET #1). Examples include soda bottles, water bottles, food jars, etc. Does not include loose caps and lids.
14	**PET Drink Cups (#1)**	Contamination	Clear and colored plastic single-use drinking cups coded PET #1.
15	**PET Clamshells (#1)**	Contamination	Clear and colored plastic clamshell containers with a hinged lid coded PET #1.
16	**Other Non-Bottle PET Containers (#1)**	Contamination	Other PET #1 plastic containers that do not fit in other PET categories above. Examples include non-drinking cups, fruit or vegetable platters, and frozen food trays
17	**Natural HDPE Bottles (#2)**	Accepted	Clear/natural plastic bottles coded high-density polyethylene (HDPE #2). Examples include milk jugs, vinegar bottles, and gallon water bottles. Does not include loose caps and lids.
18	**Colored HDPE Bottles (#2)**	Accepted	Opaque, pigmented plastic bottles coded HDPE #2. Examples include detergent and shampoo bottles. Does not include loose caps and lids.
19	**HDPE Tubs (#2)**	Accepted	Closeable wide-mouthed tubs and containers coded HDPE#2, including lids. Examples include plastic coffee containers and plastic chip tubes.
20	**Other Non-Bottle HDPE Containers (#2)**	Contamination	Other HDPE #2 plastic containers that do not fit in other HDPE categories above. Examples include some non-single-use drink cups.
21	**PP Bottles (#5)**	Accepted	Clear and colored bottles and jars coded polypropylene (PP #5). Examples include medicine bottles, Ensure ® bottles, etc. Does not include loose caps and lids.
22	**PP Tubs (#5)**	Accepted	Closeable wide-mouthed tubs and containers coded PP #5, including lids. Examples include coffee tubs, yogurt tubs, margarine tubs, Cool Whip® tubs, and other non-bottle dairy items. Note: Yogurt cups with a foil lid will be included in Other Containers, by resin type.
23	**PP Drink Cups (#5)**	Contamination	Clear and colored plastic single-use drinking cups coded PP #5.
24	**PP Clamshells (#5)**	Contamination	Clear and colored plastic clamshell containers with a hinged lid coded PP #5.
25	**Other Non-Bottle PP Containers (#5)**	Contamination	Other PP #5 plastic containers that do not fit in other PP categories above. Examples include frozen food trays and yogurt cups with a foil lid.
26	**Other Narrow-Neck Bottles (#3,4,6,7)**	Accepted	All narrow-neck plastic containers coded #3, #4, #6, or #7, such as vitamin bottles, Arizona Iced Tea™ gallon jugs, etc.
27	**Other Plastic Drink Cups (#3,4,6,7)**	Contamination	Clear and colored plastic single-use drinking cups coded #3, #4, #6, or #7.
28	**Plastic Clamshells**	Contamination	Clear and colored plastic clamshell containers with a hinged

#	Material Categories	Accepted or Contamination	Description of Categories
	(#3,4,6,7)		lid coded #3, #4, #6, or #7.
29	**Other Plastic Containers (#3,4,6,7)**	Contamination	Other #3, #4, #6, or #7 plastic containers that do not fit in other categories.
30	**Plastic Bottles That Held Toxics**	Contamination	Empty pesticide, oil, and other bottles that held toxic or hazardous chemicals, regardless of resin type. Filled containers will be placed into Hazardous/Special Waste.
31	**Bulky Rigid Plastics**	Contamination	Non-container rigid plastic items, such as plastic drums, crates, toys, buckets, baskets, laundry baskets, refuse totes, lawn furniture, flower pots, and other large plastic items. Does not include electronic or electric toys, or bulky items consisting of mixed material.
32	**Expanded Polystyrene (EPS) Foam**	Contamination	Container and non-container materials made of expanded polystyrene, which are typically white but may be pigmented. Examples include coolers, packaging materials, egg cartons, clamshell containers, and disposable cups and plates.
33	**Non-Rigid Plastic Film**	Contamination	Loose and bagged plastic bags, clean garbage bags, shrink wrap, food wrap, re-sealable bags, plastic sheeting, etc.
34	**Tin/Steel Cans**	Accepted	Tin-plated steel cans, usually food containers, including labels. Includes steel caps and lids.
35	**Ferrous Scrap Metals**	Contamination	Non-container ferrous materials. Examples include sheet metal products, pipes, miscellaneous metal scraps, pots and pans, and other magnetic metal items.
36	**Aluminum Cans**	Accepted	Aluminum soft drink, beer, and food cans.
37	**Aluminum Foil and Trays**	Contamination	Aluminum foil and food trays, such as disposable pie plates and catering trays.
38	**Nonhazardous Aerosol Cans**	Accepted	Empty aerosol cans, of aluminum or steel, that contained nonhazardous materials, such as whipped cream or shaving cream. Empty or full aerosol containers with hazardous materials, such as spray paint, will be placed in Hazardous/Special Waste.
39	**Non-Ferrous Scrap Metals**	Contamination	Non-container, non-foil, non-ferrous metals, such as aluminum cooking pans, copper wiring and tubing, and brass fixtures.
40	**E-Waste & Small Appliances**	Contamination	Electronics and household appliances primarily composed of mixed materials (plastic, metal and glass), such as coffee makers, microwaves, fans, irons, hair dryers, and electrical kitchen ware.
41	**Glass Containers**	Contamination	All clear, green, blue, and amber glass bottles and jars as well as broken container glass pieces.
42	**Bagged Waste**	Contamination	Any bagged material with more than 20% of non-recyclables or heavily contaminated recyclables. Does not include clean,

#	Material Categories	Accepted or Contamination	Description of Categories
			bagged recyclables.
43	**Bagged Recyclables**	Contamination	Any bagged material with 20% or less of non-recyclables. Bagged recyclables will be set aside, aggregated from all samples, then opened and sorted.
44	**Full Containers**	Contamination	Any containers filled by 25% or more of food or liquid.
45	**Tanglers**	Contamination	Any materials that could potentially be tanglers during processing, such as hoses, extension cords, Christmas lights, and metal strapping.
46	**Hazardous/ Special Waste**	Contamination	All hazardous or other waste that would require special disposal, including motor oil and oil filters, fluorescent lights, paints, solvents, pesticides, and medical wastes.
47	**Spiral Paper Cans**	Contamination	Spiral containers composed of paper and metal (e.g., Pringles cans).
48	**Large Contaminants**	Contamination	Large non-recyclable items that may be composed of one or more materials. Examples include furniture, large household items, coolers, blankets, construction and demolition debris, large pieces of yard waste, and large bags of yard waste or clothing.
49	**Other Contaminants**	Contamination	Materials not included in the other categories, such as fast food lids and straws, plastics and mixed-material clothes hangers, loose plastic caps and lids, plastic cutlery and plates CDs and VHS tapes, composite materials, yard waste, diapers, interlocked/multi-material products that cannot be separated, electronics, and non-container glass.
50	**Grit**	Contamination	All material that falls through a ½ square inch mesh.
51	**Liquids***	Excluded from composition	All liquids found within containers filled by less than 25% of food or liquid.

*These residual liquids are assumed to be lost during processing and are not included in the composition.

Appendix B: Individual RCS Sample Results (percent by weight)

	Hauler/Location	Pittsboro Compactor	Pittsboro Spare	Harpers Crossroads Main	Harpers Crossing Spare	Cole Park Compactor	Cole Park Spare
	Material Categories sample #	**1**	**2**	**3**	**4**	**5**	**6**
1	Corrugated Cardboard	37.4%	31.7%	23.3%	43.1%	44.4%	9.1%
2	Clean Pizza Boxes	0.6%	0.0%	0.8%	0.0%	1.0%	0.2%
3	Dirty Pizza Boxes	0.0%	0.0%	0.0%	0.5%	0.0%	0.3%
4	Wet Corrugated Cardboard	0.0%	0.2%	0.0%	14.7%	2.1%	0.3%
5	Newspaper	0.1%	0.4%	1.7%	1.6%	1.4%	3.0%
6	Magazines and Catalogs	4.3%	9.6%	20.6%	2.7%	9.2%	44.6%
7	Mixed Recyclable Paper	21.0%	21.9%	23.0%	9.2%	19.7%	19.7%
8	Wet Paper	1.1%	6.3%	0.1%	6.3%	0.9%	5.1%
9	Shredded Paper	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Film-Wrapped Paper	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
11	Aseptic Containers/ Cartons	0.2%	0.7%	0.0%	0.0%	0.8%	0.3%
12	Low Grade Paper	0.5%	0.5%	0.1%	0.1%	0.1%	0.5%
13	PET Bottles (#1)	10.2%	8.2%	10.7%	11.5%	3.8%	3.2%
14	PET Drink Cups (#1)	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%
15	PET Clamshells (#1)	1.1%	0.3%	0.0%	0.0%	0.2%	0.4%
16	Other Non-Bottle PET Containers (#1)	0.4%	0.6%	0.2%	0.0%	0.7%	0.5%
17	Natural HDPE Bottles (#2)	3.3%	1.9%	2.6%	1.7%	1.4%	1.4%
18	Colored HDPE Bottles (#2)	2.4%	1.3%	1.9%	2.4%	1.8%	0.5%
19	HDPE Tubs (#2)	0.0%	0.2%	0.2%	0.0%	0.1%	0.0%
20	Other Non-Bottle HDPE Containers (#2)	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
21	PP Bottles (#5)	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%
22	PP Tubs (#5)	0.7%	0.0%	0.5%	0.0%	0.4%	0.2%
23	PP Drink Cups (#5)	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%
24	PP Clamshells (#5)	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%
25	Other Non-Bottle PP Containers (#5)	0.8%	0.2%	0.8%	0.0%	0.8%	0.1%
26	Other Narrow-Neck Bottles (#3,4,6,7)	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
27	Other Plastic Drink Cups (#3,4,6,7)	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%
28	Plastic Clamshells (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
29	Other Plastic Containers (#3,4,6,7)	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%
30	Plastic Bottles That Held Toxics	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
31	Bulky Rigid Plastics	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%
32	Expanded Polystyrene (EPS) Foam	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%
33	Non-Rigid Plastic Film	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
34	Tin/Steel Cans	6.0%	3.7%	5.3%	0.6%	3.1%	1.8%
35	Ferrous Scrap Metals	0.3%	0.0%	0.1%	0.0%	0.0%	0.2%
36	Aluminum Cans	4.4%	8.0%	4.3%	4.6%	2.0%	1.3%
37	Aluminum Foil and Trays	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%
38	Nonhazardous Aerosol Cans	0.3%	0.0%	0.4%	0.0%	0.0%	0.1%
39	Non-Ferrous Scrap Metals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
40	E-Waste & Small Appliances	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
41	Glass Containers	1.8%	2.1%	0.7%	0.0%	0.0%	3.6%
42	Bagged Waste	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
43	Bagged Recyclables	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
44	Full Containers	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%
45	Tanglers	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%
46	Hazardous/ Special Waste	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%
47	Spiral Paper Cans	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%
48	Large Contaminants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	Other Contaminants	1.8%	1.0%	0.5%	0.7%	2.6%	2.7%
50	Grit	0.1%	0.0%	0.0%	0.1%	0.2%	0.5%
	Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
	Annual Site Tonnage	307.55		22.11		447.39	
	Source Fraction	12%	12%	1%	1%	18%	18%

Note: Columns may not appear to correctly sum due to rounding.

Appendix B: Individual RCS Sample Results (percent by weight) (cont.)

	Hauler/Location	Siler City Compactor	Siler City Spare	Martha's Chapel Main	Martha's Chapel Spare	Hadley Main	Hadley Spare
	Material Categories sample #	**7**	**8**	**9**	**12**	**10**	**11**
1	Corrugated Cardboard	28.5%	23.9%	30.7%	46.7%	26.8%	19.3%
2	Clean Pizza Boxes	0.0%	0.1%	0.0%	0.2%	0.1%	0.2%
3	Dirty Pizza Boxes	0.4%	0.4%	0.1%	0.0%	0.0%	0.0%
4	Wet Corrugated Cardboard	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
5	Newspaper	0.8%	0.2%	0.4%	8.4%	3.3%	3.6%
6	Magazines and Catalogs	11.0%	7.8%	14.0%	2.3%	4.7%	20.1%
7	Mixed Recyclable Paper	24.1%	15.8%	28.2%	17.3%	37.3%	23.7%
8	Wet Paper	1.0%	1.4%	0.0%	0.0%	7.1%	1.4%
9	Shredded Paper	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Film-Wrapped Paper	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
11	Aseptic Containers/ Cartons	0.7%	0.3%	0.1%	0.4%	0.4%	0.3%
12	Low Grade Paper	0.2%	0.4%	1.1%	0.1%	0.2%	0.2%
13	PET Bottles (#1)	6.5%	3.7%	7.1%	8.1%	4.2%	8.6%
14	PET Drink Cups (#1)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15	PET Clamshells (#1)	0.2%	0.1%	0.1%	0.8%	0.0%	0.2%
16	Other Non-Bottle PET Containers (#1)	0.1%	0.1%	0.3%	0.8%	0.2%	0.4%
17	Natural HDPE Bottles (#2)	1.6%	0.6%	1.6%	1.5%	0.4%	2.2%
18	Colored HDPE Bottles (#2)	2.4%	1.1%	1.4%	1.5%	0.9%	2.4%
19	HDPE Tubs (#2)	0.1%	0.0%	0.2%	1.2%	0.3%	0.0%
20	Other Non-Bottle HDPE Containers (#2)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21	PP Bottles (#5)	0.1%	0.0%	0.6%	0.0%	0.0%	0.0%
22	PP Tubs (#5)	0.2%	0.2%	0.2%	0.7%	0.4%	0.5%
23	PP Drink Cups (#5)	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
24	PP Clamshells (#5)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
25	Other Non-Bottle PP Containers (#5)	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%
26	Other Narrow-Neck Bottles (#3,4,6,7)	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%
27	Other Plastic Drink Cups (#3,4,6,7)	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
28	Plastic Clamshells (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
29	Other Plastic Containers (#3,4,6,7)	0.1%	0.2%	0.2%	0.3%	0.1%	0.0%
30	Plastic Bottles That Held Toxics	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31	Bulky Rigid Plastics	0.0%	0.6%	0.0%	3.3%	0.0%	0.0%
32	Expanded Polystyrene (EPS) Foam	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%
33	Non-Rigid Plastic Film	0.5%	1.4%	0.1%	0.3%	0.2%	0.1%
34	Tin/Steel Cans	4.4%	1.7%	4.1%	1.9%	3.6%	6.3%
35	Ferrous Scrap Metals	0.0%	0.5%	0.1%	0.0%	0.0%	0.3%
36	Aluminum Cans	2.1%	1.3%	2.8%	1.8%	4.2%	6.0%
37	Aluminum Foil and Trays	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
38	Nonhazardous Aerosol Cans	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%
39	Non-Ferrous Scrap Metals	0.0%	0.3%	0.0%	0.4%	0.0%	0.0%
40	E-Waste & Small Appliances	1.3%	0.0%	0.4%	0.0%	0.0%	0.0%
41	Glass Containers	3.6%	28.0%	1.2%	0.0%	3.9%	2.8%
42	Bagged Waste	2.6%	0.0%	0.0%	0.0%	0.0%	0.1%
43	Bagged Recyclables	0.0%	0.0%	0.1%	0.6%	0.0%	0.0%
44	Full Containers	0.6%	0.5%	0.0%	0.0%	0.0%	0.0%
45	Tanglers	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
46	Hazardous/ Special Waste	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
47	Spiral Paper Cans	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%
48	Large Contaminants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	Other Contaminants	4.1%	8.3%	4.0%	0.4%	1.1%	1.3%
50	Grit	2.9%	0.5%	0.2%	0.0%	0.1%	0.1%
	Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
	Annual Site Tonnage	111.12		87.75		63.11	
	Source Fraction	4%	4%	3%	3%	2%	2%

Note: Columns may not appear to correctly sum due to rounding.

Appendix B: Individual RCS Sample Results (percent by weight) (cont.)

	Hauler/Location	Moncure Main	Moncure Spare	Asbury Main	Asbury Spare	Bennett Main	Bennett Spare
	Material Categories sample #	**13**	**14**	**15**	**16**	**17**	**19**
1	Corrugated Cardboard	12.2%	31.8%	21.7%	9.2%	21.3%	28.1%
2	Clean Pizza Boxes	0.0%	0.0%	0.0%	0.6%	0.0%	2.8%
3	Dirty Pizza Boxes	0.0%	0.3%	0.3%	1.0%	0.0%	0.5%
4	Wet Corrugated Cardboard	0.0%	1.7%	0.0%	0.0%	1.4%	1.4%
5	Newspaper	1.2%	0.4%	4.1%	1.9%	1.0%	0.6%
6	Magazines and Catalogs	21.4%	4.3%	20.0%	21.9%	9.8%	8.7%
7	Mixed Recyclable Paper	16.7%	19.3%	18.3%	23.3%	21.2%	23.9%
8	Wet Paper	1.5%	8.7%	5.3%	0.0%	3.2%	8.0%
9	Shredded Paper	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Film-Wrapped Paper	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11	Aseptic Containers/ Cartons	1.5%	1.0%	0.9%	1.2%	0.3%	0.7%
12	Low Grade Paper	0.1%	0.2%	0.3%	0.6%	0.6%	0.0%
13	PET Bottles (#1)	12.9%	11.1%	9.1%	18.2%	17.0%	8.3%
14	PET Drink Cups (#1)	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
15	PET Clamshells (#1)	0.3%	0.1%	0.1%	0.5%	0.1%	0.3%
16	Other Non-Bottle PET Containers (#1)	0.8%	0.3%	0.2%	0.4%	0.0%	0.3%
17	Natural HDPE Bottles (#2)	1.3%	1.8%	1.7%	2.5%	2.8%	1.6%
18	Colored HDPE Bottles (#2)	2.6%	2.2%	1.4%	2.2%	4.4%	1.3%
19	HDPE Tubs (#2)	0.4%	0.4%	0.3%	0.3%	0.5%	0.3%
20	Other Non-Bottle HDPE Containers (#2)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21	PP Bottles (#5)	0.1%	0.0%	0.2%	0.3%	0.0%	0.1%
22	PP Tubs (#5)	0.5%	0.3%	0.5%	0.3%	0.4%	0.7%
23	PP Drink Cups (#5)	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
24	PP Clamshells (#5)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
25	Other Non-Bottle PP Containers (#5)	0.1%	0.2%	0.2%	0.2%	0.0%	0.2%
26	Other Narrow-Neck Bottles (#3,4,6,7)	0.1%	0.1%	0.3%	0.0%	0.0%	0.0%
27	Other Plastic Drink Cups (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
28	Plastic Clamshells (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
29	Other Plastic Containers (#3,4,6,7)	0.1%	0.2%	0.2%	0.1%	0.0%	0.1%
30	Plastic Bottles That Held Toxics	1.0%	0.0%	0.2%	0.0%	0.3%	0.0%
31	Bulky Rigid Plastics	0.3%	0.2%	0.0%	0.0%	0.2%	0.8%
32	Expanded Polystyrene (EPS) Foam	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
33	Non-Rigid Plastic Film	0.7%	0.2%	0.2%	0.2%	0.0%	0.1%
34	Tin/Steel Cans	6.4%	6.3%	3.5%	4.8%	7.1%	5.0%
35	Ferrous Scrap Metals	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
36	Aluminum Cans	9.4%	5.2%	5.7%	5.6%	4.8%	2.4%
37	Aluminum Foil and Trays	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
38	Nonhazardous Aerosol Cans	0.3%	0.2%	0.0%	0.2%	0.0%	0.0%
39	Non-Ferrous Scrap Metals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
40	E-Waste & Small Appliances	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
41	Glass Containers	2.5%	1.5%	2.6%	0.5%	0.7%	0.7%
42	Bagged Waste	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
43	Bagged Recyclables	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%
44	Full Containers	0.0%	0.0%	0.4%	0.0%	0.6%	1.1%
45	Tanglers	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
46	Hazardous/ Special Waste	0.3%	0.0%	0.2%	0.0%	0.3%	0.5%
47	Spiral Paper Cans	0.3%	0.0%	0.1%	0.1%	0.0%	0.2%
48	Large Contaminants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	Other Contaminants	2.6%	1.9%	1.6%	3.4%	1.6%	0.9%
50	Grit	0.3%	0.2%	0.5%	0.3%	0.1%	0.2%
	Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
	Annual Site Tonnage	35.06		42.84		15.52	
	Source Fraction	1%	1%	2%	2%	1%	1%

Note: Columns may not appear to correctly sum due to rounding.

Appendix B: Individual RCS Sample Results (percent by weight) (cont.)

	Hauler/Location	Crutchfield Main	Crutchfield Spare	Bonlee Compactor	Bonlee Spare	Goldston Main	Goldston Spare	Main Facility
	Material Categories sample #	**18**	**20**	**21**	**22**	**23**	**24**	**25**
1	Corrugated Cardboard	11.3%	24.9%	41.6%	17.2%	24.3%	28.4%	81.6%
2	Clean Pizza Boxes	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%
3	Dirty Pizza Boxes	0.2%	0.0%	0.0%	1.9%	0.0%	0.5%	0.0%
4	Wet Corrugated Cardboard	0.5%	2.2%	3.3%	1.7%	0.0%	0.0%	0.6%
5	Newspaper	1.3%	0.9%	2.9%	1.1%	2.9%	2.5%	0.2%
6	Magazines and Catalogs	30.0%	4.0%	2.6%	2.0%	23.4%	13.4%	2.4%
7	Mixed Recyclable Paper	20.9%	18.0%	18.5%	19.6%	15.7%	17.5%	6.9%
8	Wet Paper	9.7%	14.4%	0.1%	8.0%	0.8%	0.0%	1.3%
9	Shredded Paper	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
10	Film-Wrapped Paper	0.0%	0.9%	0.2%	0.1%	0.0%	0.0%	0.0%
11	Aseptic Containers/ Cartons	0.3%	0.4%	0.4%	1.2%	0.7%	0.5%	0.1%
12	Low Grade Paper	0.1%	0.7%	0.1%	0.4%	0.1%	0.2%	1.3%
13	PET Bottles (#1)	8.4%	15.4%	10.4%	15.4%	8.8%	14.2%	1.0%
14	PET Drink Cups (#1)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15	PET Clamshells (#1)	0.1%	0.5%	0.4%	0.2%	0.0%	0.0%	0.0%
16	Other Non-Bottle PET Containers (#1)	0.0%	0.0%	0.1%	0.4%	0.0%	0.0%	0.1%
17	Natural HDPE Bottles (#2)	1.5%	3.1%	3.0%	2.6%	1.6%	2.0%	0.0%
18	Colored HDPE Bottles (#2)	1.2%	1.7%	1.4%	2.0%	2.6%	3.0%	0.3%
19	HDPE Tubs (#2)	0.2%	0.2%	0.5%	0.1%	0.0%	0.5%	0.0%
20	Other Non-Bottle HDPE Containers (#2)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21	PP Bottles (#5)	0.1%	0.4%	1.2%	0.1%	0.0%	0.3%	0.0%
22	PP Tubs (#5)	0.3%	0.4%	0.6%	0.3%	0.7%	0.4%	0.1%
23	PP Drink Cups (#5)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
24	PP Clamshells (#5)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
25	Other Non-Bottle PP Containers (#5)	0.2%	0.1%	0.3%	0.4%	0.2%	0.0%	0.0%
26	Other Narrow-Neck Bottles (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
27	Other Plastic Drink Cups (#3,4,6,7)	0.0%	0.0%	0.1%	0.5%	0.0%	0.0%	0.0%
28	Plastic Clamshells (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
29	Other Plastic Containers (#3,4,6,7)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
30	Plastic Bottles That Held Toxics	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
31	Bulky Rigid Plastics	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.1%
32	Expanded Polystyrene (EPS) Foam	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
33	Non-Rigid Plastic Film	0.1%	0.3%	0.8%	0.0%	0.0%	0.1%	0.1%
34	Tin/Steel Cans	3.5%	2.1%	3.0%	11.2%	10.9%	8.3%	0.3%
35	Ferrous Scrap Metals	0.7%	0.3%	0.0%	0.1%	0.0%	0.1%	0.1%
36	Aluminum Cans	6.0%	7.0%	1.9%	5.8%	5.0%	6.2%	0.4%
37	Aluminum Foil and Trays	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
38	Nonhazardous Aerosol Cans	0.1%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%
39	Non-Ferrous Scrap Metals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
40	E-Waste & Small Appliances	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
41	Glass Containers	1.6%	0.7%	0.5%	4.3%	1.4%	0.0%	0.0%
42	Bagged Waste	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
43	Bagged Recyclables	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%
44	Full Containers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
45	Tanglers	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%
46	Hazardous/ Special Waste	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
47	Spiral Paper Cans	0.0%	0.1%	0.1%	0.1%	0.0%	0.2%	0.0%
48	Large Contaminants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	Other Contaminants	1.4%	0.7%	3.5%	1.5%	0.6%	1.0%	2.2%
50	Grit	0.1%	0.1%	0.2%	0.2%	0.1%	0.6%	0.5%
	Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
	Annual Site Tonnage	34.88		60.74		32.30		11.57
	Source Fraction	1%	1%	2%	2%	1%	1%	1%

Note: Columns may not appear to correctly sum due to rounding.

Appendix C: RCS Photos

Conducting the RCS

Load of mixed recyclables

Example of large volume of magazines

Broken glass bottles in a sample

Wood lumber found in a sample

Large piece of plastic film found in a sample