



## TECHNICAL MEMORANDUM

**TO:** Melissa Doyle, City of Fort Lauderdale, Solid Waste Coordinator

**FROM:** Robin Mitchell, Project Manager

**DATE:** July 1, 2014

**SUBJ:** **City of Fort Lauderdale Recyclable Materials Composition Study - Revised**

**PROJ #:** 137-01

Kessler Consulting, Inc. (KCI) is pleased to submit this report to the City of Fort Lauderdale (City) detailing the results of the Recyclables Composition Study (RCS) conducted in April 2014.

The purpose of the RCS was to determine the composition of incoming recyclables collected within the City and delivered to Sun-Bergeron (Sun) for processing. The results of the RCS will aid the City and Sun in calculating the average market value (AMV) of the City's recyclables as specified in their contract.

### Methodology

To determine the composition of the City's recycling stream, KCI pulled representative samples from the each of the City's routes over a one-week, six-day collection cycle during the week of April 14-19, 2014. All samples were collected and sorted according to the sampling and sorting protocol developed by KCI, which was reviewed and approved by City and Sun staff prior to the start of the field work. The material categories utilized during the RCS were also pre-approved by both entities and are provided in Attachment A.

During the event, representatives of Sun and the City were invited to the site to oversee both sampling and sorting operations. No issues were raised by Sun or City staff during the event.

Table 1, below, details the number of loads sampled each day during the field work, as well as the average number of routes delivered to the Sun 11 facility each week during the month of March 2014.

**Table 1: Sampling Schedule**

	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total	Average Routes/wk March 2014
Routes Sampled	5	6	4	6	5	1	27	24.5

Following the sorting event, the data was analyzed as outlined in the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste (D5231-92; reapproved 2008)* to determine the percentage by weight of each material category. In addition to the weighted average, the 90 percent confidence interval was calculated for each material category. The confidence interval indicates that, with a 90 percent level of confidence, the actual arithmetic mean (the arithmetic mean obtained if an infinite number of samples were sorted) is within the upper and lower limits shown. This provides an understanding of how much variation occurred in the quantity of that material category in the samples sorted. Generally, the more homogeneous the recycling stream and the greater the number of samples sorted, the higher the level of accuracy achieved and the narrower the margin between the upper and lower bounds of the confidence interval.

## Study Results

The following table presents the results of the RCS, as well as the 90 percent confidence intervals. Individual sample results are provided in Attachment B.

**Table 2: City of Fort Lauderdale Curbside Single Stream Recyclables Composition (% by weight)**

Material Categories		Weighted Average	Standard Deviation	90% Confidence Intervals	
				Lower Bounds	Upper Bounds
1	Newspaper	12.5%	8.3%	9.8%	15.2%
2A	Corrugated Containers	13.7%	6.2%	11.7%	15.8%
2B	Waxy Cardboard	0.0%	0.1%	0.0%	0.1%
3A	Mixed Paper	25.3%	5.1%	23.6%	26.9%
3B	Loose Shredded Paper	0.3%	0.6%	0.1%	0.5%
4	Aseptic Containers	0.6%	0.3%	0.5%	0.6%
5	PET Bottles	4.6%	2.0%	3.9%	5.2%
6	Natural HDPE Bottles	1.6%	1.1%	1.3%	2.0%
7	Colored HDPE Bottles	1.6%	0.7%	1.3%	1.8%
8A	Non Bottle PET	1.0%	0.5%	0.8%	1.2%
8B	Non Bottle HDPE	0.5%	0.4%	0.3%	0.6%
8C	Styrofoam Containers	0.2%	0.2%	0.2%	0.3%
8D	Mixed Plastic Containers	1.4%	0.5%	1.3%	1.6%
9	Bulky Rigid Plastic	2.3%	2.2%	1.5%	3.0%
10	Plastic Film	1.7%	0.7%	1.5%	1.9%
11	Non-Container Styrofoam	0.2%	0.1%	0.1%	0.2%
12	Glass Containers	16.0%	9.8%	12.8%	19.2%
13A	Aluminum Cans	1.9%	1.7%	1.3%	2.4%
13B	Aluminum Foil and Pie Plates	0.2%	0.2%	0.2%	0.3%
14A	Tin/Steel Cans	1.5%	0.6%	1.2%	1.7%
14B	Scrap Metals	0.6%	0.7%	0.4%	0.8%
15	Rejects	8.9%	5.4%	7.2%	10.7%
16	Grit	3.3%	3.9%	2.0%	4.5%
17	Liquids	0.2%	0.5%	0.1%	0.4%
TOTALS		100.0%			

Columns may not appear to add correctly due to rounding.

To assist in determining how the results of the RCS affect the contract between the City and Sun, KCI has recalculated the AMV included in the contract. Table 3 provides the current contract composition and resulting AMV, as well as the AMV based on the results of the 2014 RCS. The following items should be noted regarding these calculations.

- For purposes of this analysis, the Regional Average prices for the Southeast USA first published in the month of April 2014 in RecyclingMarkets.net were utilized.
- Based on conversations with RecyclingMarkets.net staff, KCI’s understanding is that market specifications for commodities are based on those established by the Institute for Scrap Recycling Industries (ISRI). According to ISRI’s Guidelines for Plastic Scrap (P-2013), the specifications for PET and Natural and Colored HDPE are intended for bottles only; therefore, using these indexes for non-bottle PET and HDPE is not appropriate. Combining these materials with Plastics #3-#7 and using the Plastics #1-7 index likewise is not appropriate since that index assumes that the bottle PET and HDPE are included in the mix. Therefore, for the purposes of the AMV calculation, KCI recommends applying the Plastics #3-7 index, which includes bottles and other containers, to the non-bottle PET and HDPE.

**Table 3: City of Fort Lauderdale AMV Calculation and Comparison for April 2014**

Option A Categories	RCS Category Number	Market Value April 2014 (\$/Ton)	2012 Contract		2014 RCS Results	
			Material %	AMV (\$/Ton)	Material %	AMV (\$/Ton)
Newspaper	1	\$70.00	17.0%	\$11.90	12.48%	\$8.74
Corrugated Containers	2A	\$120.00	10.0%	\$12.00	13.74%	\$16.49
Mixed Paper	3A	\$52.50	24.5%	\$12.86	25.26%	\$13.26
Steel Cans	14A	\$115.00	3.7%	\$4.26	1.46%	\$1.68
Aluminum Cans	13A	\$1,490.00	2.4%	\$35.76	1.85%	\$27.57
Plastic #3-#7	8A, 8B, 8D, 9	\$25.00	5.3%	\$1.33	5.17%	\$1.29
PET	5	\$415.00	5.7%	\$23.66	4.55%	\$18.88
Natural HDPE	6	\$840.00	2.2%	\$18.48	1.65%	\$13.86
Colored HDPE	7	\$630.00	3.2%	\$20.16	1.56%	\$9.83
Glass 3-Mix	12	(\$10.00)	22.5%	(\$2.25)	16.05%	(\$1.61)
Aseptic Containers	4	n/a	0.5%	\$0.00	0.55%	\$0.00
Contamination	2B, 3B, 8C, 10, 11, 13B, 14B-17	\$0.00	3.0%	\$0.00	15.68%	\$0.00
<i>Columns may not appear to add correctly due to rounding.</i>			100.0%	\$138.15	100.00%	\$109.99

The RCS revealed higher percentages of corrugated cardboard, mixed paper and contamination, but lower percentages of newspaper and all container types. The net result is a reduction in the AMV. The RCS provides a more accurate composition of the City’s recyclables than that provided in the original contract, which was based on available data from other jurisdictions. Therefore, the RCS results and corresponding AMV shall provide a fair and equitable revenue share between the parties going forward, or until further adjusted in a future composition study.

CC: Lonnie Bergeron and Phil Medico, Sun-Bergeron

## Attachment A

### Material Category Definitions

#	Material Categories	Description of Categories
1	<b>Newspaper</b>	Newspaper (loose or tied) including other paper normally distributed inside newspaper such as ads, flyers, etc. Newspaper found inside plastic sleeve will be removed from plastic and sorted accordingly.
2A	<b>Corrugated Cardboard (OCC)</b>	Brown "cardboard" boxes with a wavy core (no plastic liners or packaging Styrofoam®). Does not include small pieces of OCC within shrink wrap plastic such as that from a case of bottled water.
2B	<b>Wax Coated OCC</b>	All wax coated OCC will be sorted and weighed separately from non-wax OCC.
3A	<b>Residential Mixed Paper</b>	Printed or unprinted paper including white, colored, coated and uncoated papers, manila and pastel colored file folders, magazines, telephone books, catalogs, paperboard, chipboard, brown paper bags, mail, bagged shredded paper, and other printed material on glossy and non-glossy paper.
3B	<b>Shredded Paper</b>	Loose shredded residential mixed paper or newspaper.
4	<b>Aseptic Containers</b>	Gable top milk cartons, juice boxes, and other similar containers.
5	<b>PET Bottles (SPI #1) Polyethylene terephthalate</b>	Clear and colored plastic bottles coded PET #1 such as soda bottles and water bottles label with SPI #1. <i>Does not include loose caps and lids.</i>
6	<b>NATURAL HDPE Bottles (SPI #2) High-density polyethylene</b>	Clear/natural plastic bottles coded HDPE #2 such as milk jugs, vinegar bottles and gallon water bottles. <i>Does not include loose caps and lids.</i>
7	<b>COLORED HDPE Bottles (SPI #2) High-density polyethylene</b>	Pigmented plastic bottles coded HDPE #2 such as detergent, shampoo, and orange juice bottles. <i>Does not include loose caps and lids.</i>
8A	<b>Non-Bottle PET</b>	Clear and colored plastic items labeled PET #1 such as clamshell containers, frozen food trays, disposable cups, and other items labeled PET #1.
8B	<b>Non-Bottle HDPE</b>	Wide-mouthed tubs and containers labeled HDPE #2, including lids. Examples include yogurt cups, margarine tubs, Cool Whip® tubs and other non-bottle HDPE items.
8C	<b>Expanded Polystyrene Containers</b>	Styrofoam® containers such as egg cartons and clamshell food containers.
8D	<b>Other Mixed Plastic Containers</b>	All plastic containers coded #3-#7, such as containers, pill bottles, Arizona Iced Tea™ gallon jugs, etc.
9	<b>Bulky Rigid Plastics</b>	Consists of non-container rigid plastic items such as plastic drums, crates, buckets, baskets, toys, refuse totes, lawn furniture, flower pots, laundry baskets, and other large plastic items. <i>Does not include electronic toys.</i>
10	<b>Plastic Film</b>	Loose and bagged plastic bags, garbage bags, shrink wrap, re-sealable bags, etc.

## Attachment A Material Category Definitions (continued)

<b>11</b>	<b>Non-Container Expanded Polystyrene</b>	Non-container Styrofoam® such as packaging peanuts and other packaging.
<b>12</b>	<b>Mixed Glass Containers and Jars</b>	Clear, Green, and Amber glass bottles and jars as well as broken glass pieces larger than ½ square inch.
<b>13A</b>	<b>Aluminum Cans</b>	Aluminum soft drink, beer, and some food cans.
<b>13B</b>	<b>Other Aluminum</b>	Aluminum foil, pie plates, and clean catering trays.
<b>14A</b>	<b>Tin/Steel Cans</b>	Tin-plated steel cans, usually food containers and aerosol cans, including labels. Also includes steel caps.
<b>14B</b>	<b>Scrap Metals</b>	Non-container ferrous scrap metals such as pipes, coat hangers, and miscellaneous scrap metal.
<b>15</b>	<b>Rejects</b>	Materials not included in the other categories, such as bagged garbage, fast food lids and straws, CDs and VHS tapes, composite materials, Christmas lights, hoses, electronics, recyclable items full of food (non-liquid), loose plastic caps and lids, or plastic cutlery and plates.
<b>16</b>	<b>Grit</b>	All items that fall through a half inch mesh.
<b>17</b>	<b>Liquids</b>	All liquids found within recyclable containers.

## Attachment B

### City of Fort Lauderdale Single Stream Individual Sample Results (percent by weight)

		FTL 4/14 #2410	FTL 4/14 #2501	FTL 4/14 #2445	FTL 4/14 #2454	FTL 4/14 #2413	FTL 4/15 #2410	FTL 4/15 #2027	FTL 4/15 #2445
Material Category	Sample #	1	3	7	8	10	15	20	23
1	Newspaper	1.03%	26.56%	14.28%	17.06%	11.04%	13.13%	24.10%	21.48%
2A	Corrugated Containers	15.07%	7.00%	14.99%	10.93%	25.75%	15.74%	23.13%	8.24%
2B	Waxy Cardboard	0.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3A	Mixed Paper	29.84%	22.45%	21.44%	26.46%	30.09%	25.63%	20.57%	29.37%
3B	Loose Shredded Paper	0.00%	0.33%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%
4	Aseptic Containers	0.17%	0.29%	1.03%	0.68%	0.61%	0.57%	0.53%	0.36%
5	PET Bottles	2.90%	4.62%	4.10%	3.18%	3.76%	4.23%	4.74%	3.07%
6	Natural HDPE Bottles	0.60%	1.01%	1.55%	1.97%	1.42%	2.36%	1.61%	0.72%
7	Colored HDPE Bottles	1.05%	1.54%	1.39%	2.52%	1.45%	1.77%	1.38%	0.82%
8A	Non Bottle PET	0.57%	1.22%	2.84%	0.58%	0.82%	1.57%	0.35%	1.16%
8B	Non Bottle HDPE	0.21%	0.14%	0.61%	0.00%	0.91%	0.27%	0.25%	0.35%
8C	Styrofoam Containers	0.06%	0.20%	0.65%	0.31%	0.04%	0.17%	0.19%	0.14%
8D	Mixed Plastic Containers	0.67%	1.13%	1.46%	1.37%	1.77%	1.85%	1.09%	0.90%
9	Bulky Rigid Plastic	0.42%	1.96%	0.91%	0.14%	1.10%	6.53%	0.92%	0.13%
10	Plastic Film	0.60%	0.89%	1.19%	1.44%	1.57%	1.54%	1.47%	1.88%
11	Non Container Styrofoam	0.03%	0.18%	0.13%	0.57%	0.08%	0.04%	0.28%	0.37%
12	Glass Containers	40.47%	18.40%	22.67%	24.17%	2.24%	16.20%	6.95%	7.82%
13A	Aluminum Cans	0.86%	1.24%	1.06%	0.62%	2.28%	0.91%	2.77%	9.88%
13B	Aluminum Foil and Pie Plates	0.05%	0.07%	0.42%	0.00%	0.14%	0.15%	0.28%	0.13%
14A	Tin/Steel Cans	0.94%	1.00%	2.27%	1.53%	1.58%	1.29%	1.78%	1.33%
14B	Scrap Metals	0.01%	0.16%	0.00%	1.75%	1.88%	0.18%	0.20%	0.26%
15	Rejects	2.02%	5.24%	3.15%	4.19%	10.29%	5.24%	6.95%	11.03%
16	Grit	1.61%	3.89%	2.21%	0.52%	1.18%	0.50%	0.46%	0.55%
17	Liquids	0.10%	0.49%	0.63%	0.00%	0.00%	0.15%	0.00%	0.00%
TOTALS		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Due to rounding, composition totals may not appear to add correctly.*

## Attachment B (continued)

### City of Fort Lauderdale Single Stream Individual Sample Results (percent by weight)

		FTL 4/15 #2413	FTL 4/15 #2502	FTL 4/15 #2501	FTL 4/16 #2410	FTL 4/16 #2445	FTL 4/16 #2501	FTL 4/16 #2089	FTL 4/17 #2413
Material Category	Sample #	24	27	31	34	37	38	39	42
1	Newspaper	11.34%	8.01%	17.61%	27.98%	0.85%	8.99%	10.12%	2.53%
2A	Corrugated Containers	24.23%	8.13%	12.74%	7.88%	26.39%	8.92%	19.45%	8.53%
2B	Waxy Cardboard	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3A	Mixed Paper	15.17%	30.57%	26.76%	28.97%	19.64%	16.37%	27.66%	26.87%
3B	Loose Shredded Paper	0.00%	0.00%	0.00%	1.12%	0.00%	1.28%	0.60%	0.35%
4	Aseptic Containers	0.79%	0.76%	0.60%	0.29%	0.25%	0.40%	0.96%	0.72%
5	PET Bottles	6.91%	3.36%	3.47%	2.45%	5.23%	10.37%	2.91%	5.38%
6	Natural HDPE Bottles	5.29%	0.92%	1.24%	1.44%	3.26%	2.91%	1.18%	1.17%
7	Colored HDPE Bottles	1.54%	0.46%	2.85%	0.46%	1.88%	2.62%	1.59%	1.34%
8A	Non Bottle PET	0.71%	1.10%	0.37%	0.74%	0.56%	0.81%	0.98%	0.93%
8B	Non Bottle HDPE	1.56%	1.14%	0.34%	0.31%	0.33%	1.10%	0.32%	0.71%
8C	Styrofoam Containers	0.50%	0.50%	0.05%	0.08%	0.42%	0.13%	0.56%	0.29%
8D	Mixed Plastic Containers	1.67%	0.90%	1.24%	0.72%	1.97%	1.34%	2.43%	1.44%
9	Bulky Rigid Plastic	4.29%	6.55%	1.13%	5.23%	1.21%	3.70%	2.49%	2.45%
10	Plastic Film	2.16%	0.81%	1.68%	1.73%	3.76%	1.99%	2.62%	1.40%
11	Non Container Styrofoam	0.33%	0.41%	0.00%	0.19%	0.06%	0.18%	0.19%	0.24%
12	Glass Containers	7.61%	24.43%	5.39%	9.56%	6.89%	17.00%	15.48%	25.84%
13A	Aluminum Cans	1.88%	1.06%	1.64%	1.01%	1.22%	1.25%	1.90%	1.30%
13B	Aluminum Foil and Pie Plates	0.06%	0.37%	0.34%	0.09%	0.09%	0.46%	0.27%	0.55%
14A	Tin/Steel Cans	1.40%	1.65%	1.35%	0.76%	0.67%	2.48%	1.34%	1.63%
14B	Scrap Metals	0.00%	0.73%	0.00%	2.92%	0.14%	0.99%	0.87%	0.31%
15	Rejects	10.18%	6.71%	6.15%	3.99%	22.73%	13.87%	5.46%	13.82%
16	Grit	2.38%	0.82%	15.06%	2.08%	1.91%	0.75%	0.62%	1.05%
17	Liquids	0.00%	0.61%	0.00%	0.00%	0.53%	2.07%	0.00%	1.16%
	TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Due to rounding, composition totals may not appear to add correctly.*

**Attachment B (continued)**  
**City of Fort Lauderdale Single Stream Individual Sample Results (percent by weight)**

		FTL 4/17 #2445	FTL 4/17 #2501	FTL 4/17 #2401	FTL 4/17 #2454	FTL 4/17 #2413	FTL 4/18 #2454	FTL 4/18 #2445	FTL 4/18 #2413
<b>Material Category</b>	<b>Sample #</b>	<b>46</b>	<b>48</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>57</b>	<b>60</b>	<b>61</b>
1	Newspaper	14.09%	9.94%	30.60%	3.44%	11.63%	5.08%	4.56%	4.45%
2A	Corrugated Containers	10.29%	7.49%	7.11%	18.00%	18.02%	22.02%	9.50%	11.42%
2B	Waxy Cardboard	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3A	Mixed Paper	19.61%	24.67%	24.76%	37.10%	26.72%	16.38%	23.06%	26.20%
3B	Loose Shredded Paper	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.25%	0.00%
4	Aseptic Containers	0.82%	0.77%	0.11%	0.72%	0.40%	1.00%	0.59%	0.54%
5	PET Bottles	5.84%	5.61%	1.30%	6.29%	4.14%	7.61%	6.51%	3.35%
6	Natural HDPE Bottles	2.68%	0.67%	1.37%	2.48%	0.85%	2.48%	1.60%	0.79%
7	Colored HDPE Bottles	1.67%	0.92%	1.15%	2.50%	0.75%	2.46%	2.79%	1.12%
8A	Non Bottle PET	1.46%	0.50%	2.21%	1.28%	0.97%	0.76%	1.05%	1.04%
8B	Non Bottle HDPE	0.62%	0.34%	0.02%	0.30%	0.21%	0.94%	1.06%	0.37%
8C	Styrofoam Containers	0.43%	0.35%	0.14%	0.18%	0.05%	0.68%	0.26%	0.25%
8D	Mixed Plastic Containers	2.20%	1.44%	0.87%	0.85%	1.88%	1.45%	1.71%	1.43%
9	Bulky Rigid Plastic	3.10%	0.24%	1.12%	1.87%	1.65%	7.38%	0.46%	0.43%
10	Plastic Film	0.95%	1.25%	2.01%	1.72%	2.50%	1.59%	2.57%	2.55%
11	Non Container Styrofoam	0.15%	0.11%	0.03%	0.14%	0.18%	0.00%	0.10%	0.06%
12	Glass Containers	26.72%	27.82%	6.03%	11.77%	9.90%	10.04%	25.98%	19.80%
13A	Aluminum Cans	1.36%	0.98%	0.75%	2.64%	1.36%	1.69%	2.56%	2.16%
13B	Aluminum Foil and Pie Plates	0.24%	0.24%	0.21%	0.09%	0.18%	0.69%	0.14%	0.05%
14A	Tin/Steel Cans	1.80%	1.35%	0.00%	1.15%	1.34%	2.67%	1.93%	2.79%
14B	Scrap Metals	1.19%	1.11%	0.22%	0.00%	0.26%	0.77%	0.21%	1.30%
15	Rejects	3.76%	13.33%	11.73%	7.15%	12.88%	13.44%	8.64%	5.52%
16	Grit	1.02%	0.78%	8.25%	0.30%	4.13%	0.72%	3.46%	14.36%
17	Liquids	0.00%	0.11%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%
	<b>TOTALS</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Due to rounding, composition totals may not appear to add correctly.*



**Attachment B (continued)**  
**City of Fort Lauderdale Single Stream Individual Sample Results (percent by weight)**

		FTL 4/18 #2501	FTL 4/18 #2410	FTL 4/19 #2454	Weighted Avg.
<b>Material Category</b>	<b>Sample #</b>	<b>63</b>	<b>67</b>	<b>68</b>	
1	Newspaper	4.00%	12.88%	11.58%	<b>12.48%</b>
2A	Corrugated Containers	18.34%	16.62%	13.00%	<b>13.74%</b>
2B	Waxy Cardboard	0.00%	0.00%	0.00%	<b>0.03%</b>
3A	Mixed Paper	19.91%	28.13%	28.67%	<b>25.26%</b>
3B	Loose Shredded Paper	0.00%	0.98%	2.15%	<b>0.31%</b>
4	Aseptic Containers	0.93%	0.29%	0.33%	<b>0.55%</b>
5	PET Bottles	8.24%	5.25%	2.31%	<b>4.55%</b>
6	Natural HDPE Bottles	3.17%	2.24%	1.09%	<b>1.65%</b>
7	Colored HDPE Bottles	2.88%	1.42%	1.43%	<b>1.56%</b>
8A	Non Bottle PET	0.67%	1.05%	0.77%	<b>1.02%</b>
8B	Non Bottle HDPE	0.52%	0.25%	0.14%	<b>0.46%</b>
8C	Styrofoam Containers	0.35%	0.08%	0.10%	<b>0.24%</b>
8D	Mixed Plastic Containers	1.27%	2.10%	1.89%	<b>1.44%</b>
9	Bulky Rigid Plastic	5.95%	3.18%	1.89%	<b>2.25%</b>
10	Plastic Film	1.31%	1.00%	0.92%	<b>1.70%</b>
11	Non Container Styrofoam	0.22%	0.00%	0.11%	<b>0.16%</b>
12	Glass Containers	1.94%	17.09%	29.60%	<b>16.05%</b>
13A	Aluminum Cans	1.99%	1.41%	0.87%	<b>1.85%</b>
13B	Aluminum Foil and Pie Plates	0.33%	0.04%	0.19%	<b>0.21%</b>
14A	Tin/Steel Cans	2.15%	1.00%	0.80%	<b>1.46%</b>
14B	Scrap Metals	0.00%	0.00%	0.14%	<b>0.61%</b>
15	Rejects	20.51%	3.82%	1.66%	<b>8.95%</b>
16	Grit	5.32%	1.02%	0.38%	<b>3.26%</b>
17	Liquids	0.00%	0.14%	0.00%	<b>0.22%</b>
<b>TOTALS</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Due to rounding, composition totals may not appear to add correctly.*