



December 9, 2015

Performance Audit

Friedman Recycling of Albuquerque, LLC – Contract Revenue

City of Albuquerque

Report No. 15-111



CITY OF ALBUQUERQUE MATERIAL RECOVERY FACILITY



CLAUDIO VIGIL ARCHITECTS

Image credit: CABQ website

**CITY OF ALBUQUERQUE
OFFICE OF INTERNAL AUDIT**

PERFORMANCE AUDIT REPORT
FRIEDMAN RECYCLING OF ALBUQUERQUE, LLC
SOLID WASTE MANAGEMENT DEPARTMENT
REPORT NO. 15-111

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Friedman Recycling of Albuquerque, LLC

Solid Waste Management
Department

12/9/2015

Audit #15-111

The purpose of this audit was to review and report on the accuracy of revenue paid to the City of Albuquerque (City) by Friedman Recycling of Albuquerque, LLC. (Friedman). The audit was included in OIA's Fiscal Year 2015 audit plan.

Benefits



Since 2011, more than 91,000 tons (over 182 million pounds) of recyclable materials have been diverted from the landfill and delivered to Friedman to be recycled. Without the recycling program of today, those materials would be taking up space in the landfill, increasing the City's disposal costs, and increasing greenhouse gas emissions.

By continuing to educate and increase participation in the recycling program, the City, through its contract with Friedman, may further reap the benefits of recycling such as saving energy and resources.

Executive Summary

In 2011, the Solid Waste Management Department (SWMD) contracted with Friedman to construct a local area single-stream Materials Recovery Facility (MRF). A single-stream MRF is a recycling facility that can accept, sort, and process comingled recyclable materials. Friedman completed the MRF construction and began accepting city-wide recyclable materials in 2013.

The contract between the City and Friedman specifies that the City will deliver a minimum of 3,200 tons of recyclable materials to Friedman monthly. Although the City has not consistently reached the minimum delivery goal of 3,200 tons per month, the amount of recyclable materials delivered to Friedman is increasing.

The audit found certain errors and discrepancies with regard to the calculations of recycling revenue and tipping fees. However, each error had been identified by either the SWMD or Friedman and accurately corrected prior to the audit. Discrepancies were noted on the tipping fee schedule but were also corrected prior to having any financial impact to the City. As a result, no findings have been included in this report.

Recycling helps keep disposal costs down while preserving natural resources and protecting the air, soil, and groundwater. Much of the more than 1,800 tons of trash generated by the City each day can be recycled.



City of Albuquerque

Office of Internal Audit

December 9, 2015

Accountability in Government Oversight Committee
P.O. Box 1293
Albuquerque, New Mexico 87103

Audit: Friedman Recycling of Albuquerque, LLC – Contract Revenue
Solid Waste Management Department
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FINAL

INTRODUCTION

The Office of Internal Audit (OIA) conducted a contract revenue audit of the contract between the City of Albuquerque (City) and Friedman Recycling of Albuquerque, LLC (Friedman). The audit was included in OIA's fiscal year (FY) 2015 audit plan. Information pertaining to the audit objectives, scope and methodology can be found in **Appendix A**.

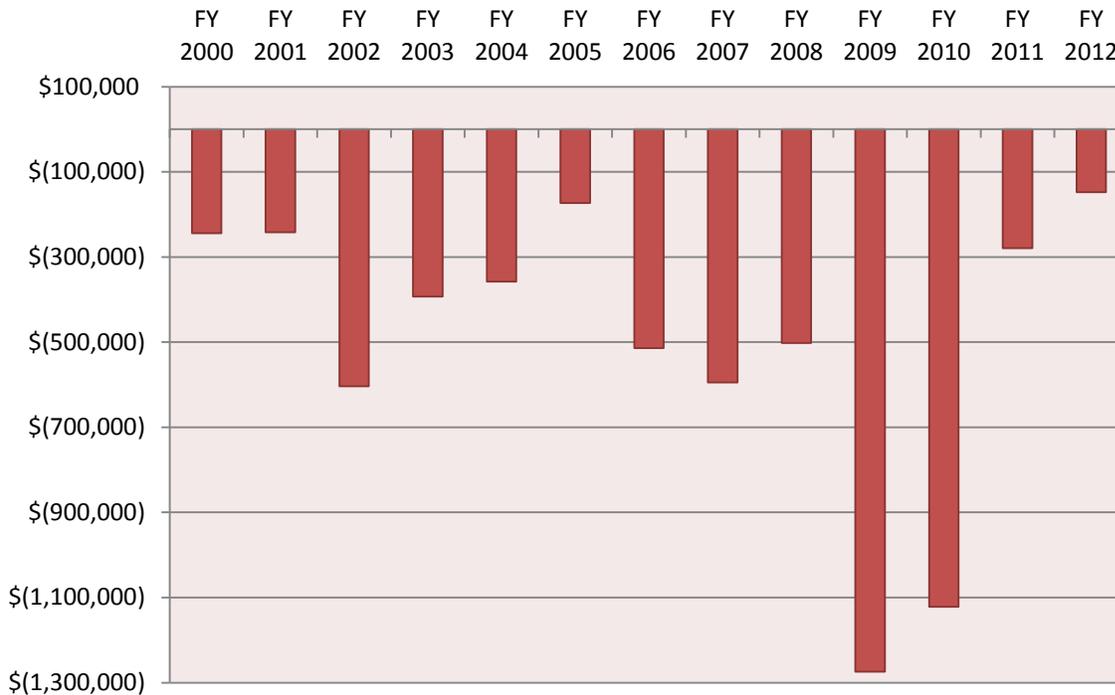
Recycling Program

Recycling helps keep disposal costs down while preserving natural resources and protecting the air, soil, and groundwater. Much of the more than 1,800 tons of trash generated by the city each day can be recycled.

The evolution of the City's recycling program began with a voluntary weekly curbside service to approximately 175,000 households. The service was manual and involved residents setting out recyclables in clear plastic bags that were provided by the City. In 1993, the City opened an Intermediate Processing Facility (IPF). An IPF is a recycling center that accepts source-separated recyclable materials (recyclable materials that are pre-sorted by the participants and kept separate for processing) and processes the recyclable materials through mechanical and manual means into their constituent components. The City's IPF could only process approximately 1,000 tons of materials per month and was not cost effective.

The chart below illustrates the cost associated with the City's IPF recycling program.

IPF Losses - Fiscal Years 2000 through 2012



Source: SWMD Documentation

Although the IPF was small and not cost effective, it was successful in diverting nearly 150,000 tons of recyclable materials away from the City’s landfill.

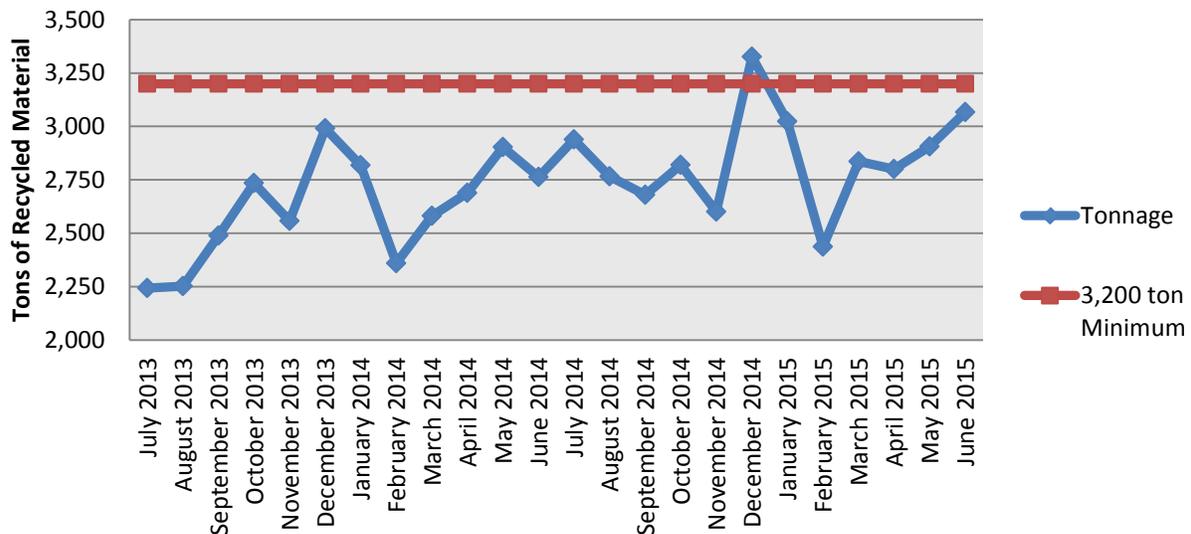
Prior to contracting with Friedman, the City directly operated all aspects of refuse and recycling, including collection, transfer and transport, recycling processing, disposal, promotion and education, organization and administration and bills for services as an enterprise fund.

In 2011, the Solid Waste Management Department (SWMD) contracted with Friedman to construct a local area single-stream Materials Recovery Facility (MRF). A single-stream MRF is a recycling facility that can accept, sort, and process comingled recyclable materials. Friedman completed the MRF construction and began accepting city-wide recyclable materials in 2013.

Tonnage

The contract between the City and Friedman specifies that the City will deliver a minimum of 3,200 tons of recyclable materials to Friedman monthly. The graph below illustrates the total tons of recyclable materials delivered to Friedman for the 24-month period July 1, 2013 through June 30, 2015.

Tonnage Delivered July 2013 - June 2015



Source: Friedman Revenue Share Reports

Although the City has not consistently reached the minimum delivery goal of 3,200 tons per month, the amount of recyclable materials delivered to Friedman is increasing. The success of any recycling program is fully dependent upon participation. The level of participation and the quality of materials turned in depend on information presented to and understood by the participants – the more informed and educated the participants are about the recycling program, the higher the participation levels and attentiveness to the quality of recyclable materials submitted.

In an effort to improve participation in the City’s recycling program and increase the tonnage, the City is currently running a “2 pounds more” campaign. This campaign strives to get participants to submit two pounds more of recyclable materials per week. In collaboration with the City’s efforts to increase tonnage, and to increase participation through visual understanding of the process, Friedman gives tours of the MRF once a month, three times a day.

Recycling Compensation

The compensation and expenses associated with the Recycling Program involve a series of calculations for composite value, revenue share, residual/contaminated materials, tipping fee or rebate, and volume sliding scale adjustments. Each of these components of recycling compensation is described below.

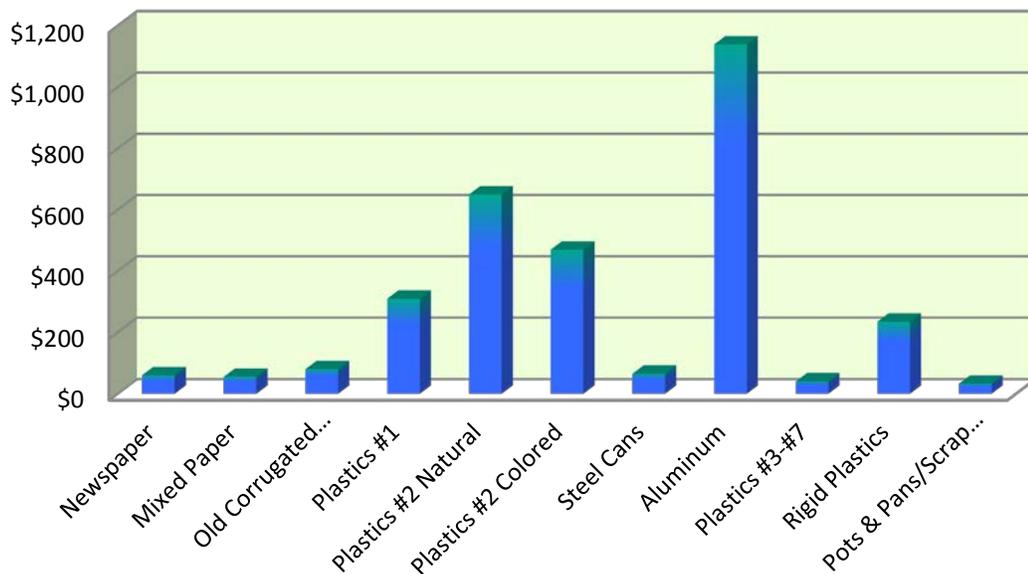
A. Composite Value

Compensation for the recycling is based on tons delivered and the commodity prices for the various types of recyclables. The recyclable materials are sorted into 12 categories:

- Newspaper
- Mixed paper
- Old corrugated containers
- Plastics #1 (drink bottles, etc.)
- Plastics #2 Natural (milk jugs, etc.)
- Plastics #2 Colored (detergent bottles, etc.)
- Steel cans
- Aluminum
- Plastics #3 - #7
- Rigid Plastics
- Pots & Pans/Scrap metal
- Residual non-recyclable – zero value

The index price for each commodity fluctuates daily. Prices for some commodities are fairly steady, such as for paper, while others fluctuate significantly. For example, In December 2014 the price for 1 ton of aluminum was \$1,180 but in June 2015 the price had dropped to \$820 per ton; a 31 percent decrease in index price. The index price of each recyclable commodity in January 2015 is shown in the chart below.

Recycled Commodity Value (per ton) January 2015



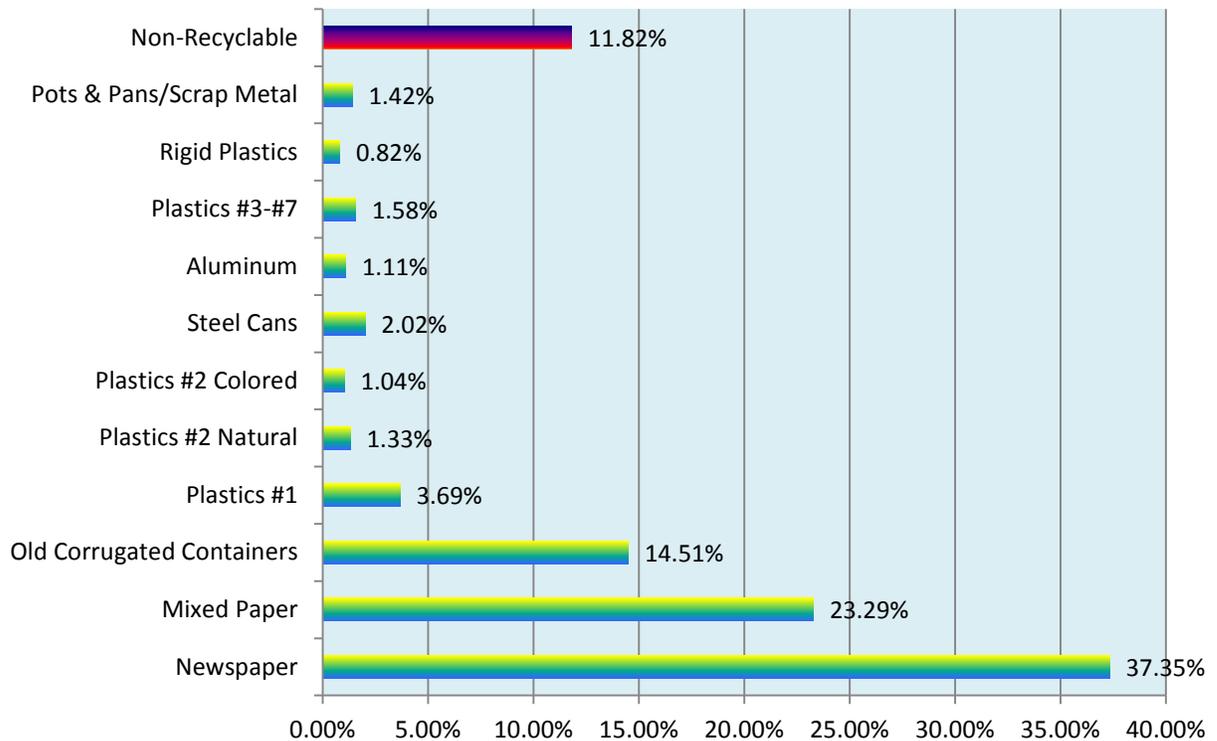
Source: Friedman Monthly Revenue Reports

The composite value is the weighted average of the recyclable commodities and each commodity’s current index price. The stronger the commodities market, the more likely the City will receive a tipping rebate rather than a fee. The percentage of each commodity is determined by a “materials audit” conducted by Friedman.

The original materials audit was conducted when the program started. The percentages determined at that time were used for all revenue calculations through August 2015. The

percentages derived are shown in the table below.

Composition of Albuquerque Recyclables First Materials Audit

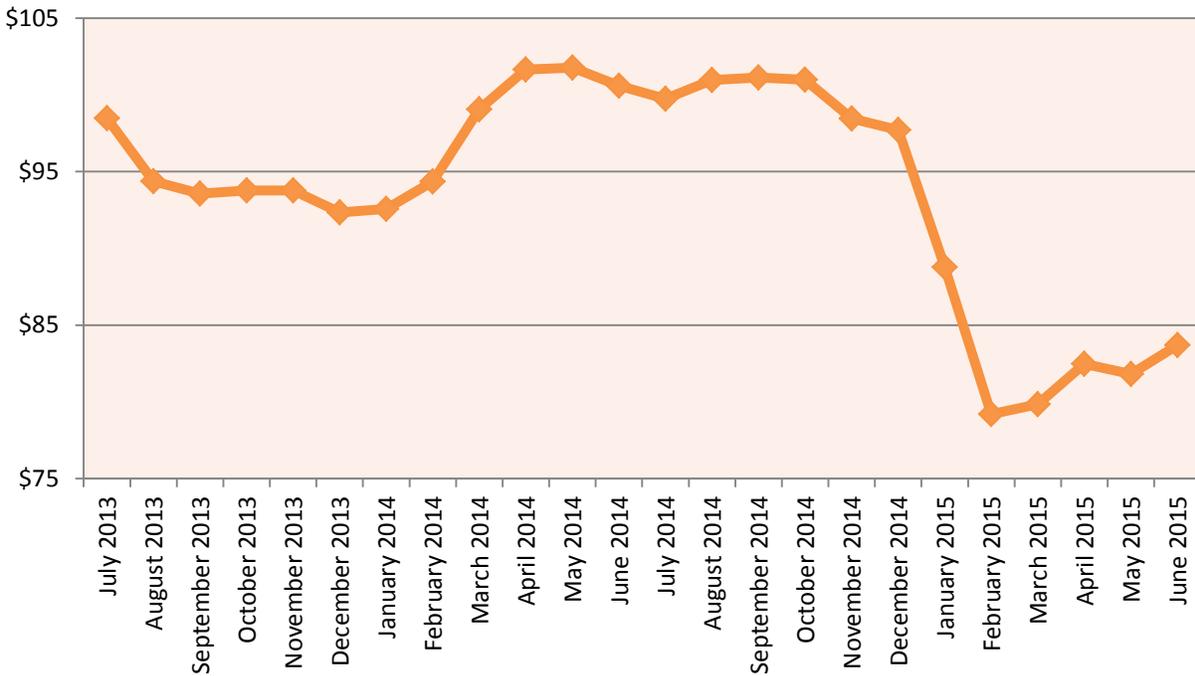


Source: Friedman Monthly Revenue Reports

The most recent materials audit was conducted August 26, 2015. Over a period of one week, a sample of approximately 150 tons of the City’s recyclable materials delivered to Friedman was collected. The sampled materials were processed, separated into unique commodities and weighed by commodity (ex: aluminum, rigid plastic, etc.). Each commodity’s weight was divided by the total weight of the sample and converted into a percentage.

To calculate the weighted average, each commodity’s percentage is multiplied by the commodity’s current index price. The sum of these calculations is the weighted average per ton (composite value). The composite value fluctuates with the price of the individual commodities. The monthly composite values from January 2013 through June 2015 are illustrated below.

Composite Values July 2013 - June 2015



Source: Friedman Monthly Revenue Reports

The contract allows the City to request a “materials audit” at least (once) annually but no more than semi-annually. By educating citizens and encouraging increased recycling of higher value commodities, the composite value of the recycled materials could be increased, which would increase the City’s revenue share and decrease tipping fees. After a strong educational campaign, the City could request another materials audit.

B. Revenue Share

The contract requires that the composite value must be more than \$85 for the City to receive revenue. When the composite value exceeds \$85, the City’s revenue share is 70 percent of the difference between actual composite value and \$85. For example, in January 2015, the composite value was \$88.79. The revenue share was calculated as:

January 2015 Revenue Share Calculation	
Composite Value Per Ton	\$88.79
Less \$85	-\$85.00
Revenue to be Shared Per Ton	\$3.79
City Share Per Ton 70%	\$2.65

When the composite value falls below \$85 the City does not receive revenue share.

C. Residual/Contaminated Materials

The recycling materials delivered to Friedman by the City of Albuquerque include some items which cannot be recycled and some items that are contaminated by excess food and other debris. Friedman segregates those items and determines their percentage of the total composition during the “materials audit.” The residual materials was calculated at 11.8 percent for the initial audit.

The contract states that if the residual rate exceeds 15 percent during any materials audit, Friedman may charge the City an additional fee for “the actual cost of the additional handling and disposal costs incurred....” The materials audit conducted in August 2015 resulted in a residual rate of approximately 20 percent; however, Friedman has not added an additional charge for the increase in the residual materials.

D. Tipping Fee or Rebate

The corresponding tipping fee or rebate is determined by the weighted average of the composite value of recyclable materials delivered. The following schedule, which is included in the contract, documents the corresponding fee or rebate:

Tip Fee/Rebate Calculation Schedule	
Composite Value	Fee/Rebate
\$85.00 and below	\$7.00/ton fee (charge)
\$85.01 to \$94.99	\$4.00/ton fee (charge)
\$95.00 to \$99.99	Zero
\$100 to \$104.99	\$5.00/ton rebate
\$105 and above	\$10/ton rebate

Source: Contract documents

In January 2015, the tipping fee was \$4.00 per ton because the composite value was \$88.79. The City has no control over the commodities markets; however, it is clear that strong

commodities markets result in a higher composite value, which leads to tipping rebates rather than tipping fees.

E. Volume Sliding Scale (Materials Shortages)

The City is contractually obligated to deliver a minimum of 3,200 tons of recyclable materials to Friedman monthly. Adjustments are made for delivering less than the 3,200 ton minimum and have a significant impact on the City’s revenue and expenses associated with the recycling program. According to the contract, when the City does not deliver a minimum of 3,200 tons per month, a sliding scale adjustment of \$.04 per ton short can be applied to the tipping fee of all materials delivered that month. Since April 2014, when the adjustment became effective and was first applied, the City has paid Friedman over \$580,000 for delivering less than 3,200 tons per month minimum, as detailed below:

**Volume Sliding Scale Adjustments
 (Fees paid for Shortages)**

Month	Tons Delivered	Minimum Delivery	Shortage	Minimum Delivery Penalty	Tip Fee Adjustment	Total Shortage Fees
April 2014	2688.93	(3200)	(511.07)	\$ 0.04	\$ 20.44	\$ 27,494.31 *
May 2014	2903.25	(3200)	(296.75)	\$ 0.04	\$ 11.87	\$ 34,461.58
June 2014	2763.34	(3200)	(436.66)	\$ 0.04	\$ 17.47	\$ 48,275.55
July 2014	2939.42	(3200)	(260.58)	\$ 0.04	\$ 10.42	\$ 30,658.15
August 2014	2765.43	(3200)	(434.57)	\$ 0.04	\$ 17.38	\$ 48,090.83
September 2014	2680.39	(3200)	(519.61)	\$ 0.04	\$ 20.78	\$ 55,725.31
October 2014	2820.13	(3200)	(379.87)	\$ 0.04	\$ 15.19	\$ 42,865.98
November 2014	2600.42	(3200)	(599.58)	\$ 0.04	\$ 23.98	\$ 62,384.08
December 2014	3325.77	(3200)	125.77	\$ 0.04	N/A **	N/A **
January 2015	3023.59	(3200)	(176.41)	\$ 0.04	\$ 7.06	\$ 21,346.55
February 2015	2437.27	(3200)	(762.73)	\$ 0.04	\$ 30.51	\$ 74,361.11
March 2015	2836.85	(3200)	(363.15)	\$ 0.04	\$ 14.53	\$ 41,219.43
April 2015	2801.06	(3200)	(398.94)	\$ 0.04	\$ 15.96	\$ 44,704.92
May 2015	2906.43	(3200)	(293.57)	\$ 0.04	\$ 11.74	\$ 34,121.49
June 2015	3066.65	(3200)	(133.35)	\$ 0.04	\$ 5.33	\$ 16,345.24

Source: OIA verification of shortage calculations

Total paid for shortages \$ 582,054.53 ***

* Adjustment applied to 1/2 month

** No adjustment - City met minimum tonnage

*** Minor rounding errors were noted in the tip fee adjustment

The shortage fees are calculated by multiplying the tip fee adjustment by the actual tons

delivered. For example, in January 2015, the City delivered 3,023.59 tons of recyclables to Friedman, which is 176.41 tons less than the required minimum. At \$0.04 per ton for the shortage, that creates a tip fee adjustment of \$7.06. When the \$7.06 is multiplied by the total tons delivered of 3,023.59, the total shortage fee for January was \$21,346.55.

The total tons of recyclable materials delivered to Friedman is dependent upon participation by the citizens of Albuquerque. By delivering recyclable materials in excess of 3,200 tons per month, the City will avoid paying the adjustment for shortages.

To calculate the total recyclable compensation/expense using January 2015 as an example, the calculation would be as follows:

January 2015 City Compensation/Expenses

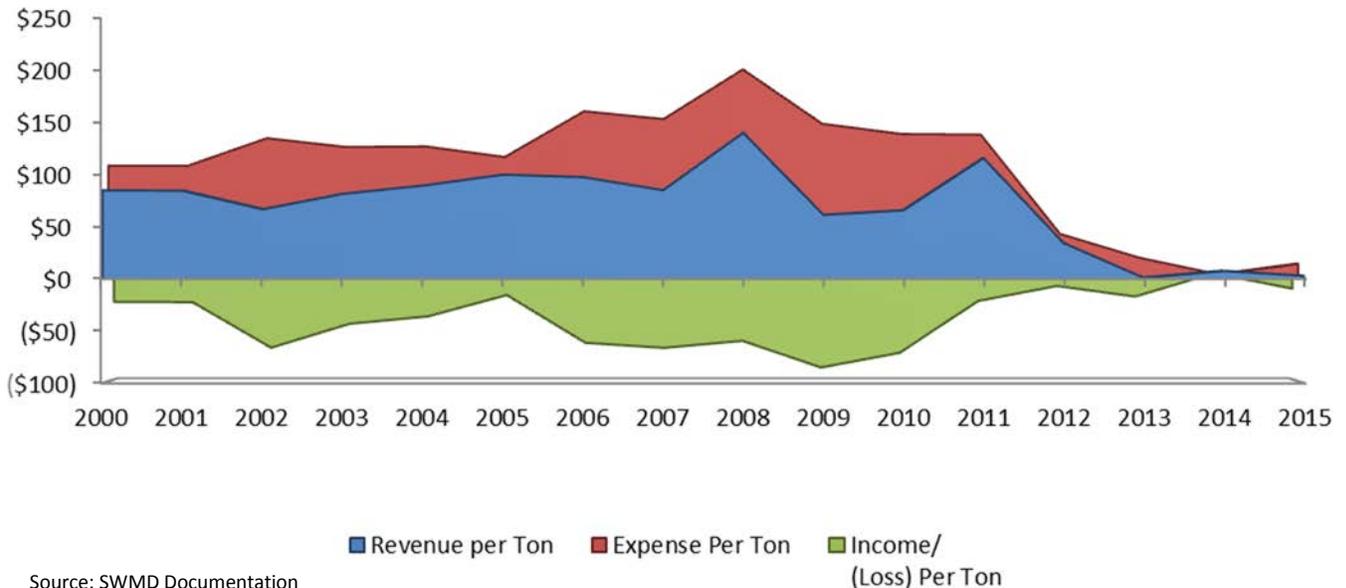
	Amount	Calculation	Total
Tons Delivered to Friedman	3,023.59		
Composite Value	\$88.79		
Revenue Share per Ton	\$2.65	3,023.59 x \$2.65	\$8,012.51
Tipping Fee	(\$4.00)	3,023.59 x (\$4.00)	(\$12,094.36)
Volume Sliding Scale Adjustment	(\$7.06)	3,023.59 x (\$7.06)	(\$21,346.55)
TOTAL January 2015			(\$25,428.40)

Each month the City may receive revenue for the recyclables delivered to Friedman, or may owe Friedman a fee for processing the receivables. The revenue and expense are based on the number of tons of recyclables delivered to Friedman, and the composite value of the commodities.

Cost to the City

Prior to contracting with Friedman, the City’s loss per ton of materials was significantly higher and fluctuated greatly, ranging from losses of \$17 per ton to losses of nearly \$89 per ton. The graph below illustrates the revenue per ton, expense per ton, and overall cost per ton to the City before and after contracting with Friedman.

Cost Per Ton Fiscal Years 2000 - 2015



FINDINGS

The scope of this audit solely addressed the accuracy of the recycling revenue. As the tipping fees and shortage adjustments impact the net recycling revenue, OIA performed testwork in these areas to provide additional assurance. OIA obtained and reviewed all supporting documentation pertaining to the revenue, tipping fees and shortage calculations. Supporting documentation was provided for each month of the 24-month audit period and no exceptions were noted. Commodity values were independently confirmed to ensure accuracy – all values were accurate. OIA verified that the formulas used to calculate recycling revenue, tipping fees, and shortages were the same as those identified in the contract. Additionally, all revenue, tipping fees, and shortage amounts were recalculated.

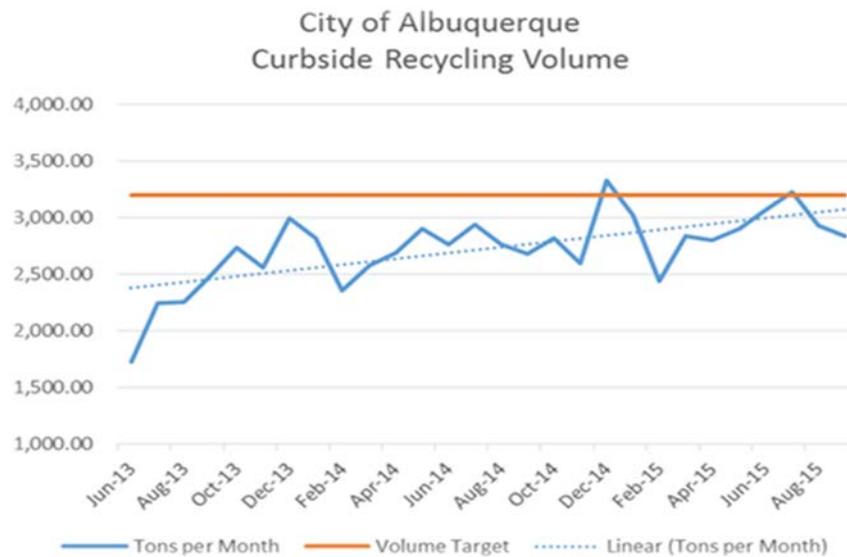
The audit did find certain errors or discrepancies with regard to the calculations of recycling revenue and tipping fees. The errors noted involved the calculation of the City’s revenue share. From July 2013 through July 2014, the revenue share was calculated at a higher percentage than the 70 percent specified in the contract. However, each error had been identified by either the SWMD or Friedman and accurately corrected prior to the audit. Discrepancies were noted on the

tipping fee schedule but were also corrected prior to having any financial impact to the City. As a result, no findings have been included in this report.

SWMD RESPONSE

“The department would like to submit the following comments to Audit Report No. 15-111, Friedman Recycling of Albuquerque, LLC – Contract Review:

- *Even though there were no findings, this report is valuable. The report is the most comprehensive description of the intricacies of the Friedman contract that has been written. Anyone who takes the time to read the report will come away with a clear understanding of the contract provisions and how they interact with the commodities markets, tons delivered by the City of Albuquerque, composite values, shared revenues and expenses, and penalties.*
- *The graph entitled “Tonnage Delivered July 2013-June 2015” (page 3) would perhaps be clearer with the addition of a trend line across the tonnage delivered. This would illustrate the statement, “...the amount of recyclable materials delivered to Friedman is increasing” in the first paragraph. See a similar graph provided by Friedman Recycling below. Also, the department exceeded the minimum tonnage threshold in July 2015 (3,231 tons), although the date falls outside of the scope of the audit. We continue to improve. So far in FY’16, we show a 7.2% increase in tons delivered year over year.”*



CONCLUSION

The diligence, attention to detail and accuracy noted during the audit are commendable. Throughout the audit process, the personnel at the SWMD and Friedman Recycling were cooperative and involved. The time, active participation, and assistance of everyone involved were greatly appreciated throughout the audit process.

The citizens of Albuquerque have an opportunity to increase the City's recycling revenue and reduce expenses by increasing the overall weight of recycled commodities, focusing recycling efforts on those commodities that have higher index pricing and reducing the amount of residual/contaminated materials placed in recycling bins.

The City's recycling program and contract with Friedman have been successful. Since 2011, more than 91,000 tons (over 182 million pounds) of recyclable materials have been diverted from the landfill and delivered to Friedman to be recycled. Without the recycling program of today, those materials would be taking up space in the landfill, increasing the City's disposal costs, and increasing greenhouse gas emissions. By continuing to educate and increase participation in the recycling program, the City, through its contract with Friedman, may further reap the benefits of recycling such as saving energy and resources.

Contract Auditor

REVIEWED:

Internal Audit Manager

APPROVED:

Debra Yoshimura, CPA, CIA, CGAP
Director, Office of Internal Audit

APPROVED FOR PUBLICATION:

Chairperson, Accountability in
Government Oversight Committee

APPENDIX A

OBJECTIVE

The audit objective was to determine if the City of Albuquerque is receiving the correct amounts of recycling revenue from Friedman Recycling of Albuquerque, LLC.

SCOPE

Our audit did not include an examination of all functions and activities related to the Solid Waste Management Department or Friedman Recycling of Albuquerque, LLC contract. Our scope was limited to the objective above.

This report and its conclusions are based on information taken from a sample of transactions and do not represent an examination of all related transactions and activities. The audit report is based on our examination of activities through the completion of fieldwork on October 5, 2015, and does not reflect events or accounting entries after that date.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

METHODOLOGY

Methodologies used to accomplish the audit objectives include but are not limited to the following.

- Reviewing revenue reports,
- Reviewing supporting documentation,
- Performing trend analysis,
- Recalculating revenue share computations,
- Testing computation elements for accuracy,
- Performing a walkthrough of the Albuquerque recycling facility, and
- Observing a materials audit.