RECOMMENDATION REPORT

SAC STUDY

SAC TASK FORCE METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

Date: December 20, 2017 Project No.: 15888.007





SAINT PAUL, MINNESOTA
DECEMBER 20, 2017

RECOMMENDATION REPORT

SAC STUDY

METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

TKDA PROJECT No. 15888.007

I hereby certify that these Specifications were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Leigh E. Severson, PE License No. 54169

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I. Executive Summary

Background

The Sewer Availability Charge (SAC) is a one-time fee charged to any user connecting to the Metropolitan Disposal System (MDS), based on maximum potential demand, and is used to pay for debt service on the capital investment and rehabilitation of the system. The appropriate SAC for all new businesses connecting to the MDS is determined by completing a SAC determination. Whether the business is changing or not, remodels also require a determination so that the Metropolitan Council Environmental Services (MCES) can evaluate if the maximum potential demand has changed. MCES has heard from communities and end-users (i.e., businesses), that the current determination criteria are complex and difficult to understand. This complexity increases the time required to complete determinations, frequently resulting in 2-3 week wait times. In 2016, a cross-functional, cross-regional task force was formed to explore options to simplify the determination process.

Project Goal

The project goal is to simplify the methodology in applying SAC criteria so determinations are easier to understand and simpler to complete. Simpler determinations should lead to faster turnaround times, and, in the long run, reduced MCES resources. In addition to simplifying the process, the recommended changes will reduce SAC collection for interior remodels unless the business type changes. This will reduce the volume of determinations required, but will also reduce the potential revenue collected. The financial goal is for the net revenue generated by the methodology change to be neutral, both by category and across the system. To achieve this, slight adjustments were made to the criteria to recapture lost regional SAC unit assignments.

Data Summary

The dataset used for analysis consisted of 4,264 SAC determinations completed by MCES and reported by the Communities during the years 2013-2015. The focus of the changes to the SAC determinations that MCES is looking to change are those based on the business area. Since the determinations analyzed are not all area based, thirty-nine business types were chosen that are mainly commercial, with some institutional included. Businesses with process water were generally avoided, since MCES is not looking to change those calculations through this task force.

Approach

To determine the gross square foot per SAC (GSF/SAC), first the gross square foot (GSF) of the business needed to be summarized by determination. This was usually calculated at the time of the SAC determination. In instances where GSF was missing from the worksheet because it was not needed for the original SAC calculation, the interior GSF was calculated using the plans attached to the SAC determination. The GSF calculation excluded the following areas: vestibules, stairs and stair landings, elevators, and electrical/mechanical equipment rooms that only have access through an exterior door. For business types with outdoor seating, an outdoor seating GSF was calculated using the same method for indoor GSF. When the determination was for an addition or a remodel, only the project area was used to calculate the GSF.

The GSF data were tabulated by the SAC and business type. GSF by original SAC were plotted to determine correlation strength. Data points were analyzed and outliers were removed from further analysis. A strong correlation between GSF and the original SAC would have a R² value of at least 80%.

Findings

Several options were explored to determine the recommended GSF/SAC. After comparing all of the options, Scenario 4C was chosen as the recommendation for GSF/SAC. Scenario 4C removed data outside two standard deviations and used the median, rounded down to the nearest 50, as the GSF/SAC recommendation.



Challenges

Multiple use businesses posed the largest challenge. There was a lot of crossover between different categories which made it difficult to apply a single criterion. After initial analysis, it was determined that more definitive criteria should be implemented to avoid confusion between categories and align with the goal of simplifying the SAC determination process.

Recommendations

After analyzing the data it is recommended that future SAC determinations:

- 1. Use the 'Recommended GSF/SAC Charge' summarized in Appendix B-1 for individual and combined category GSF/SAC rates.
- 2. Combine the seventeen (17) categories into six (6) categories using Table 1.
- 3. Define the "Office" category as office businesses with less than 10% incidental uses.
- 4. Define the "Warehouse" category as warehouse businesses with less than 10% incidental uses.
- 5. Define the "Retail" category as retail businesses with less than 10% incidental uses.
- 6. Define Bakery as a business with no indoor seating and must have retail space. If the bakery has indoor seating, it should be classified as a restaurant. If the bakery does not have retail, e.g., if it is a wholesale bakery, it should be classified as "Warehouse" or "Office/Retail/Warehouse" based on percentages of building use.
- 7. Define the "Brewery/Distillery" category as a brewery or distillery with production space and customer seating. If the whole SAC was from bar seating, it should be categorized as "Restaurant". If the whole SAC is from production space, it should be classified as "Warehouse" or "Office/Retail/Warehouse" based on percentages of building use.
- 8. Rename "Multiple Use" category to "Retail Multiple Use" and define this category as a retail business with an additional use other than office/meeting/warehouse that exceeds the 10% incidental use threshold.

Table 1. Combined Categories

| Combined Categories | | | | |
|-----------------------------------|---------------------------------------------------------------------|--|--|--|
| Combined Category Name | Categories Combined | | | |
| Beauty Salon | Barber/Beauty Salon Nail Salon | | | |
| Office | Bank Office | | | |
| Office/Retail/Warehouse/Multi-Use | Office/Cafeteria Office/Retail/Warehouse Office/Warehouse/Cafeteria | | | |
| Restaurant | Bar Coffee Shop Restaurant | | | |
| School | College Learn Center Elementary School Secondary School | | | |
| Vehicle Service | Automobile Service Service Garage Service Station | | | |



II. Definitions

Incidental Use: Spaces which are incidental to the main occupancy.

Gross Square Foot: The total area within outside business walls, excluding stairwells and landings, elevators and elevator shafts, vestibules, and equipment/mechanical rooms with an outdoor entrance only.

SAC Calculation Summary:

The equation below was used to calculate GSF/SAC indoor and outdoor space. The discount recognizes previous change in outdoor seating SAC calculation.

$$\frac{GSF}{SAC} = \frac{Inside\ GSF + (0.25 \times Outside\ GSF)}{SAC\ Charge}$$

The equation above simplifies was used to calculate GSF/SAC for all other business types.

$$\frac{GSF}{SAC} = \frac{Inside\ GSF}{SAC\ Charge}$$

III. Data Review

Part of the data review was to check to make sure the determination record was in the correct category, the SAC and GSF were calculated and recorded correctly and consistently. Process water, wash tubs, car washes, and unusual pieces of equipment where there was a flow associated with the equipment (e.g., Vichy massage chairs) were removed from the GSF/SAC analysis as those portions of the SAC will still be added onto the category GSF/SAC portion of the SAC.

The definitions for SAC determination categories and any changes or considerations to the calculations are as follow.

A. Bakery

SAC Charge calculations varied amongst businesses classified as bakeries; some used fixture units, some had retail added in, others used seating only. As a result, it is recommended that a bakery is defined as having no restaurant seating and must contain a retail area. It is recommended that if a bakery has seating of any kind, it should be classified as a restaurant since with the GSF divided by fixture units SAC is closer to the median of restaurants than bakery. It is also recommended that any bakery that is wholesale or does not have any retail is defined as it should be classified as 'Warehouse' or 'Office/Retail/Warehouse' based on percentages of building use.

B. Banquet Room

In addition to banquet space, a banquet room may include, but is not limited to, office space, meeting space, kitchen/catering room, warehouse/storage, a lounge, wedding prep suites, and lockers/fitness area.

C. Beauty Salon

A beauty salon is a hair or nail salon, or a barber shop where there are individual stations for haircutting, styling, manicures, and/or pedicures. Salons included in this analysis may have some massage stations, office space, retail space, warehouse/storage space, and classroom space in the building.

D. Brewery/Distillery

After inspecting the records that made up the 'Brewery/Distillery' category, it was discovered that there are three main types of breweries and distilleries: businesses with seating only, businesses with warehouse/production/office/retail space, and businesses with some seating and some production space. It is recommended that the "Brewery/Distillery" category be redefined as only businesses that have both bar/restaurant seating and production space. Those businesses that do not have production space should be classified as "Restaurant" and those businesses that only have production/warehouse



and office space, should be classified as "Warehouse" or "Office/Retail/Warehouse" based on percentages of building use.

E. Car Dealership

In addition to retail space and vehicle service bays, a car dealership may include, but is not limited to, office space, meeting space, warehouse/storage, a reception area, lockers and showers.

F. Churches

In addition to worship and congregation space, a church may include, but is not limited to, office space, meeting space, warehouse/storage, lockers and showers, classrooms/nursery, labs, daycare, banquet area, cafeteria/kitchens, stage, and restaurant/café space.

G. Clinic

In addition to the clinic, a clinic may include, but is not limited to, dialyzers and sterilizers, office space, meeting space, warehouse/storage, showers/locker rooms, and a restaurant/cafe.

H. Community Center

Businesses in the Community Center category include, but are not limited to community centers with office space, meeting space, classrooms, banquet space, warehouse/storage space, prayer rooms, a library, a fitness center, and showers/locker rooms.

I. Country Club

Businesses in the Country Club category include, but are not limited to country clubs with office space, meeting space, retail space, maintenance shop, concession space, showers/locker rooms, and parking garage.

J. Daycare

In addition to the daycare, a daycare may include, but is not limited to, classrooms, office space, meeting space, warehouse/storage, and showers/locker rooms.

K. Fitness Center

In addition to the fitness area, a fitness center may include, but is not limited to, daycare, office space, meeting space, retail space, salon stations, massage/spa space, tanning salon, restaurant/café space, showers/locker rooms, and team sport courts.

L. Funeral Home

In addition to the funeral home prep and viewing areas, a funeral home may include, but is not limited to, office space, meeting space, and banquet space.

M. Gas Station

In addition to the pumping station, a gas station may include, but is not limited to, a retail convenience store, storage space, and office space.

N. Library

In addition to the library space, a library may include, but is not limited to, office space, meeting space, fitness space, concession area, kitchen, warehouse/storage space, and showers/locker rooms.

O. Massage/Spa

A massage/spa business is a business that only has massage services for its customers. If there are other salon services such as hair cutting, manicure or pedicure, then the business should be classified as a "Beauty Salon."



P. Multiple Use - Retail

The 'Multiple Use' category served as a catch all category for businesses that did not just have one use. Upon review, most of these were moved to the category of their main use because they fit into the category with minimal variation from the recommended GSF/SAC. The one exception was retail businesses with restaurant seating (e.g., grocery stores with deli seating or malls with food courts) and retail with incidental use other than office or warehouse. The recommendation is to rename this category "Retail Multiple Use" and define this category as a retail business with an additional use other than office/meeting/warehouse.

Q. Museum

In addition to the museum portion of the business, a museum may include office space, meeting space, retail space, restaurants/cafes, and storage/warehouse space. Any outdoor museum space will continue to receive a 75% discount as indicated in the SAC Calculation Summary.

R. Office

The "Office" category is being redefined as office, bank, and meeting space with less than 10% incidental uses. An office can include showers and locker rooms.

S. Office/Retail/Warehouse

The "Office/Retail/Warehouse" category is being redefined as office, retail or warehouse space that does not meet the definition of an "Office," a "Warehouse," or "Retail" with less than 10% incidental uses other than the main use. An office/retail/warehouse business can include showers and locker rooms and a cafeteria.

T. Police Station

In addition to the beds, cells, and offices, a police station may include, but is not limited to, meeting space, warehouse/storage, showers/locker rooms, vehicle service bays, city halls, and accounting for drivers.

U. Restaurant

A restaurant is being redefined as any business that serves food/drink and has seating. In addition to traditional restaurants, this includes coffee shops, bars, tap rooms, brew houses (with no production space), and bakeries with seating. Patios will continue to receive a 75% discount on GSF as indicated in the SAC Calculation Summary.

V. Restaurant – Take Out

"Restaurant – Take Out" will continue to be a restaurant as defined above that does not have any seating.

W. Retail

If a retail space has salon services or a restaurant inside of it, the business should be categorized as "Retail Multiple Use." The "Retail" category is being redefined as retail space with less than 10% incidental uses of office and warehouse. A retail business can include showers and locker rooms.

X. School

A school is any portion of a school, whether it is a new auditorium or gymnasium to offices and classrooms. It includes elementary, secondary, college, and learning centers.

Y. Theater

In addition to the theater, a theater may include, but is not limited to, office space, meeting space, warehouse/storage, and retail space.



Z. Vehicle Service

After checking the determinations that made up the 'Automobile Service', 'Service Station', 'Vehicle Garage' and 'Vehicle Service' categories, it was found that many were categorized incorrectly. The labeling of the service bays made a large difference in how the SAC was calculated, if the bays were not labeled, the service bays were more likely to be counted as a warehouse and vice versa. To eliminate the labeling discrepancies between various plan sets, the service bays were counted as warehouse in all determinations. If fixture units had been used to calculate the SAC, that portion of the SAC was removed.

AA. Vehicle Garage

In addition to the garage, a vehicle garage may include, but is not limited to, office space, meeting space, warehouse/storage, showers/locker rooms, vehicle service bays, wash bays, gas pumping stations, and drivers. It does not include any process water discharge from car washes.

BB. Warehouse

The "Warehouse" category is being redefined as warehouse space with less than 10% incidental uses. A warehouse can include showers and locker rooms.

CC. Categories Removed from Analysis

The "Animal Clinic" and "Animal Salon" categories were removed from analysis due to high variability and low correlation within the categories. It is recommended that these categories are changed to a full fixture unit count instead of a partial with grooming tables. If a full fixture unit count is used, then grooming tables do not need to be counted.

The "Catering" category was removed because it was determined the meals per day method was a more consistent method to determine SAC.

The "Cafeteria" category was removed because it is not a standalone business type.



IV. Analysis

Several options summarized below were explored to determine the recommended GSF/SAC. Many options were explored so outliers would not skew the data. After comparing all of the options, Scenario 4C was chosen as the recommendation for GSF/SAC.

Table 1.

Regional Net Percent Change in SAC Collected

| egional Net Percent Char | |
|--------------------------|--------------|
| | % Change SAC |
| Scenario | Collected |
| Scenario 1 | 4.94% |
| Scenario 2 | -0.82% |
| Scenario 3a | 1.4% |
| Scenario 3b | 0.0% |
| Scenario 3c | -1.5% |
| Scenario 3d | -8.1% |
| Scenario 4a | -4.6% |
| Scenario 4b | -8.1% |
| Scenario 4c1 | -2.0% |
| Scenario 4d | 6.5% |
| Scenario 4e | 11.9% |
| | |

Scenario 1: Use the median GSF/SAC from each category and round down to the nearest 50.

- Pros: SAC Units = Net 4.94% increase with an original estimation of 6-7% remodel lost (which turned out to be 8.4% once counted in the dataset.)
- Con: Included remodels in calculations.

Scenario 2: Remove remodels and use the median GSF/SAC from each category and round down to the nearest 50.

- Pros: SAC Units Collected = Net 0.82% decrease in SAC collected.
- Cons:
 - o 64% of categories had over 5% net change and 50% had over 10% net change.
 - SAC was not always recovered from businesses that remodels more frequently (i.e., restaurants), some businesses with no remodels had a higher net change than businesses with more remodels.

Table 2.
Scenario 2 Percent of Categories Above Specified Percent Change Thresholds

| occided 21 credit of oategories Above opecifical credit offange finesholds | | | | | |
|----------------------------------------------------------------------------|-----|-----|-----|-----|-----|
| % change Threshold | 5% | 10% | 15% | 20% | 25% |
| % categories above threshold | 64% | 50% | 18% | 11% | 7% |

Scenario 3: Weight the calculations to collect more SAC from categories that had the most remodels or lost SAC due to remodels. Four options were explored.

- Pros:
 - Collected more SAC upfront for business categories that had more remodels.
 - o Businesses with few remodels were given a break.
- Cons:
 - Diverged from code.
 - Categories were not net neutral.



¹ Scenario 4c was used as the method to recommend GSF/SAC.

Option A: The number of remodels was used as the threshold determination for various multipliers.

Table 3. Scenario 3 Option A

| | Multiplier of Category | | | | | | |
|---------------------|------------------------|-------------------|--|--|--|--|--|
| % Remodel Threshold | GSF/SAC Median | Rounded | | | | | |
| 0 | 1.5 | Up to nearest 100 | | | | | |
| < 20% | 1.1 | Up to nearest 100 | | | | | |
| > 20% | 1 – (%remodels÷ 4) | To nearest 280 | | | | | |

Option B: The SAC lost due to remodels was used as the threshold determination for various multipliers.

Table 4. Scenario 3 Option B

| % SAC Lost Threshold | Multiplier of Category GSF/SAC Median | Rounded |
|-------------------------|---------------------------------------|--------------------|
| 0 | 1.25 | Down to nearest 20 |
| < 2% | 1.1 | Down to nearest 20 |
| < 5% | 1 | Down to nearest 20 |
| < 10% | 0.975 | Down to nearest 20 |
| < 15% | 0.95 | Down to nearest 20 |
| > 15% | 0.85 | Down to nearest 20 |

Option C: The SAC lost due to remodels was used as the threshold determination for various multipliers and rounding.

Table 5. Scenario 3 Option C

| % SAC Lost Threshold | Multiplier of Category GSF/SAC Median | Rounded |
|-------------------------|---------------------------------------|---------------------|
| 0 | 1.5 | Up to nearest 100 |
| < 2% | 1 | Up to nearest 100 |
| < 5% | 1 | Down to nearest 20 |
| < 10% | 1 | Down to nearest 50 |
| < 15% | 1 | Down to nearest 70 |
| < 20% | 1 | Down to nearest 90 |
| > 20% | 1 | Down to nearest 120 |

Option D: The percent SAC lost due to remodels in the category was subtracted from 1 to create the multiplier. The median was rounded to the nearest 10.

Table 6.
Scenario 3 Percent of Categories Above Specified Percent Change Thresholds

| % change | Threshold | 5% | 10% | 15% | 20% | 25% |
|-----------------|-----------|-----|-----|-----|-----|-----|
| | Option A | 89% | 71% | 54% | 46% | 36% |
| % of categories | Option B | 75% | 64% | 46% | 29% | 21% |
| above threshold | Option C | 79% | 68% | 46% | 39% | 32% |
| | Option D | 75% | 50% | 32% | 21% | 14% |

Scenario 4: Eliminate extremes from dataset (outliers) or use average instead of median.

Pros

- Removed potential outliers by just analyzing determinations with GSF/SAC within two standard deviations (approximately 95%) of dataset.
- o Least amount of individual category net change.



 Cons: SAC was not always recovered from businesses that remodel more frequently (i.e., restaurants), some businesses with no remodels had a higher net change than businesses with more remodels.

Option A: Scenario 3d with data removed if data points GSF/SAC was outside of two standard deviations. The median GSF/SAC was rounded to the nearest 10.

Option B: Scenario 3d with data removed if data points GSF/SAC was outside of two standard deviations. The average GSF/SAC, rounded to the nearest 10, was used for the GSF/SAC recommendation instead of the median.

Option C: Data removed if data points GSF/SAC was outside of two standard deviations. The median GSF/SAC, rounded down to the nearest 50, was used for the GSF/SAC recommendation. No weighting factor was used.

Option D: Data removed if data points GSF/SAC was outside of two standard deviations. The average GSF/SAC, rounded to the nearest 10, was used for the GSF/SAC recommendation. No weighting factor was used.

Option E: Data removed if data points GSF/SAC was outside of two standard deviations. The average GSF/SAC, rounded down to the nearest 50 was used for the GSF/SAC recommendation instead of the median. No weighting factor was used.

Table 7.
Scenario 4 Percent of Categories Above Specified Percent Change Thresholds

| % change | % change Threshold | | 10% | 15% | 20% | 25% |
|-----------------|--------------------|-----|-----|-----|-----|-----|
| | Option A | 71% | 50% | 25% | 14% | 7% |
| % of categories | Option B | 75% | 50% | 32% | 21% | 11% |
| above threshold | Option C | 54% | 36% | 21% | 7% | 4% |
| | Option D | 64% | 39% | 18% | 14% | 4% |
| | Option E | 71% | 54% | 21% | 18% | 7% |



APPENDIX B-1 RECOMMENDATION SUMMARY

Scenario 4C

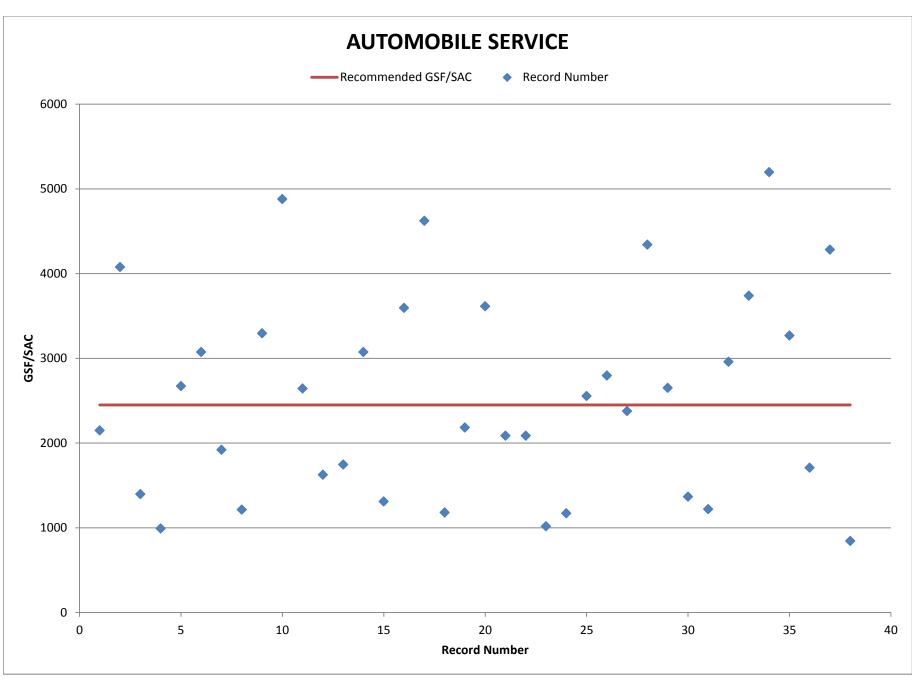
2 3 4 5 6 1 Records Analyzed Median Proposed Categories Combined R^2 **Business Type** (Remodels GSF/SAC GSF/SAC Removed) 8 1300 Bakery 91% 1348 **Banquet Room** 19 82% 1693 1650 Barber/Beauty Salon Beauty Salon 180 91% 659 650 Nail Salon Brewery/Distillery 67% 978 950 34 Car Dealership 22 84% 3291 3250 Churches 80% 2307 2300 56 Clinic 296 91% 2140 2100 Community Center 80% 1768 1750 12 Country Club 1797 1750 3 100% 93% Daycare 122 925 900 Fitness Center 82% 1620 1600 169 Funeral Home 1200 93% 1248 5 Gas Station 22 83% 1953 1950 9 94% 3998 3950 Library Massage/Spa 48 68% 1267 1250 Multiple Use - Retail 46 82% 1928 1900 Museum 3 100% 2158 2150 Bank Office 373 98% 2660 2650 Office Office/Cafeteria Office/Retail/Warehouse/ Office/Retail/Warehouse 413 93% 3813 3800 Multiple Use Office/Warehouse/Cafeteria Police Station 5 94% 2417 2400 Bar Restaurant Coffee Shop 662 80% 333 300 Restaurant 17 3011 3000 Restaurant-Take Out 98% 129 3062 3050 Retail 100% College Learn Center School 161 92% 1197 1150 **Elementary School** Secondary School Theater 3 98% 2425 2400 Automobile Service Service Garage Vehicle Service 45 74% 2554 2550 Service Station Vehicle Garage 20 85% 4324 4300 Warehouse 202 100% 6952 6950

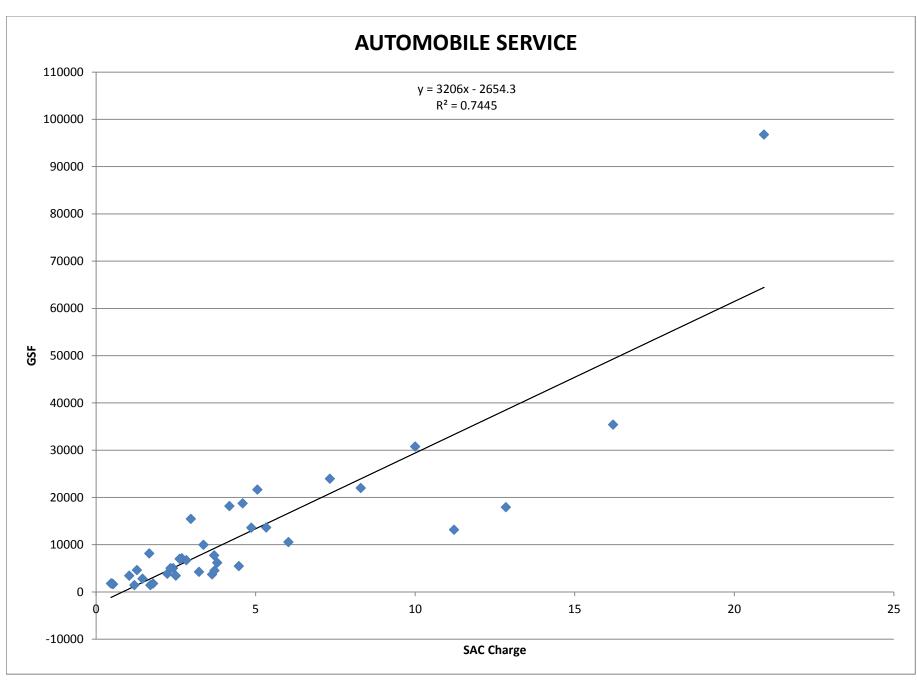
7 8 9 10 11 12

| Business Type | Net Change SAC Collected | Original SAC Collected | % SAC Lost | Lifetime % Change | SAC Collected Upfront Change |
|------------------------------------------|--------------------------|---------------------------|------------|----------------------|---------------------------------|
| Bakery | 1 | 7 | 0% | 14% | \$311 |
| Banquet Room | -9 | 75 | 9% | -12% | -\$687 |
| Beauty Salon | -1 | 353 | 4% | 0% | \$338 |
| Brewery/Distillery | 11 | 166 | 0% | 7% | \$1,151 |
| Car Dealership | 2 | 80 | 9% | 3% | \$2,162 |
| Churches | -26 | 159 | 14% | -16% | \$489 |
| Clinic | -91 | 569 | 2% | -16% | \$311 |
| Community Center | 10 | 78 | 6% | 13% | \$4,378 |
| Country Club | 0 | 6 | 0% | 0% | \$0 |
| Daycare | 25 | 526 | 2% | 5% | \$931 |
| Fitness Center | -44 | 523 | 4% | -8% | -\$217 |
| Funeral Home | 2 | 4 | 0% | 50% | \$994 |
| Gas Station | 0 | 19 | 0% | 0% | \$0 |
| Library | -2 | 17 | 0% | -12% | -\$552 |
| Massage/Spa | -1 | 38 | 3% | -3% | \$27 |
| Multiple Use - Retail | -6 | 573 | 0% | -1% | -\$324 |
| Museum | 1 | 16 | 0% | 6% | \$828 |
| Office | 4 | 1413 | 5% | 0% | \$4,314 |
| Office/Retail/Warehouse/ Multiple Use | 69 | 1797 | 6% | 4% | \$4,573 |
| Police Station | -5 | 24 | 0% | -21% | \$923 |
| Restaurant | -175 | 4549 | 16% | -4% | \$3,182 |
| Restaurant-Take Out | 0 | 0 | 0% | 0% | \$0 |
| Retail | 0 | 324 | 4% | 0% | \$2,514 |
| School | 71 | 1857 | 4% | 4% | \$5,598 |
| Theater | -5 | 25 | 4% | -20% | \$6,213 |
| Vehicle Service | 16 | 171 | 2% | 9% | \$1,654 |
| Vehicle Garage | 8 | 146 | 2% | 5% | \$4,622 |
| Warehouse | -146 | 931 | 10% | -16% | \$1,424 |

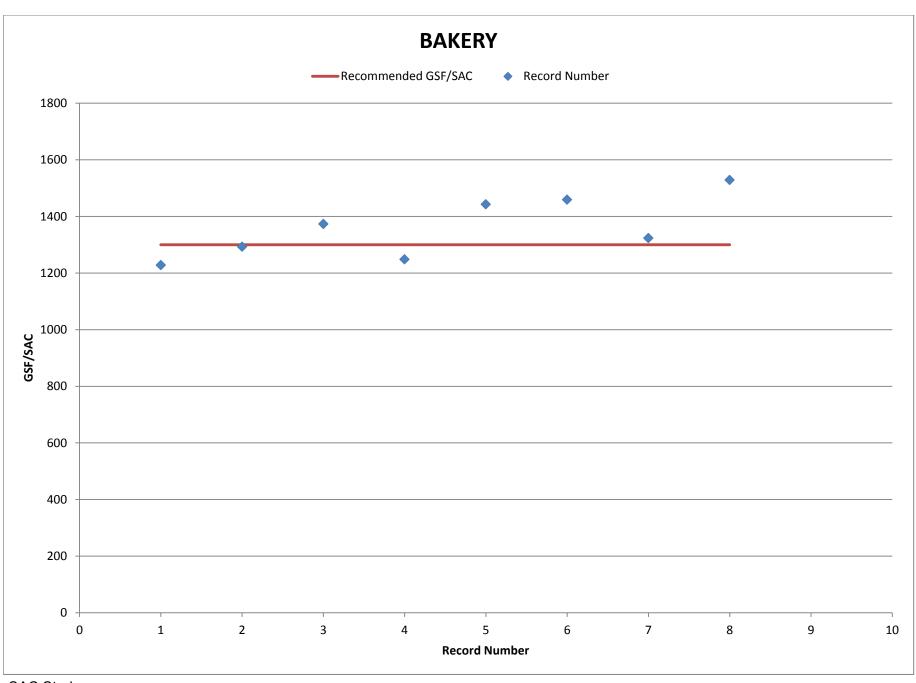
| Total Records Analyzed | 3084 |
|----------------------------|------------|
| Net SAC Units Collected | -291 |
| Percent Change | -2.0% |
| Net SAC Fee | -\$723,135 |
| Proposed No. of Categories | 28 |

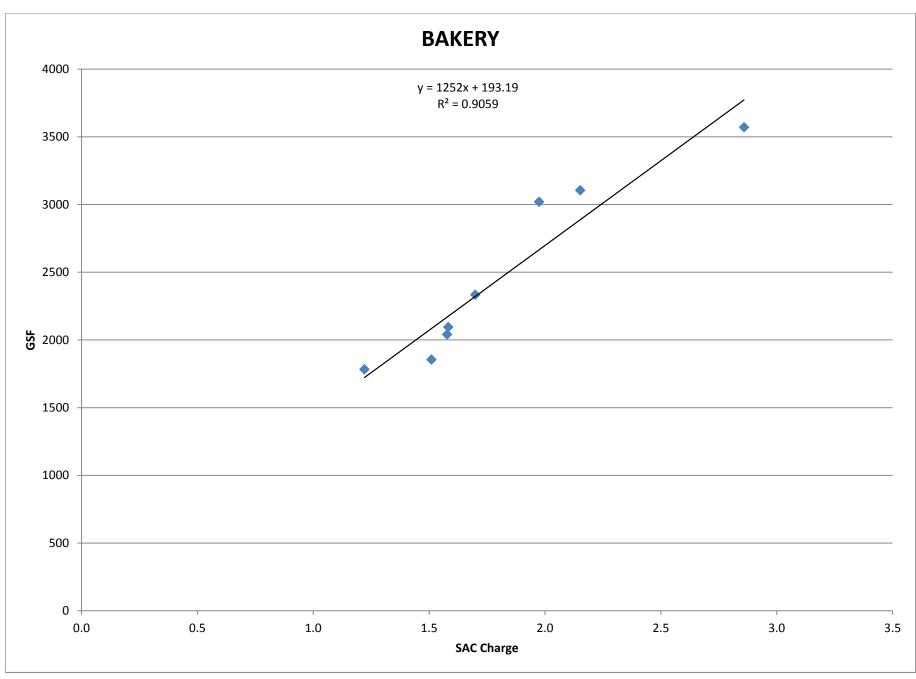
APPENDIX B-2 SINGLE CATEGORY



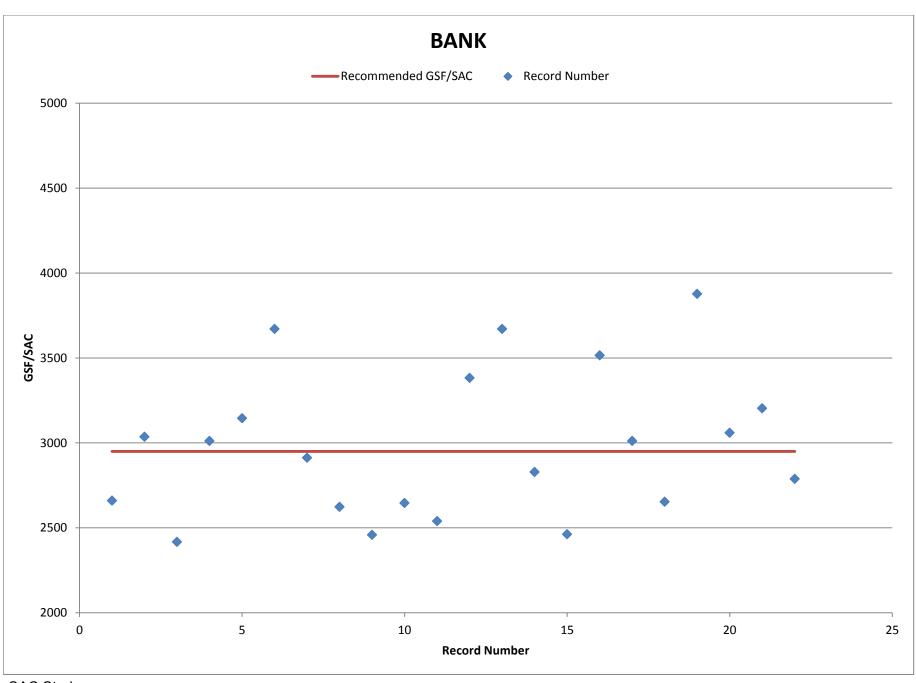


SAC Study Metropolitan Council Environmental Services By TKDA, September 2017

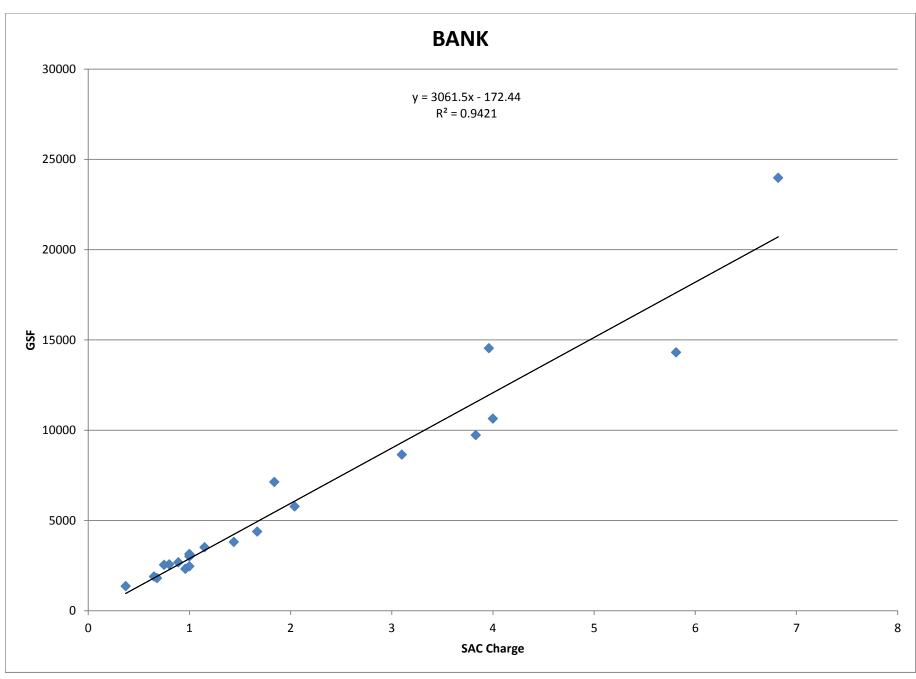




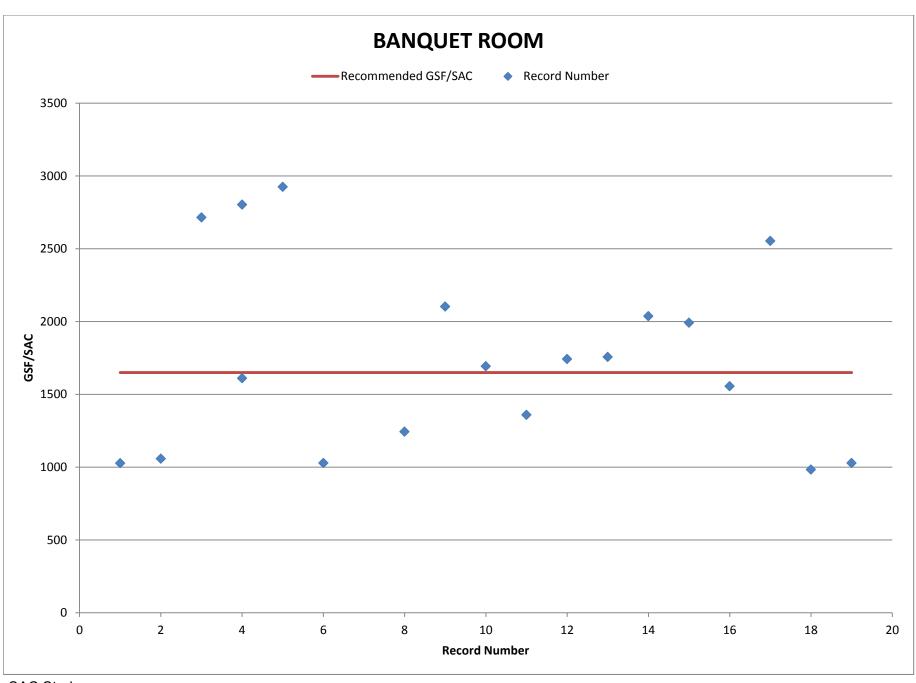
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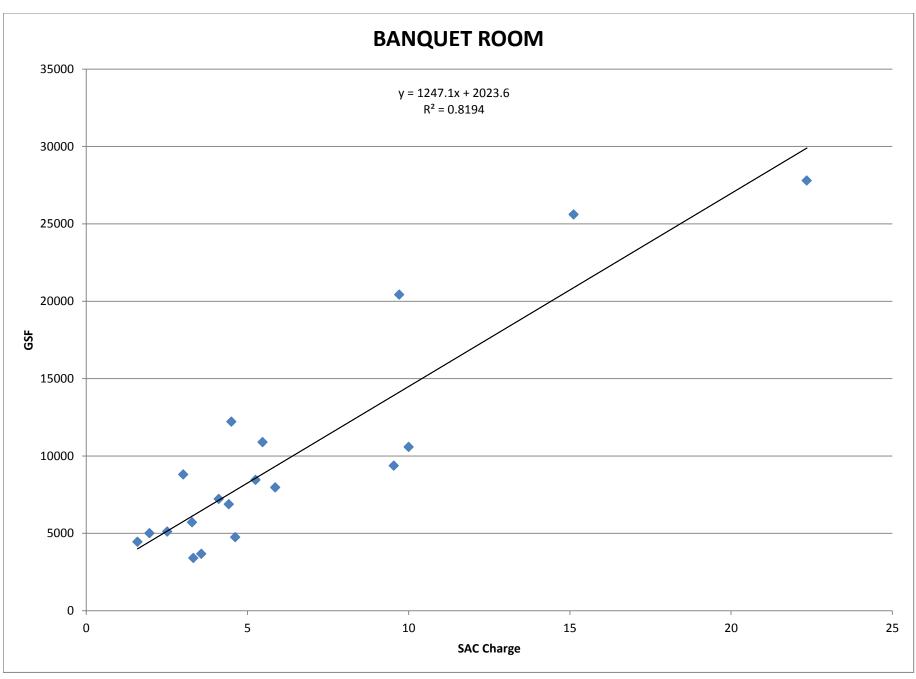


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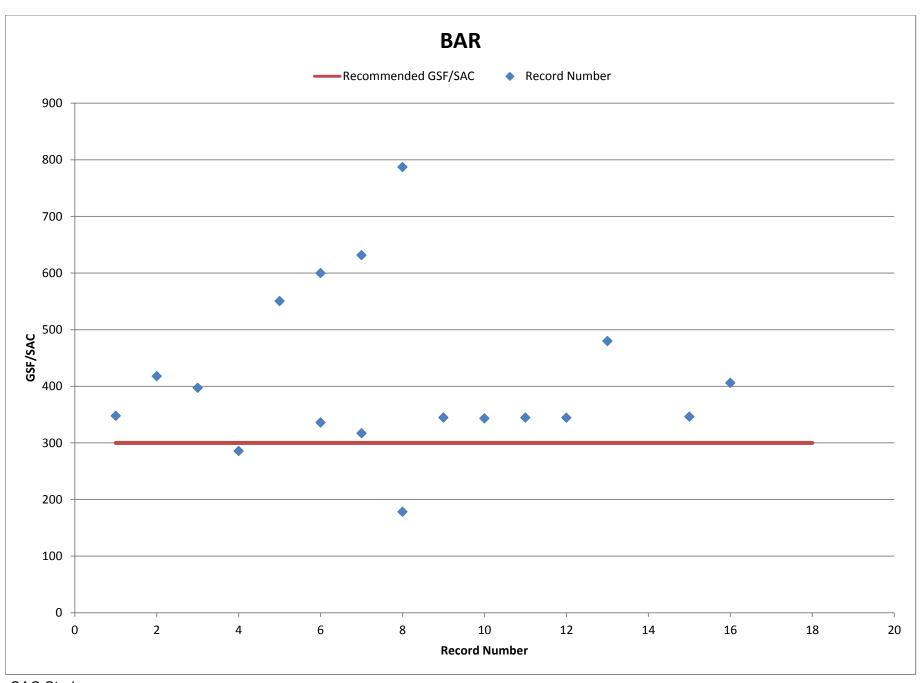


SAC Study Metropolitan Council Environmental Services By TKDA, September 2017

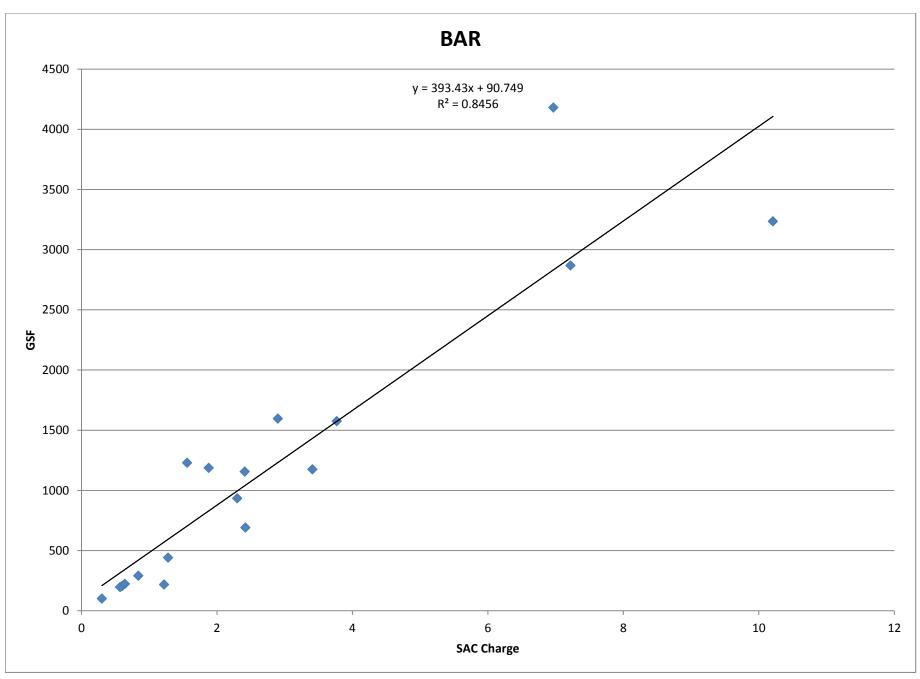




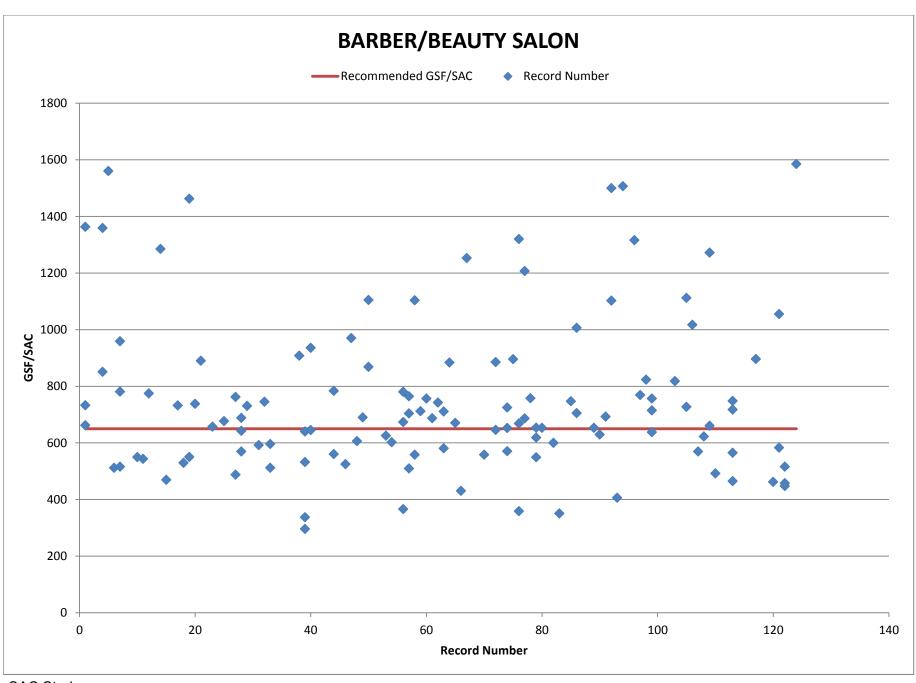
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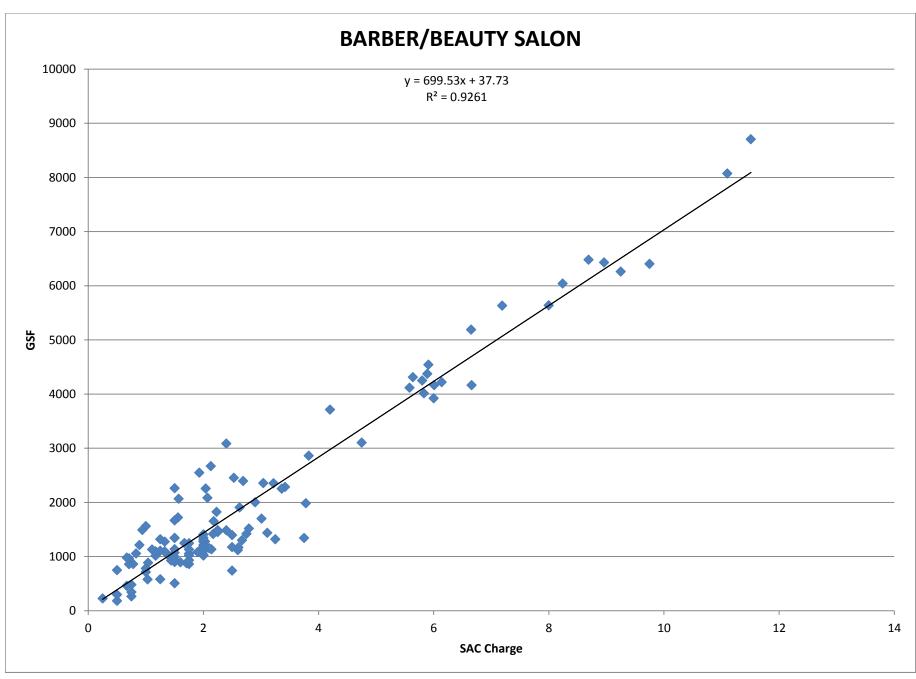


SAC Study Metropolitan Council Environmental Services By TKDA, September 2017

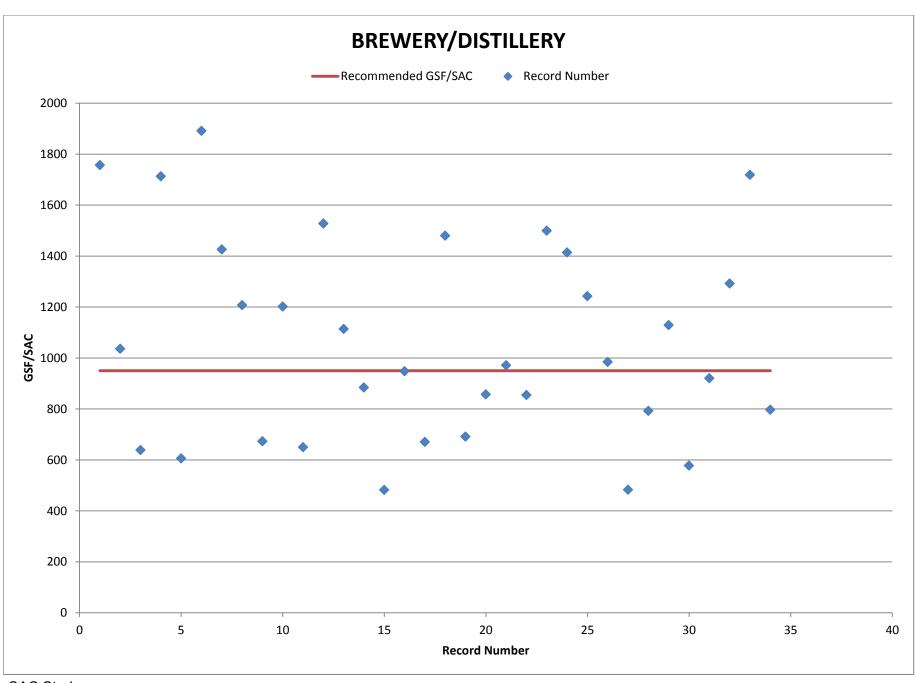


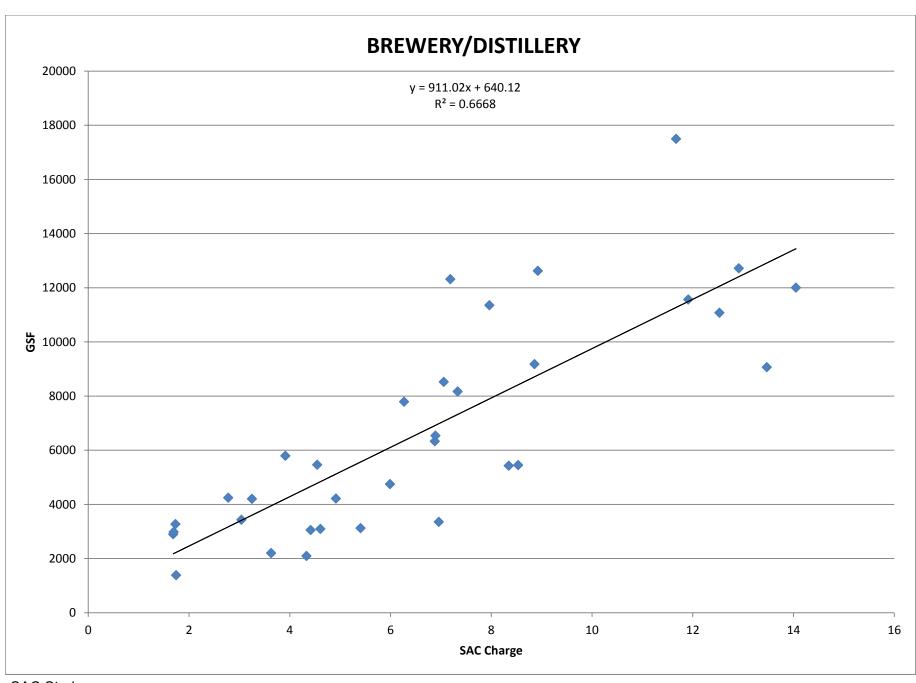
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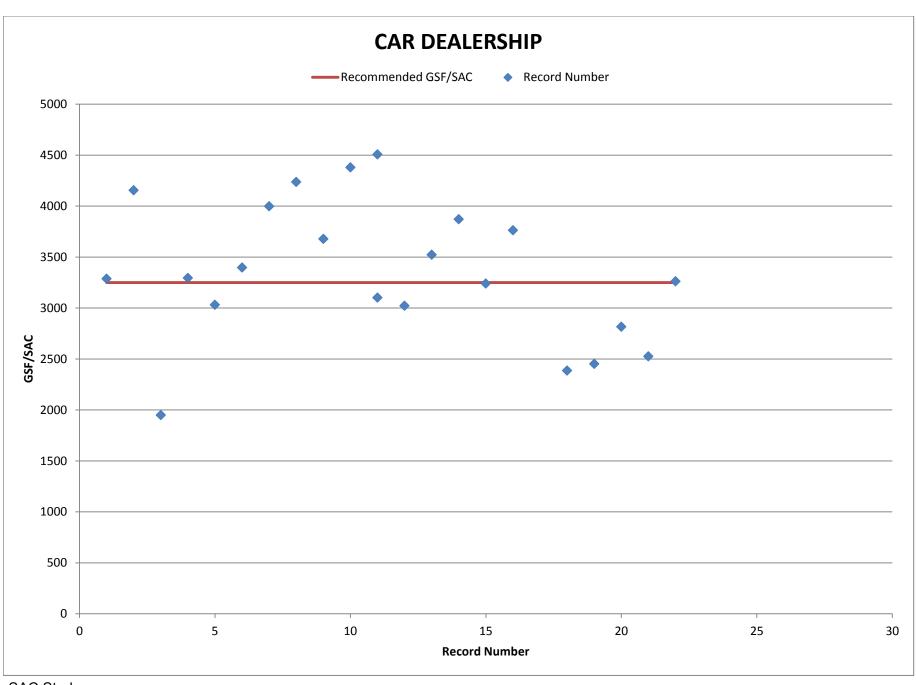


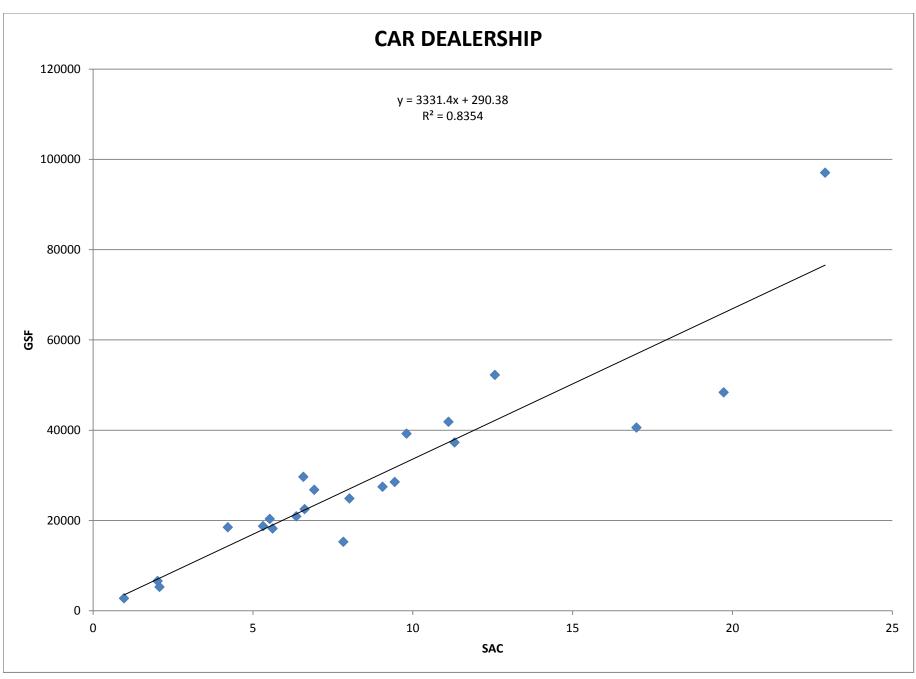


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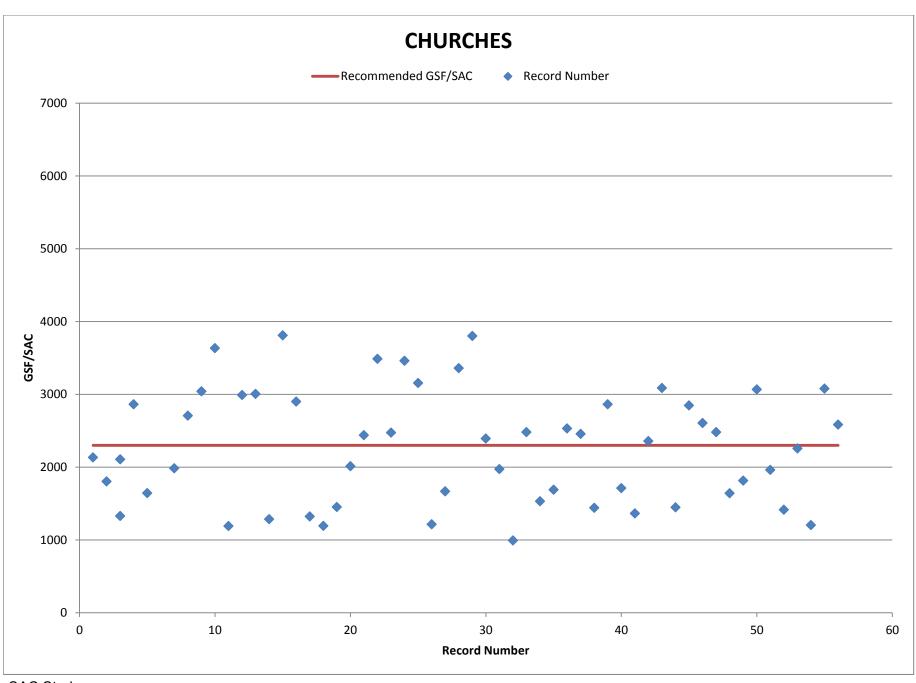


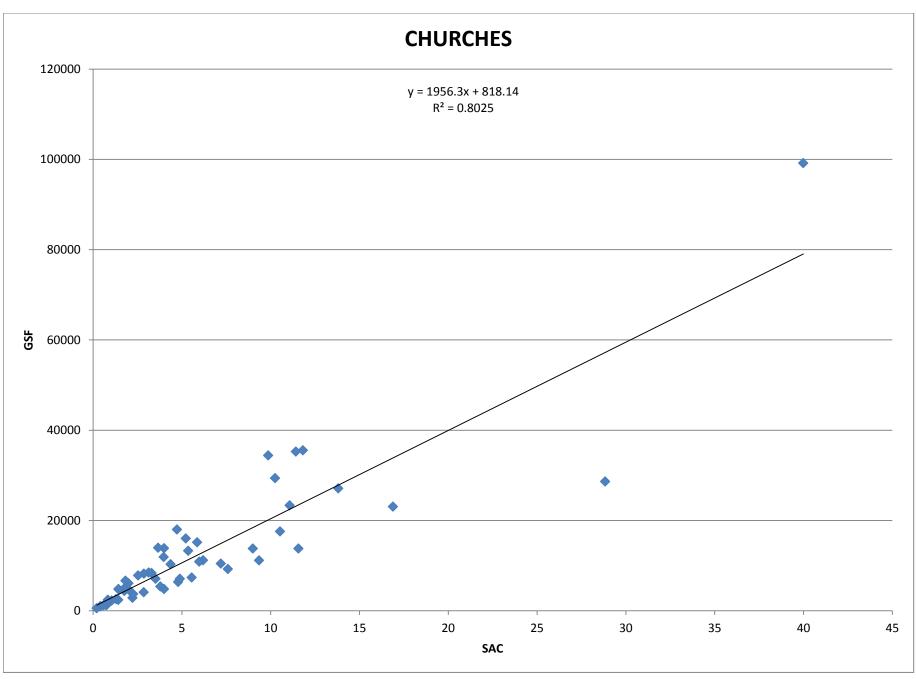




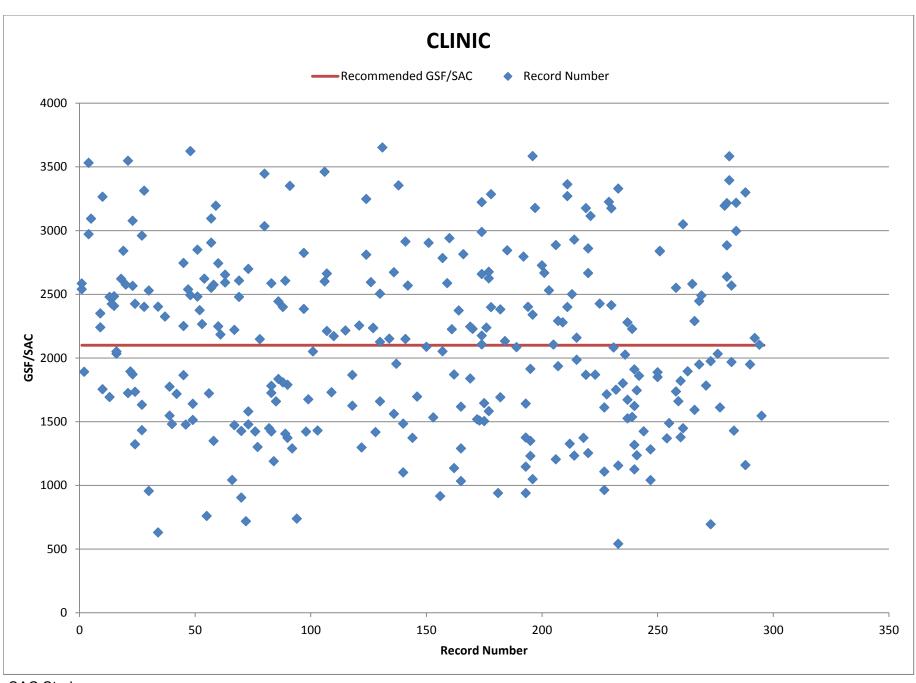


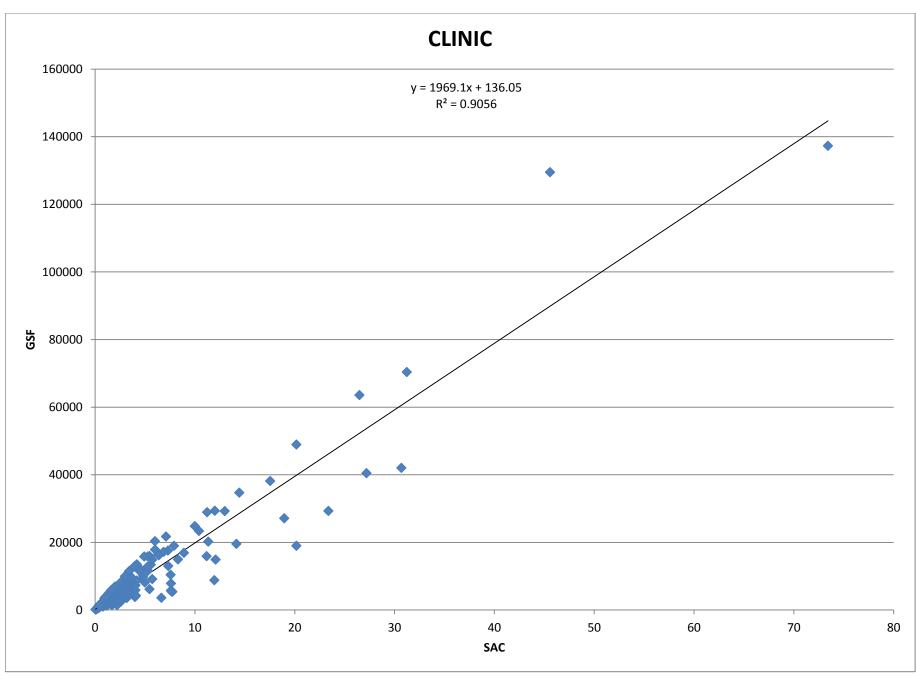
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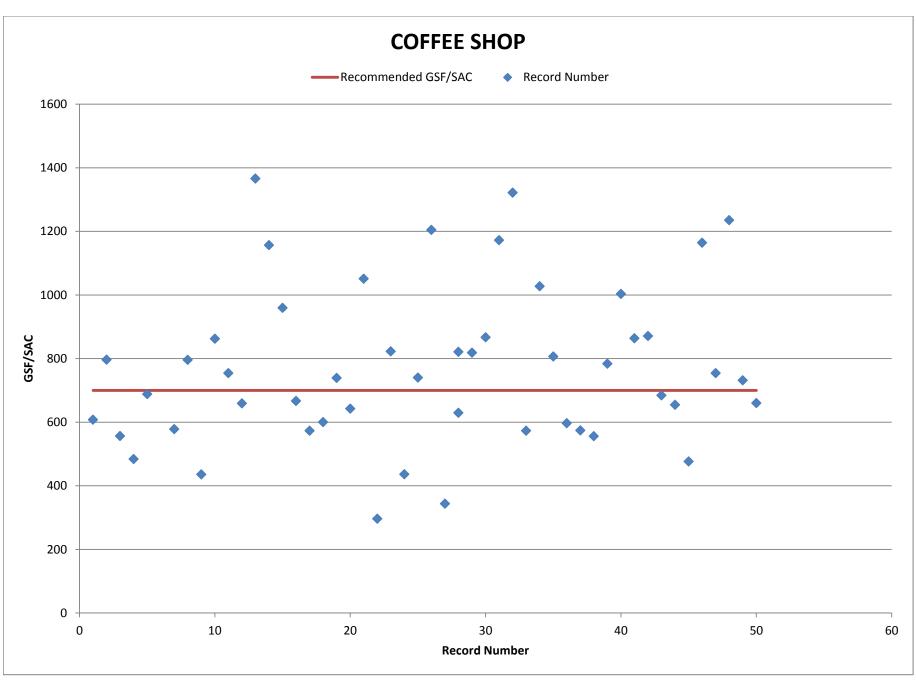


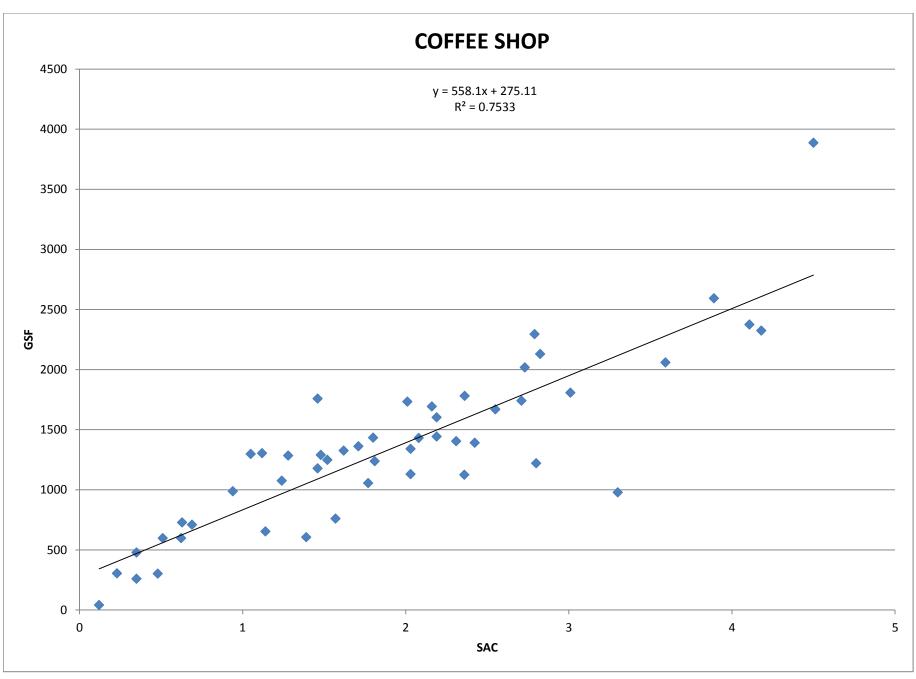
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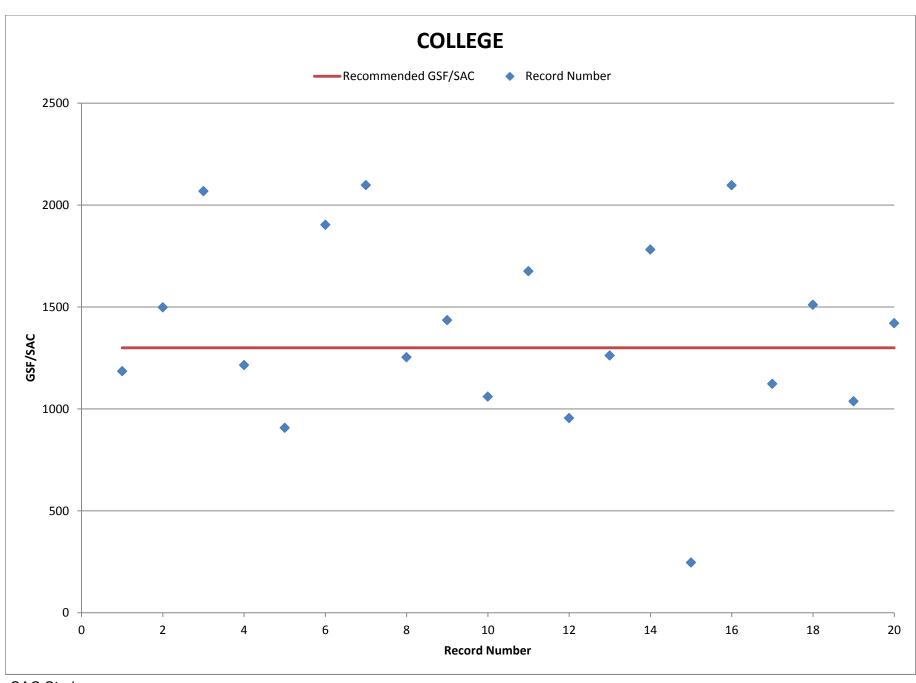


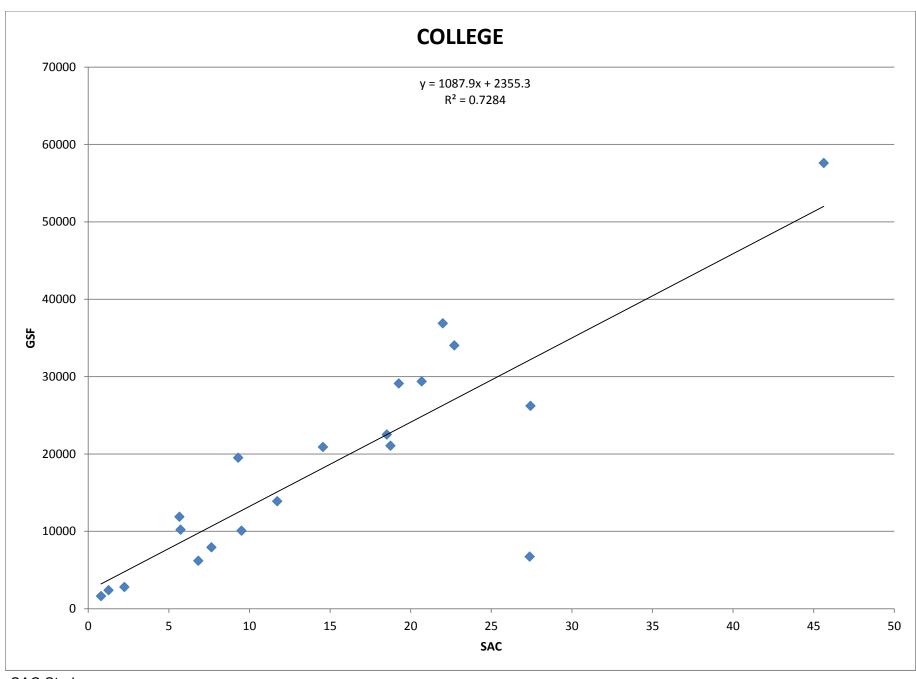
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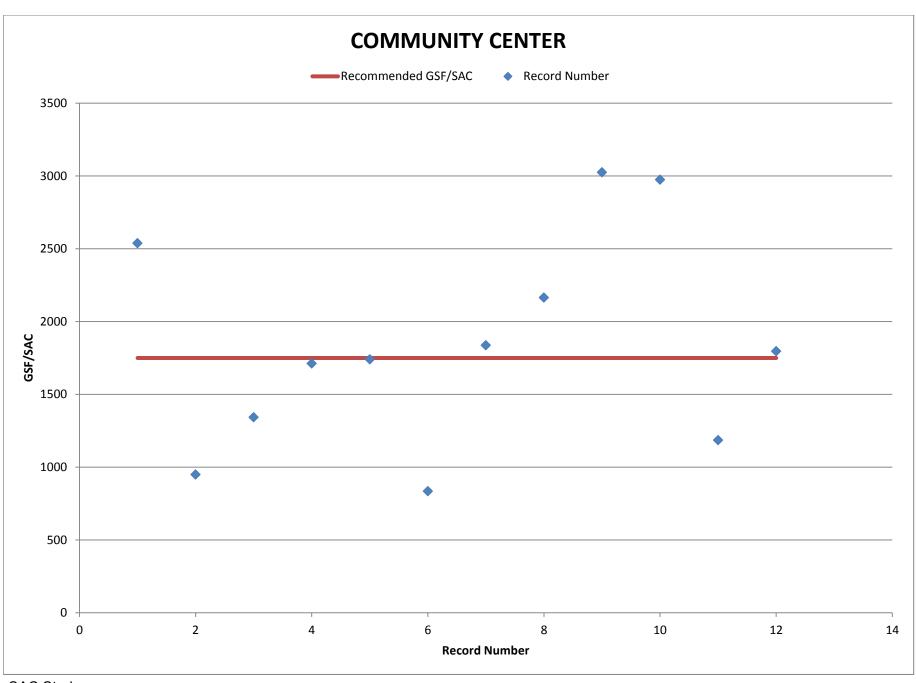


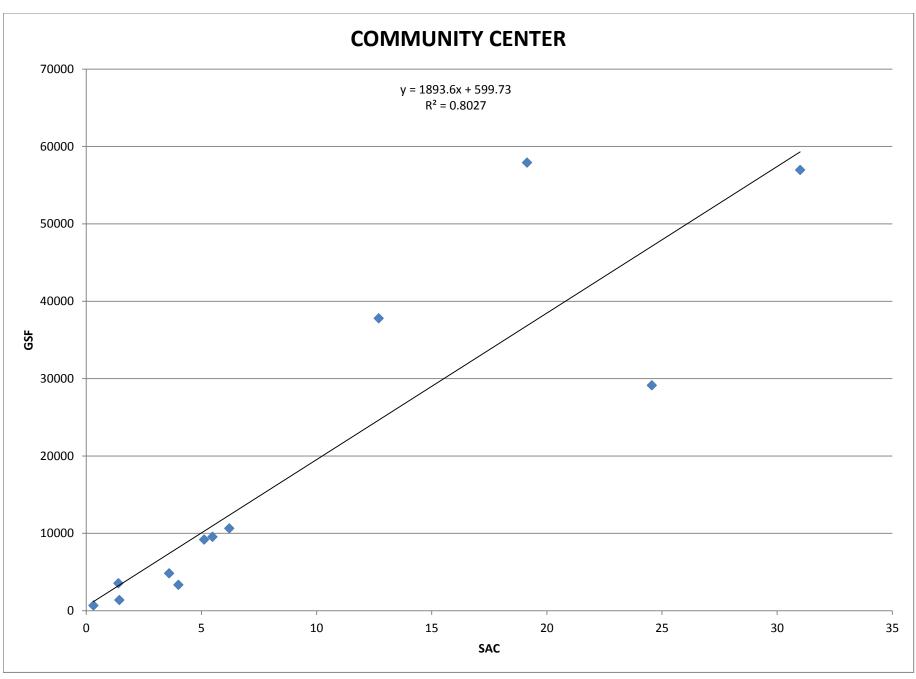
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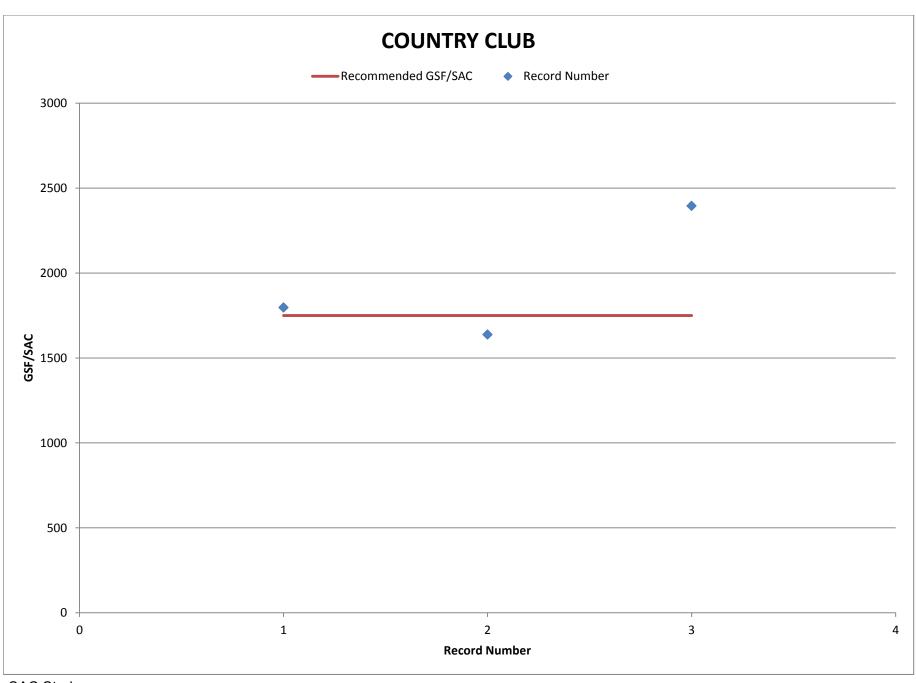


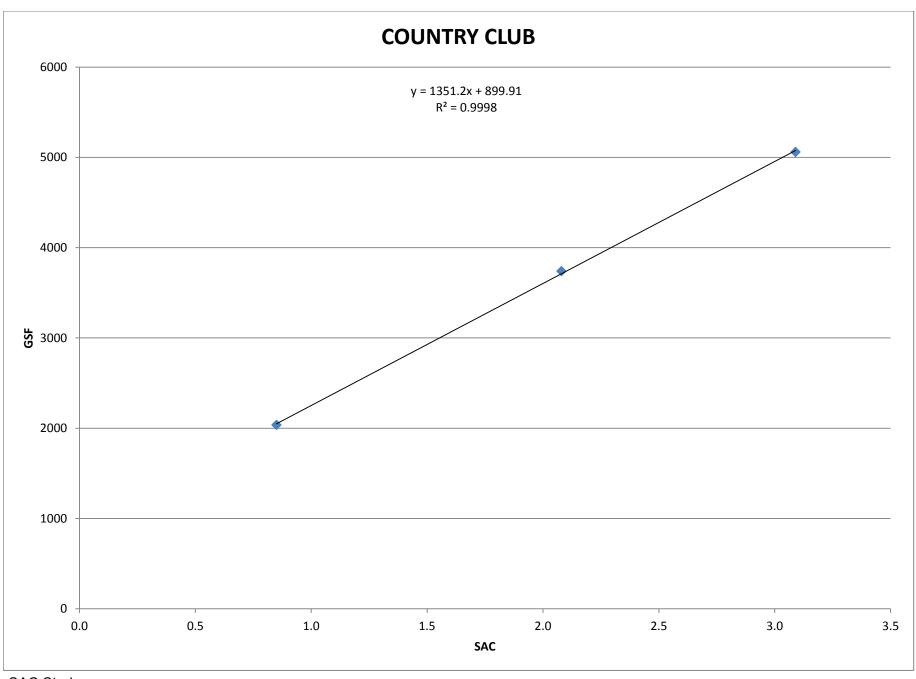
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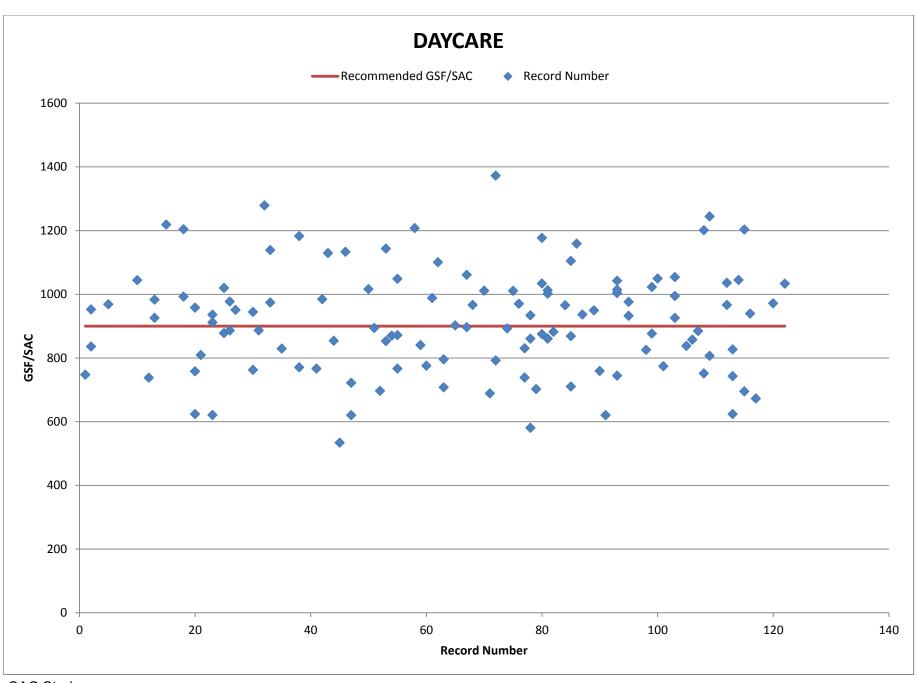


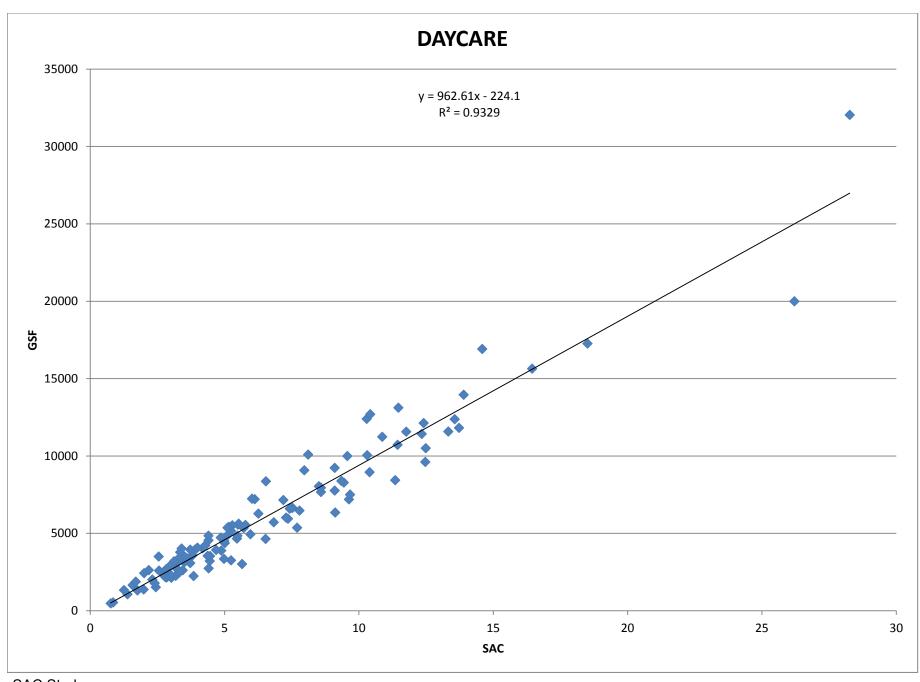
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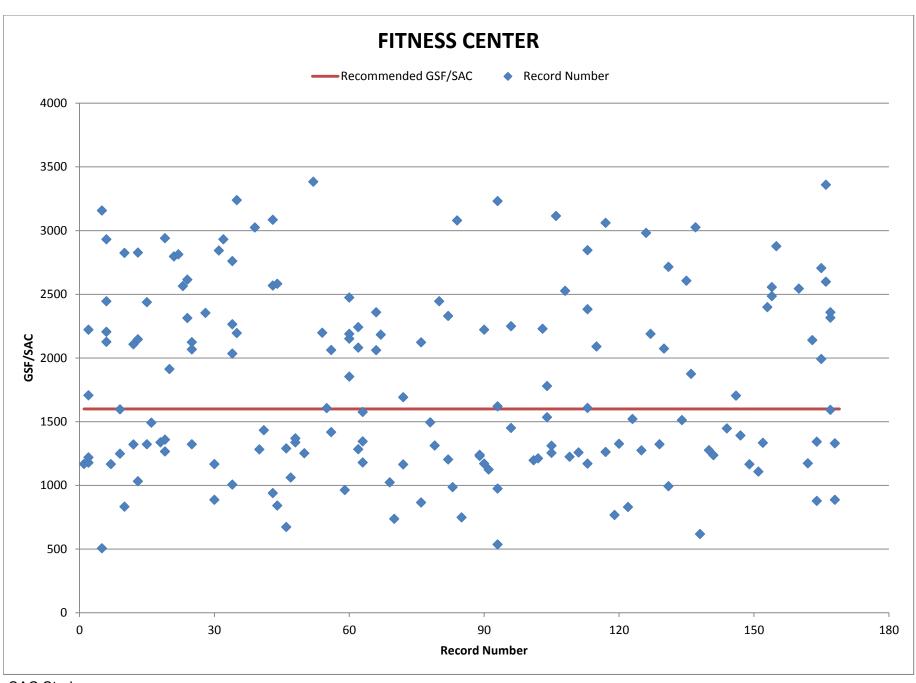


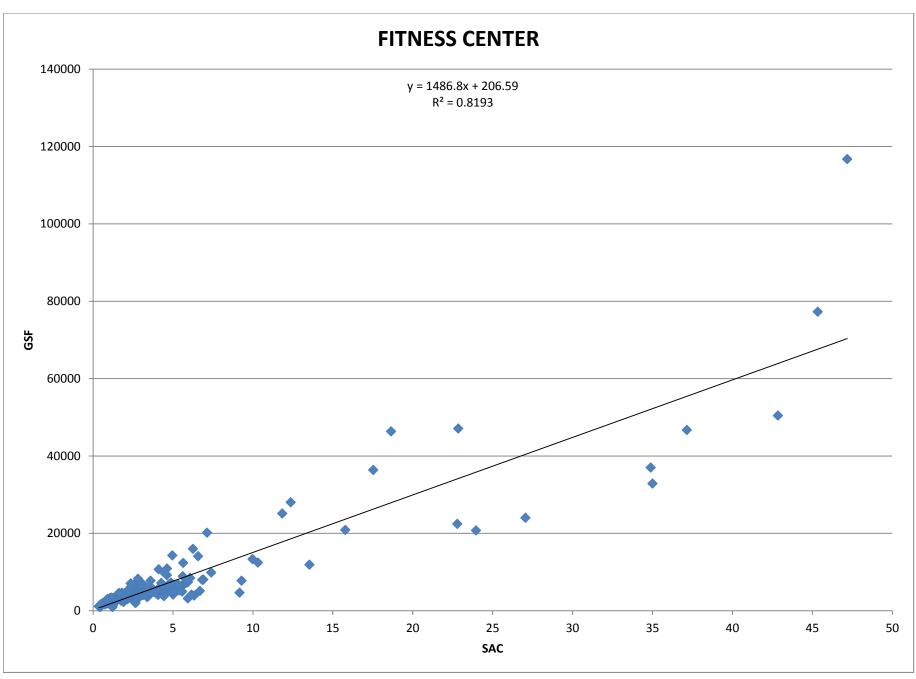
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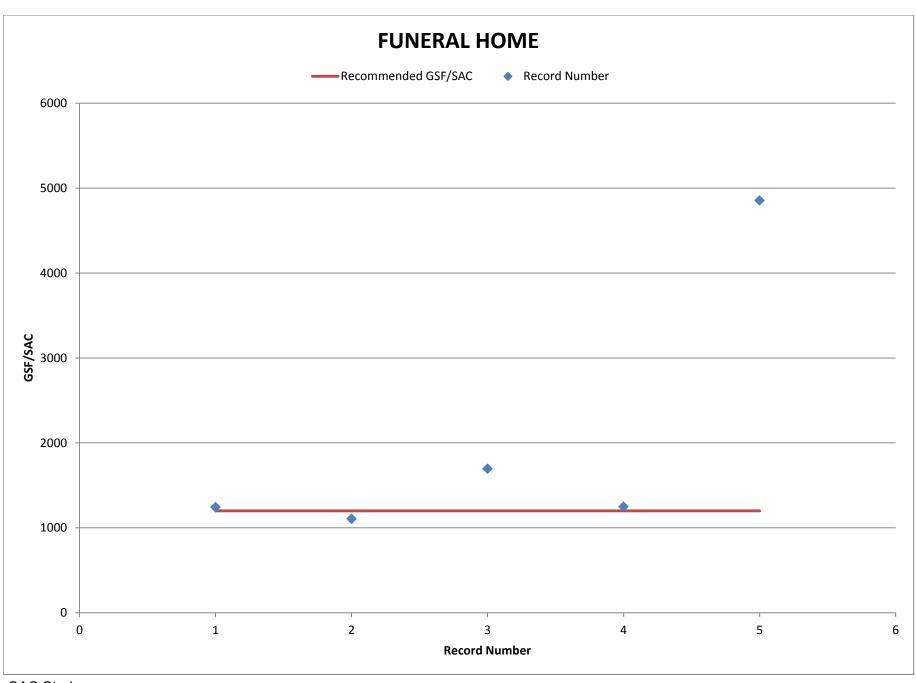


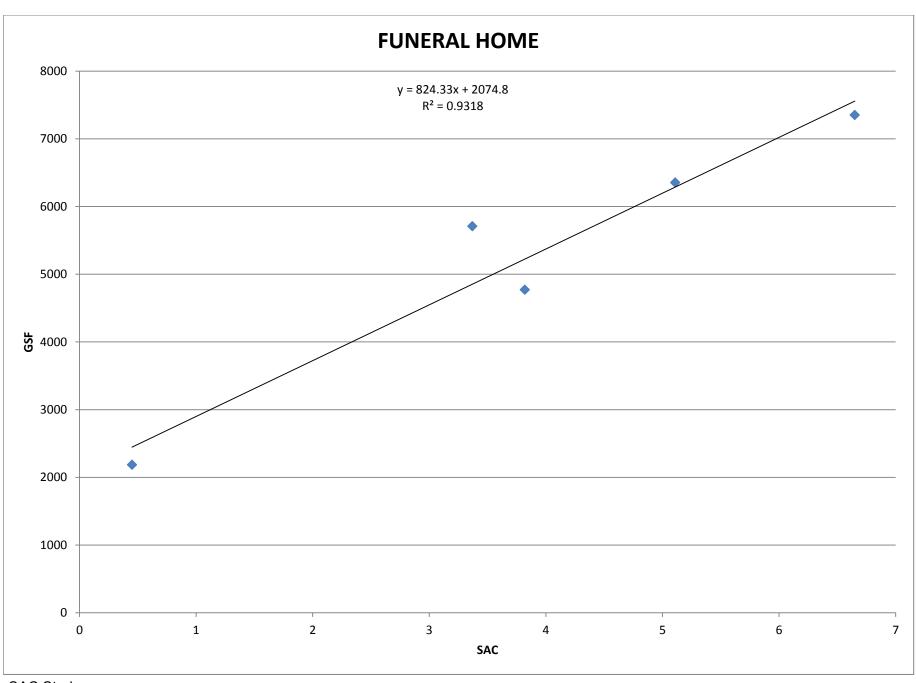
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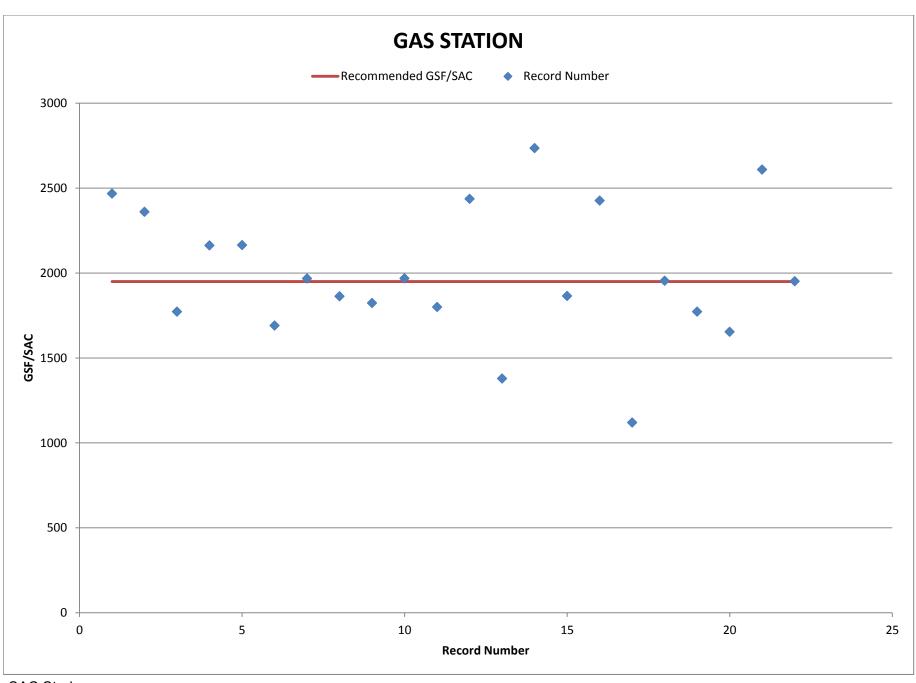


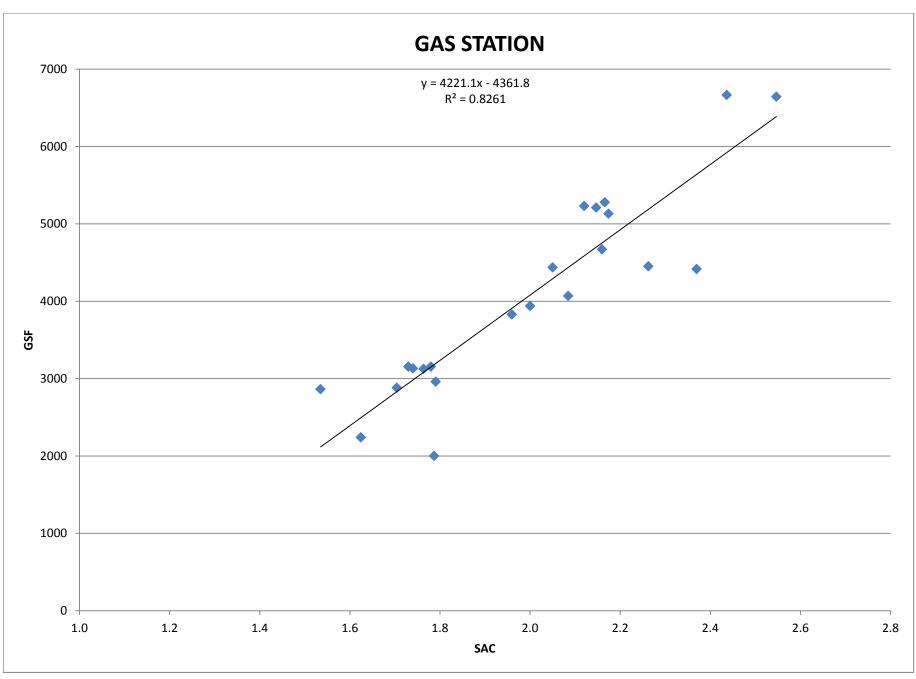


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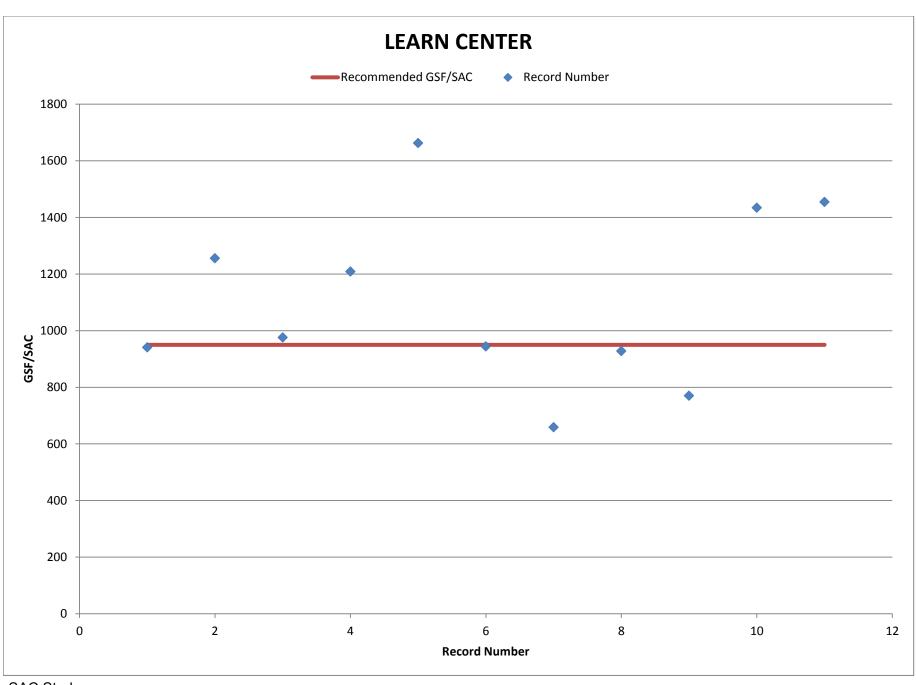


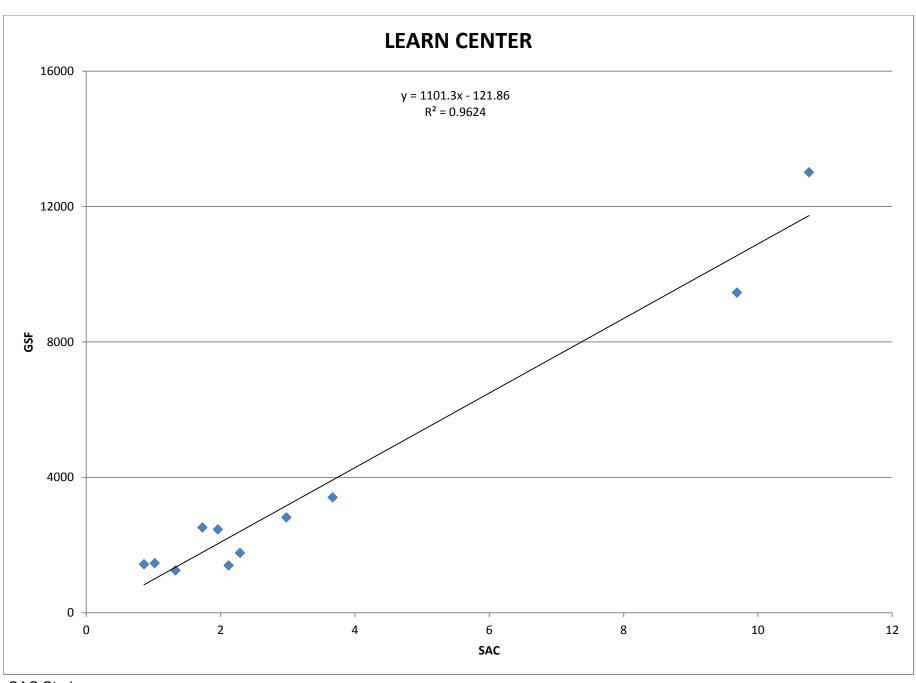




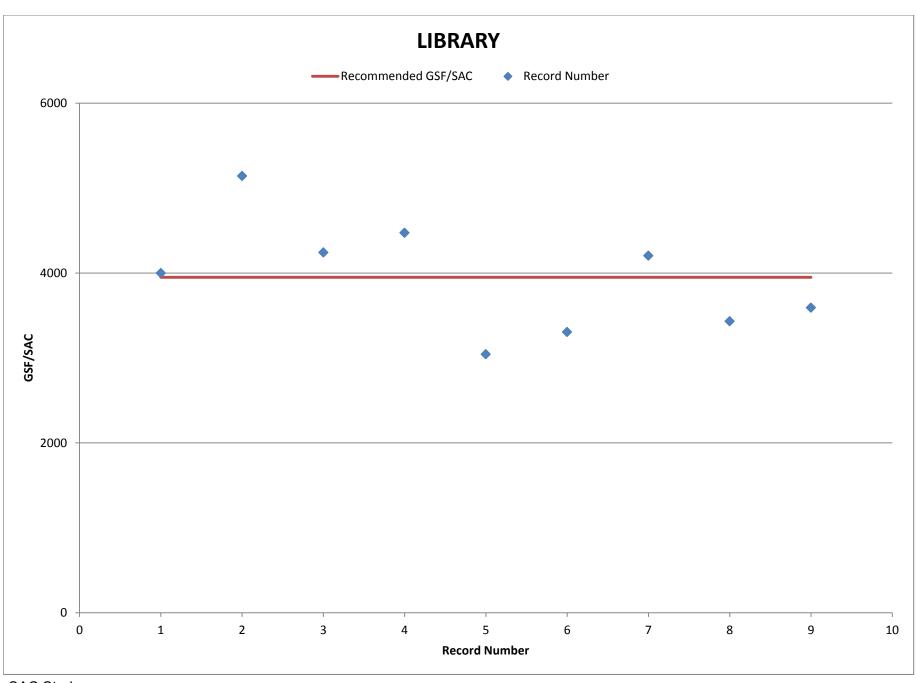


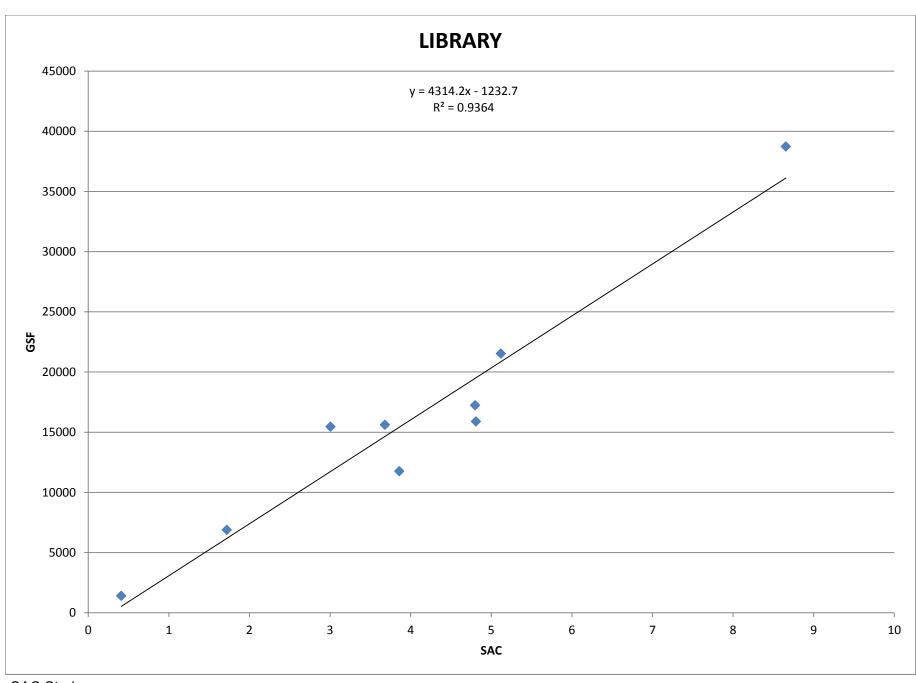
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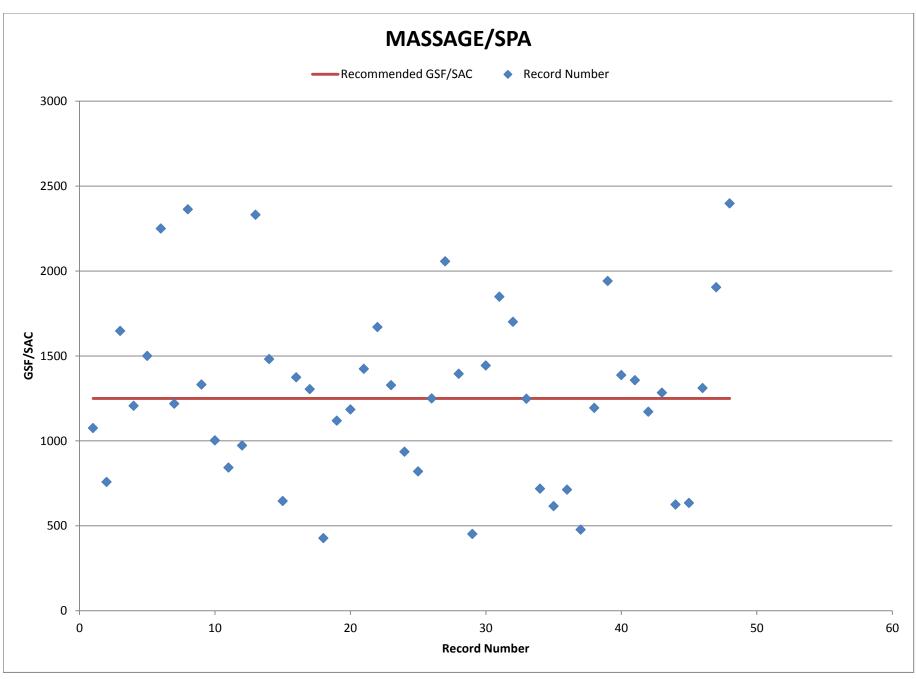


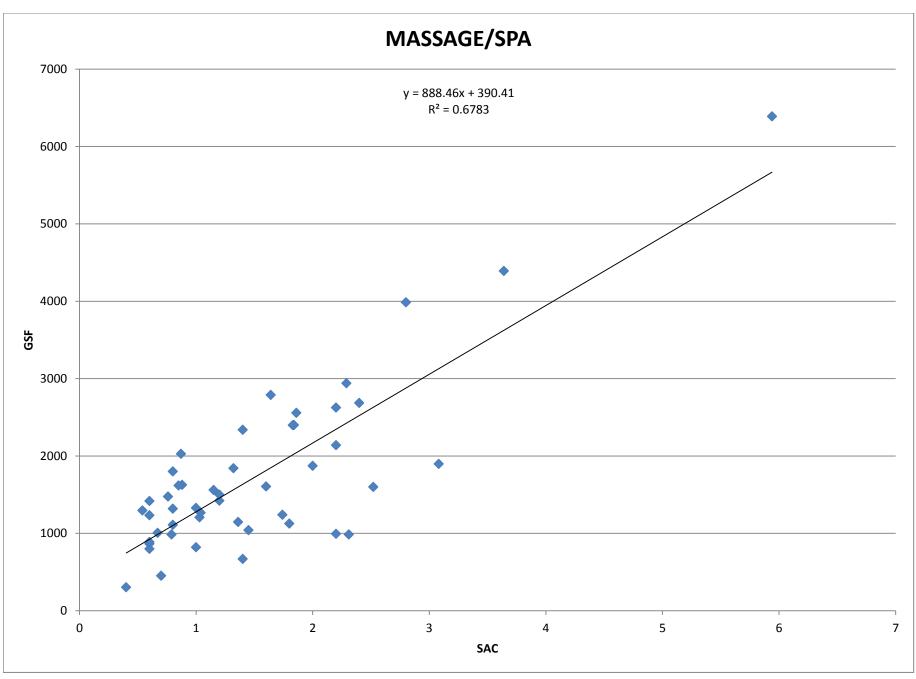
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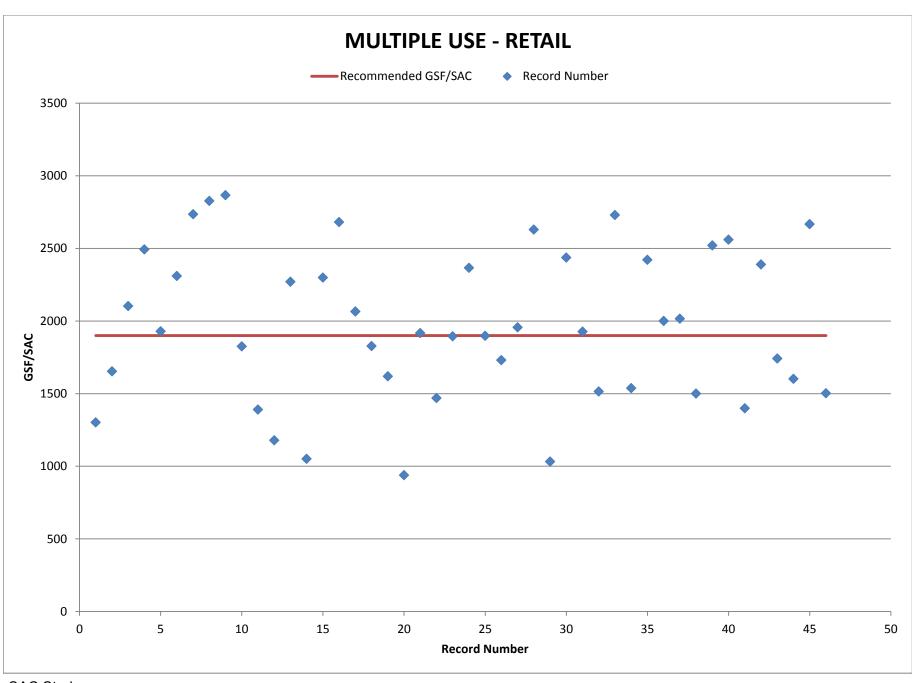


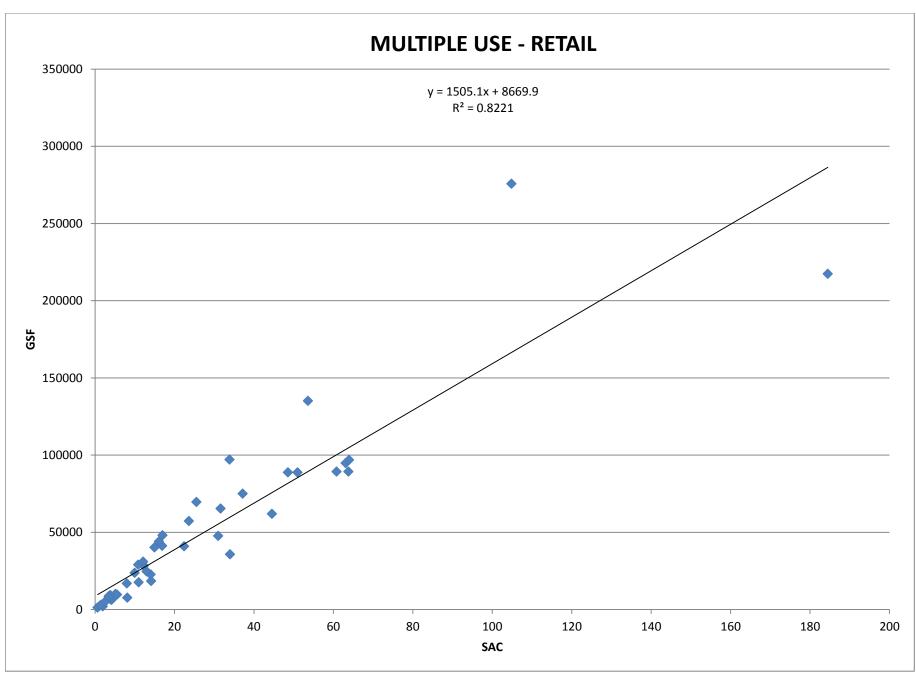
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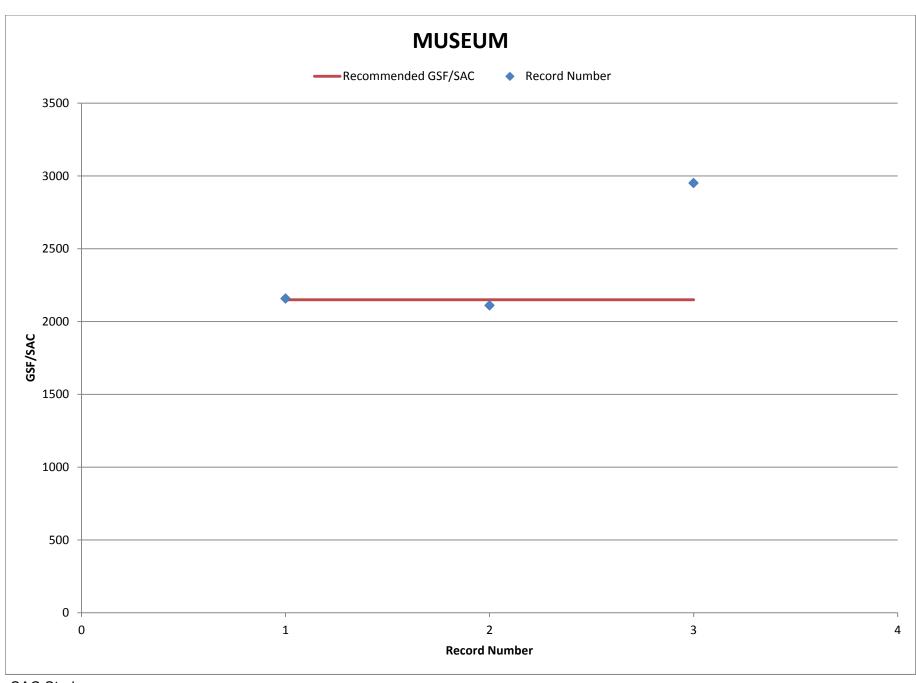


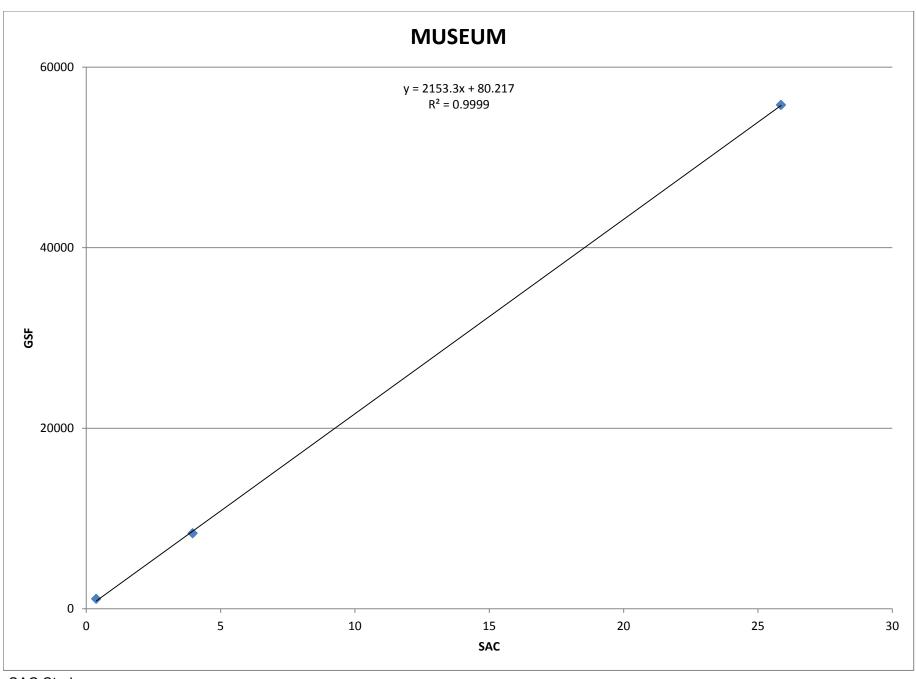
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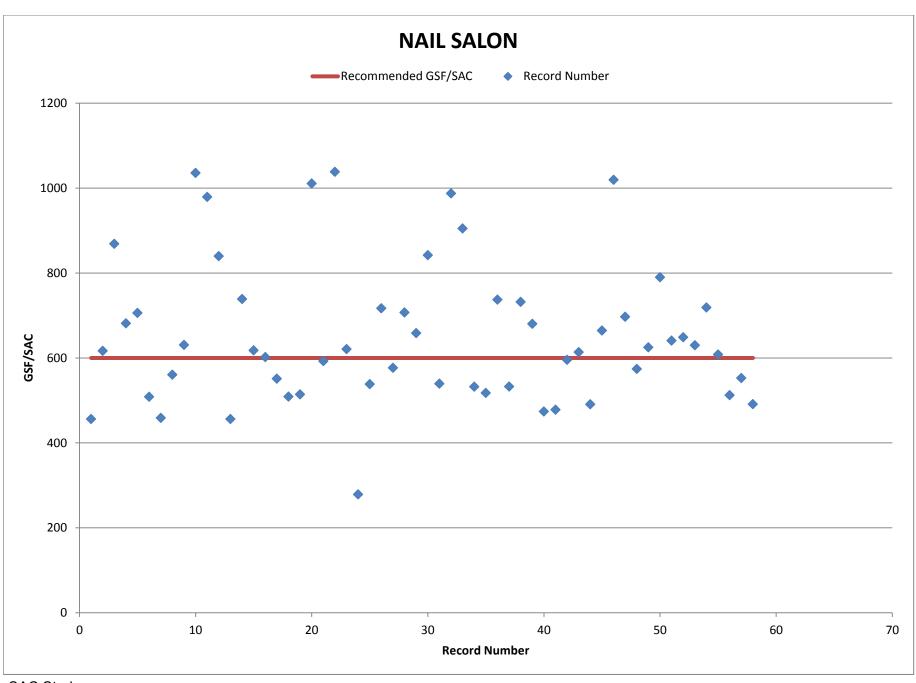


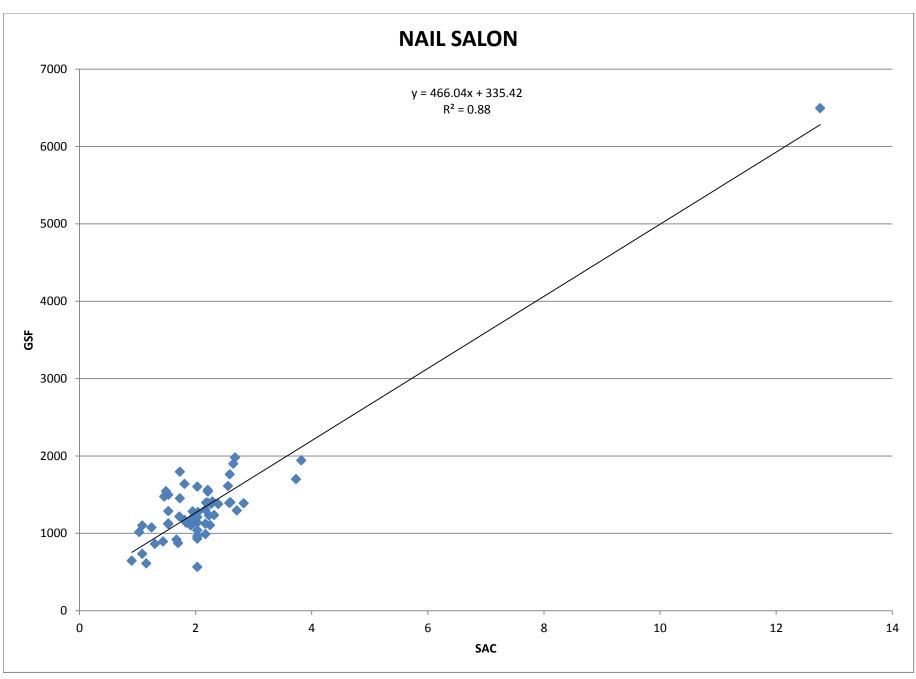
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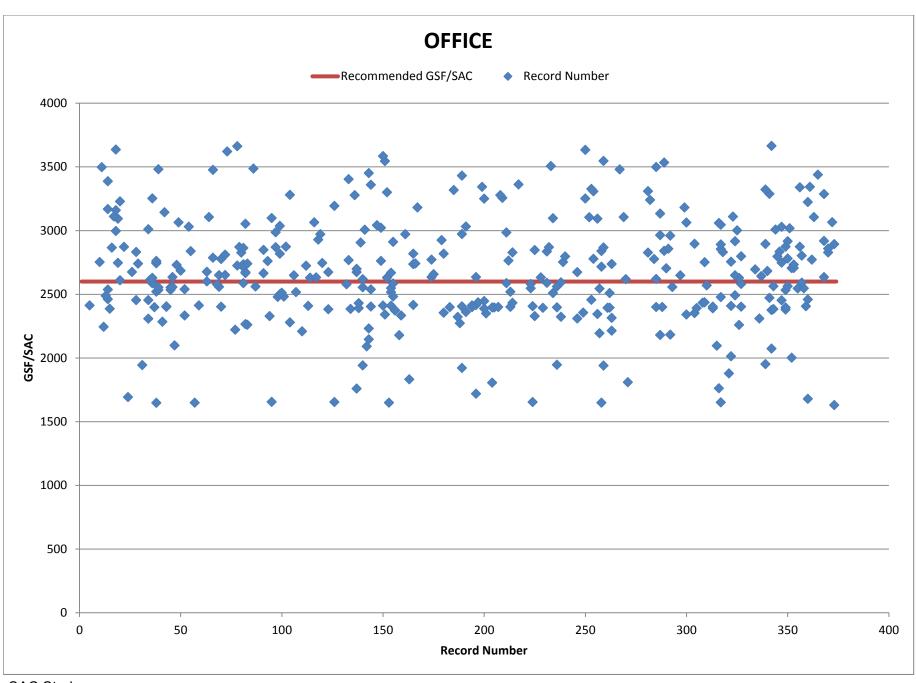


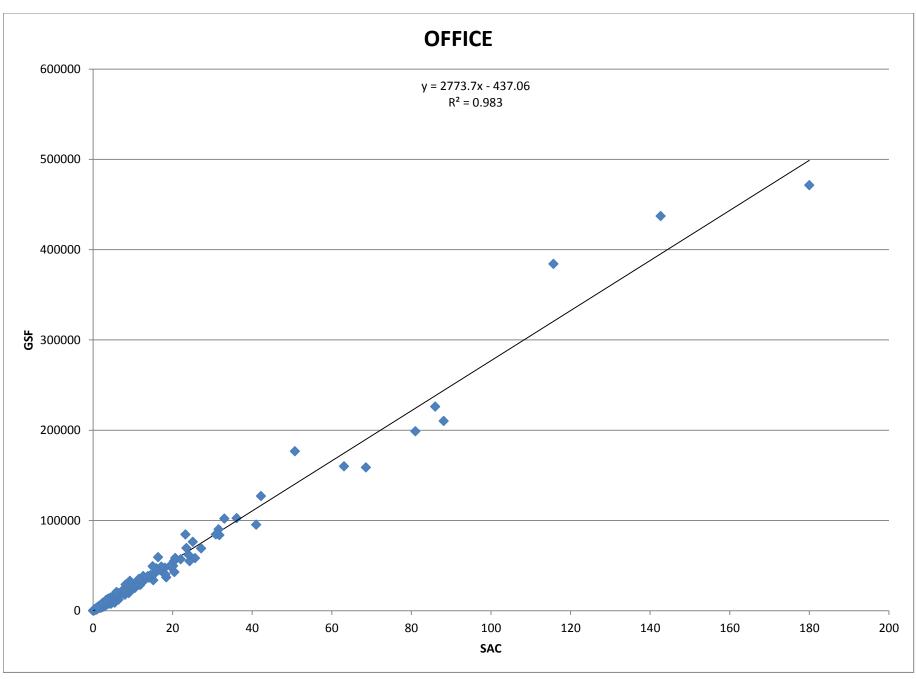
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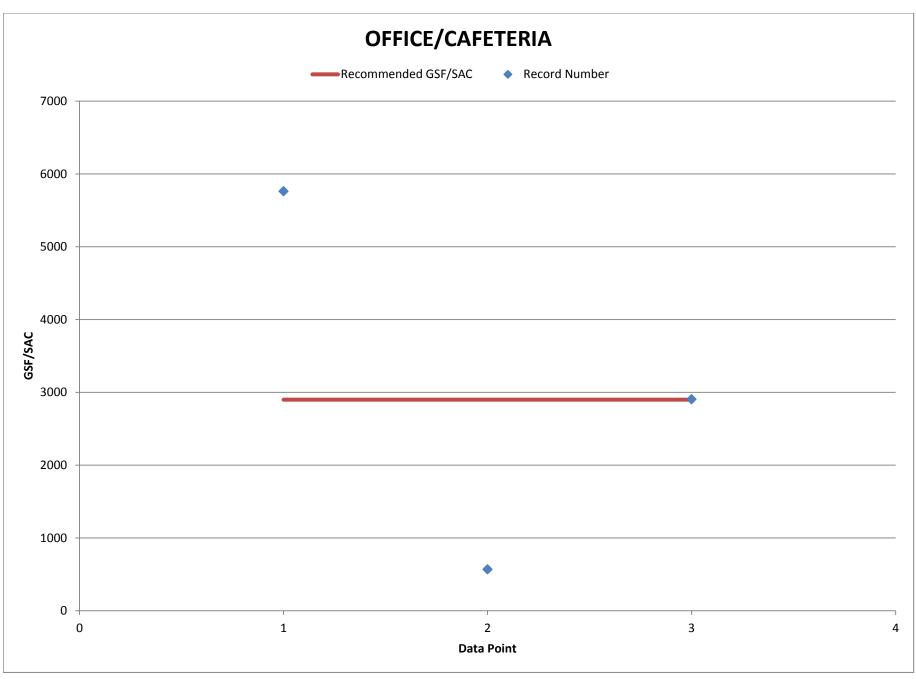


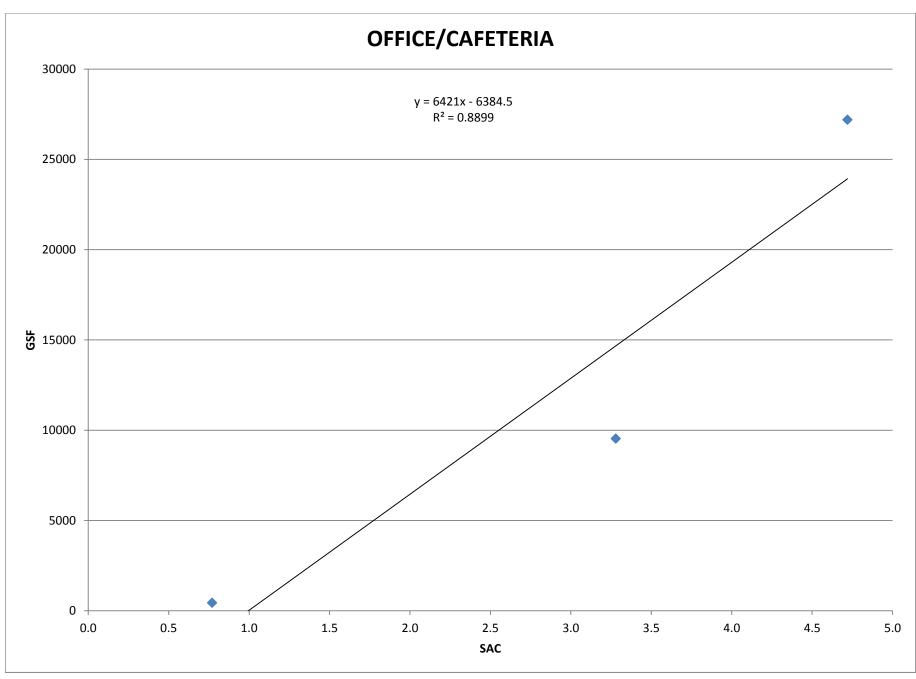
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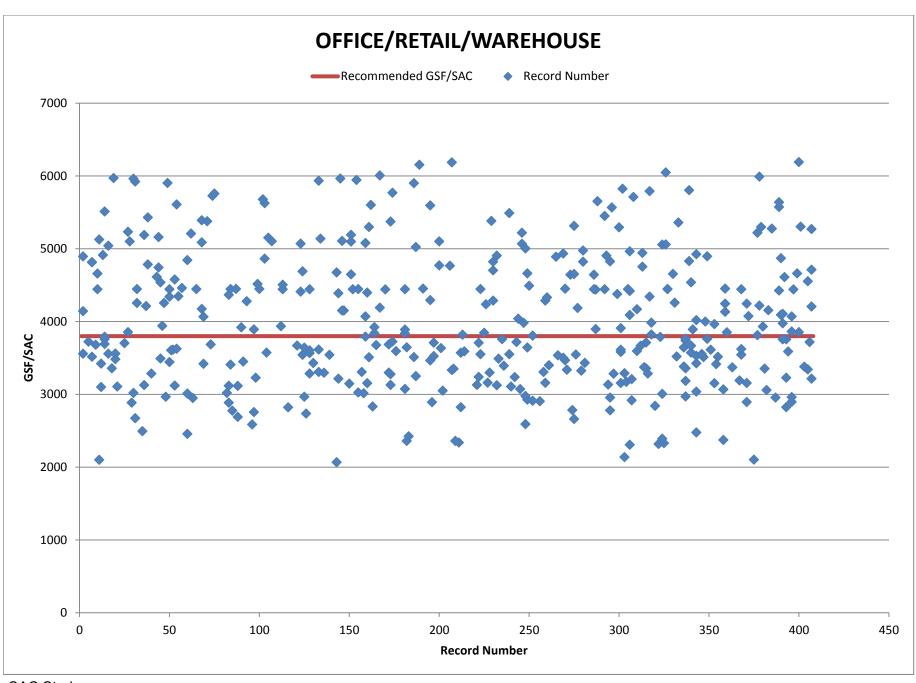


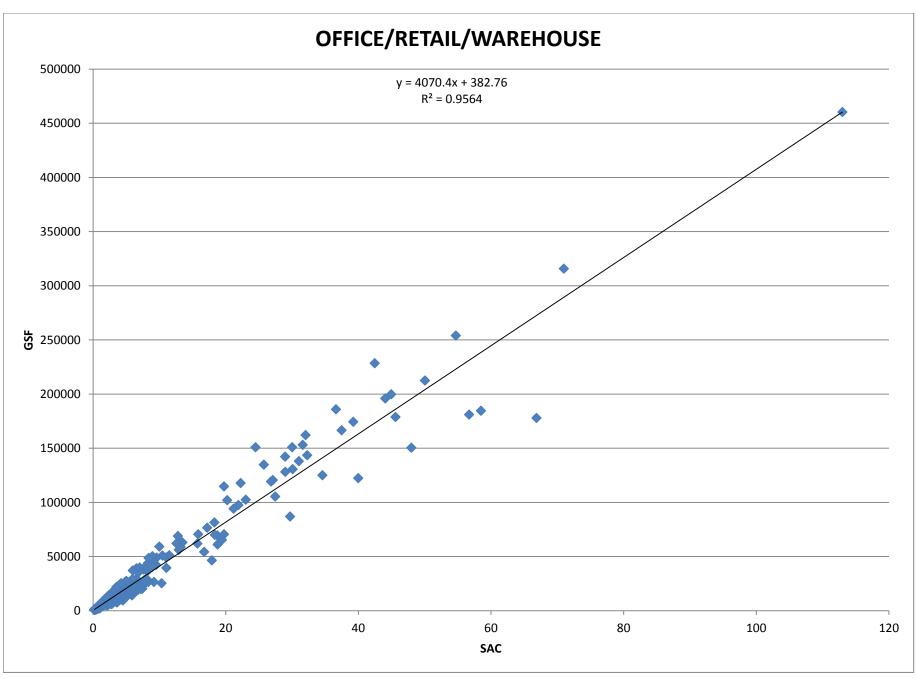
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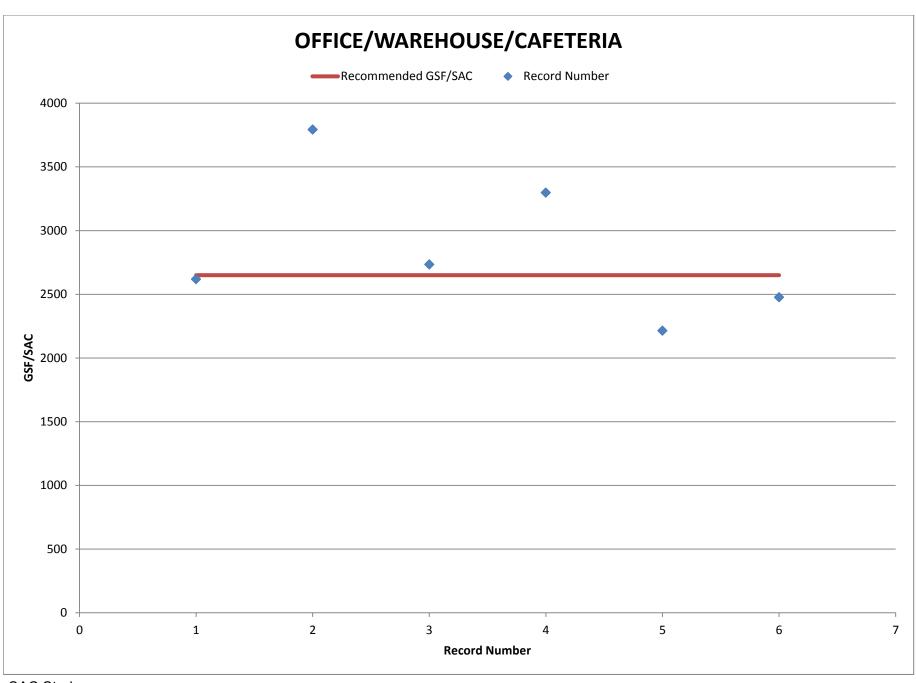


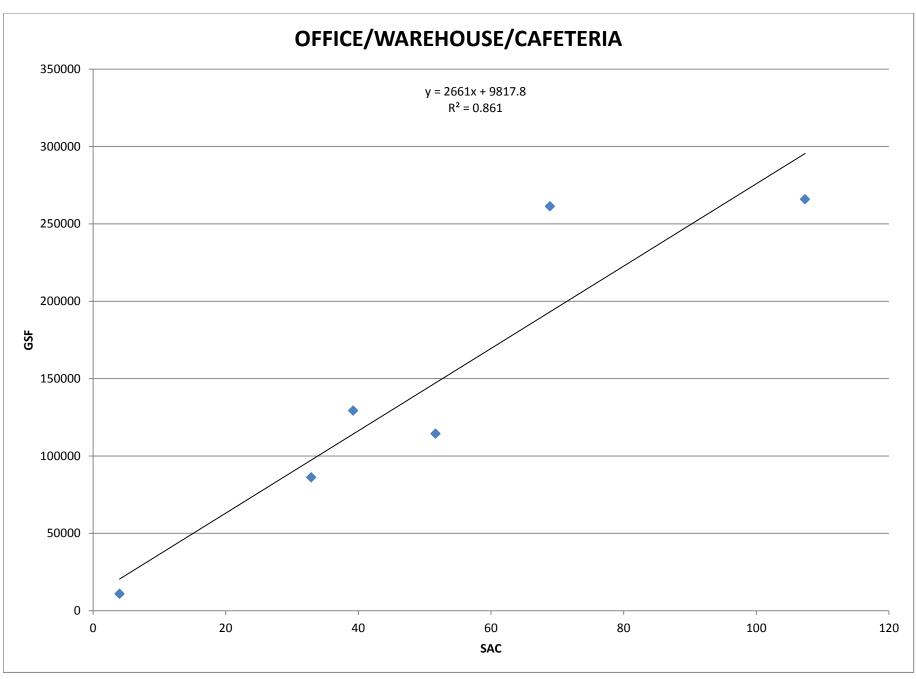


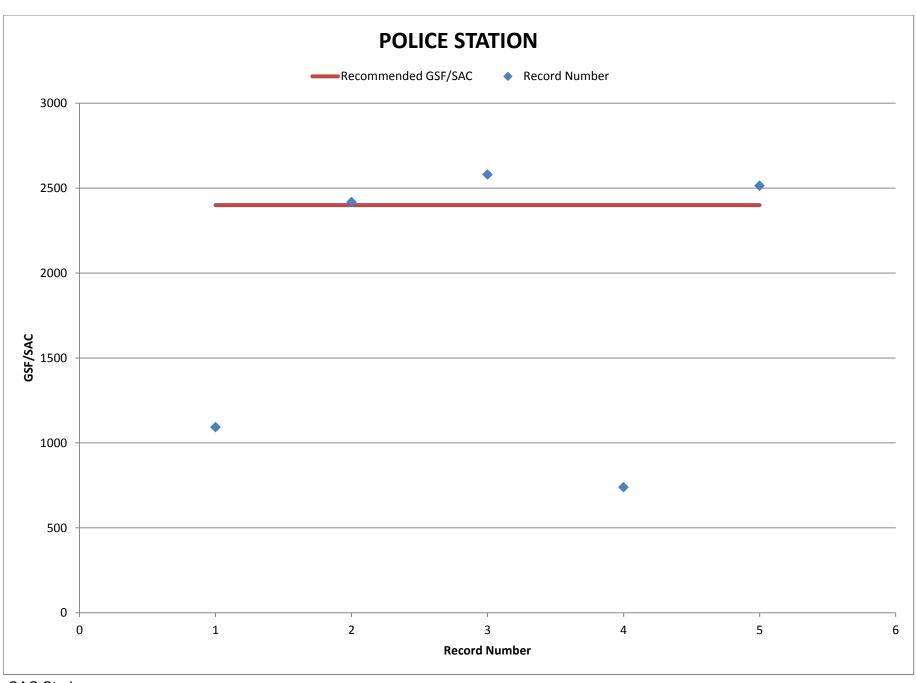
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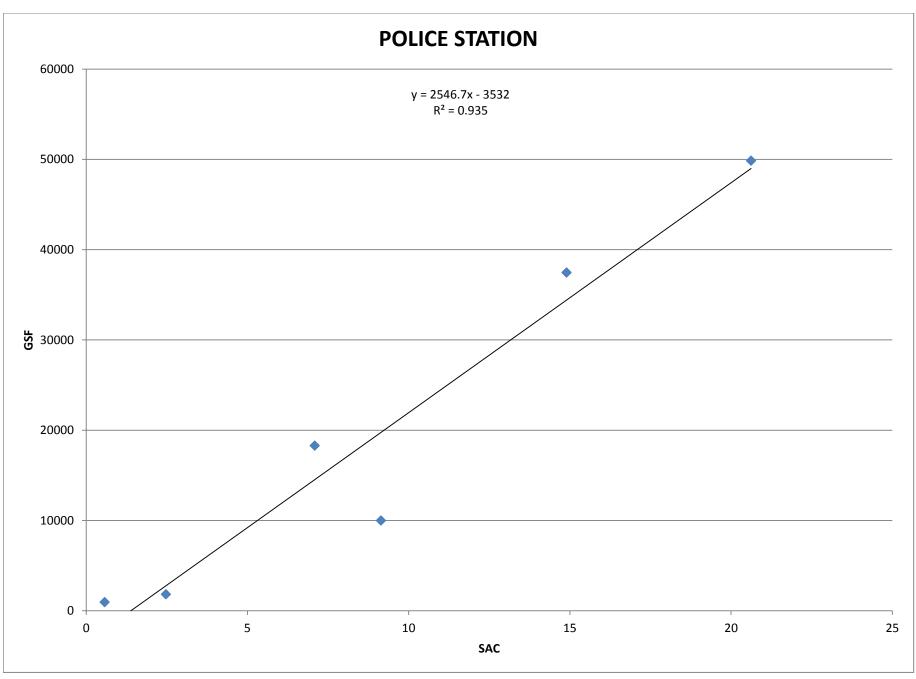




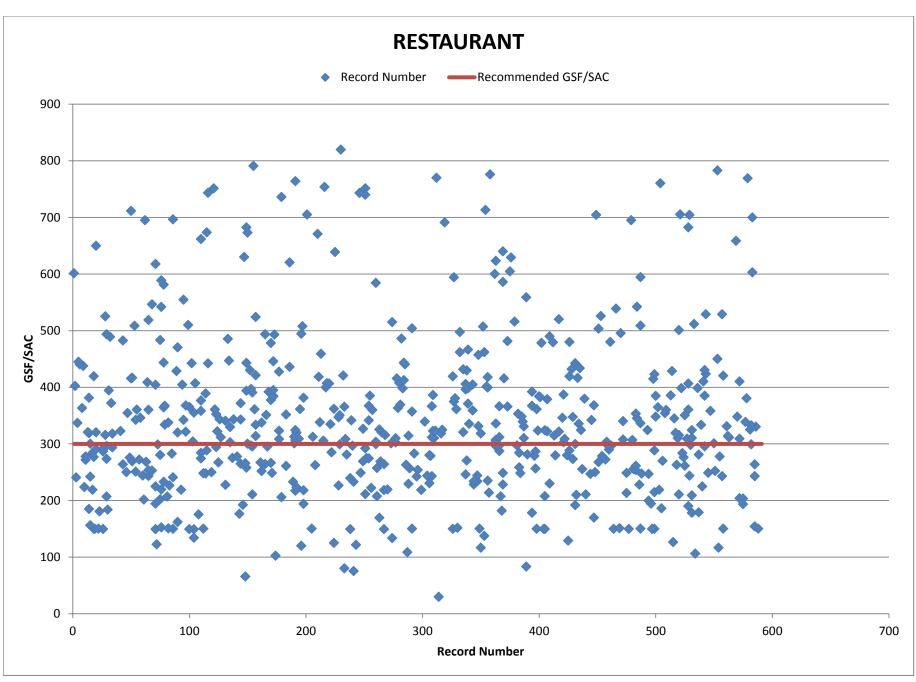






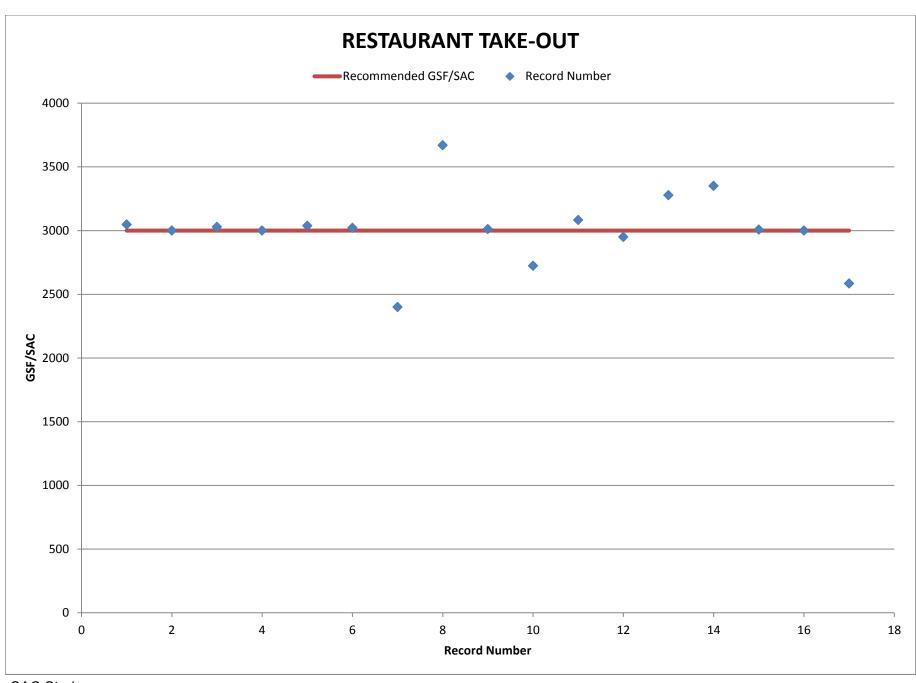


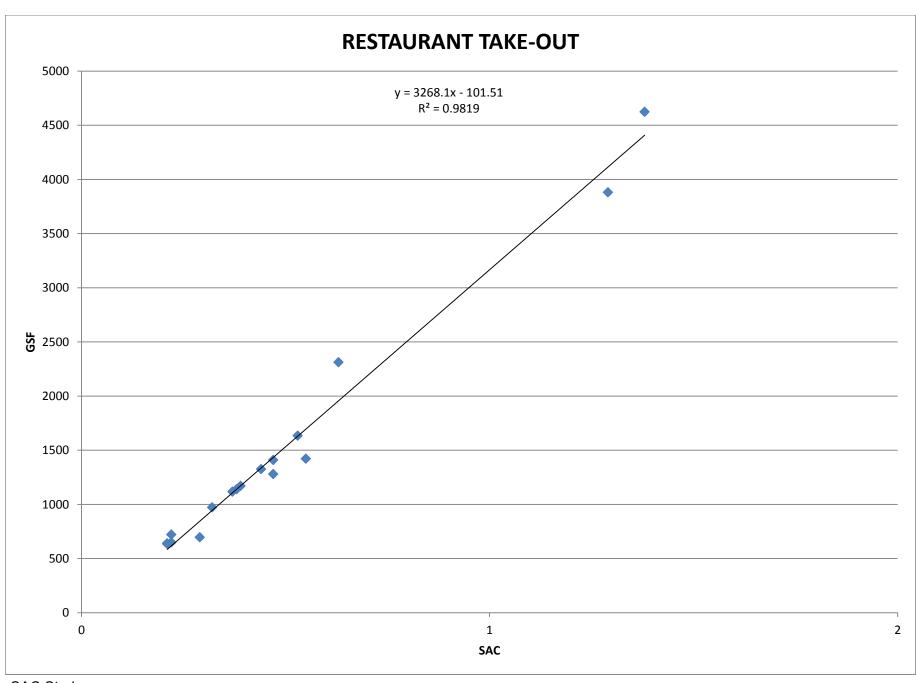
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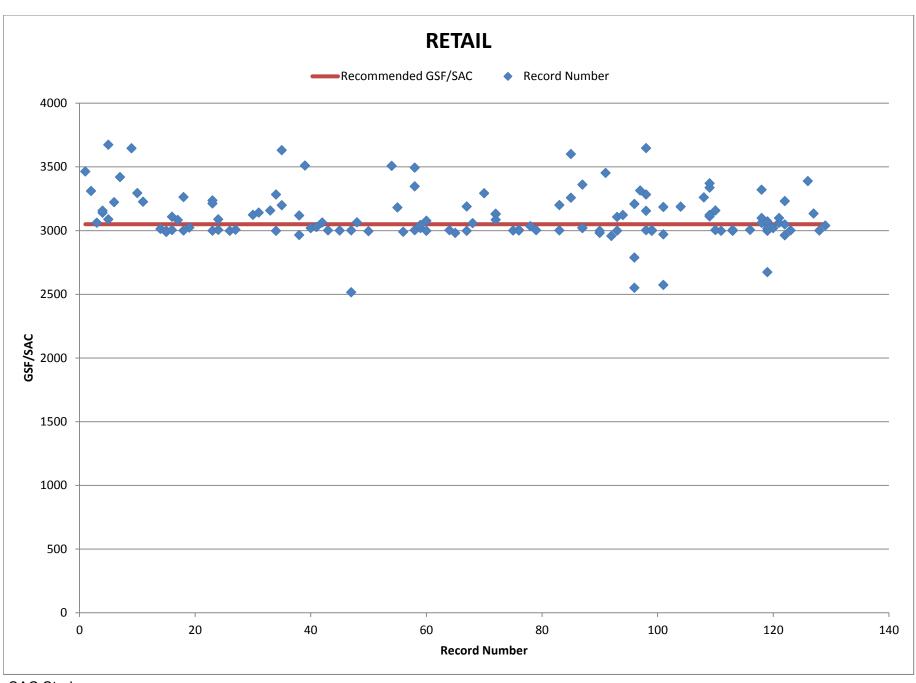


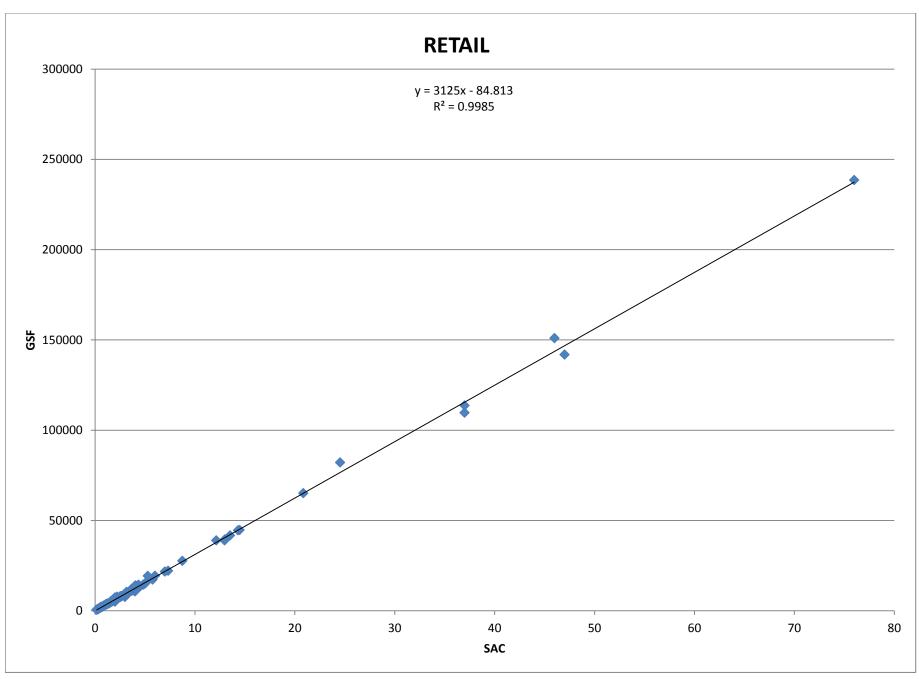


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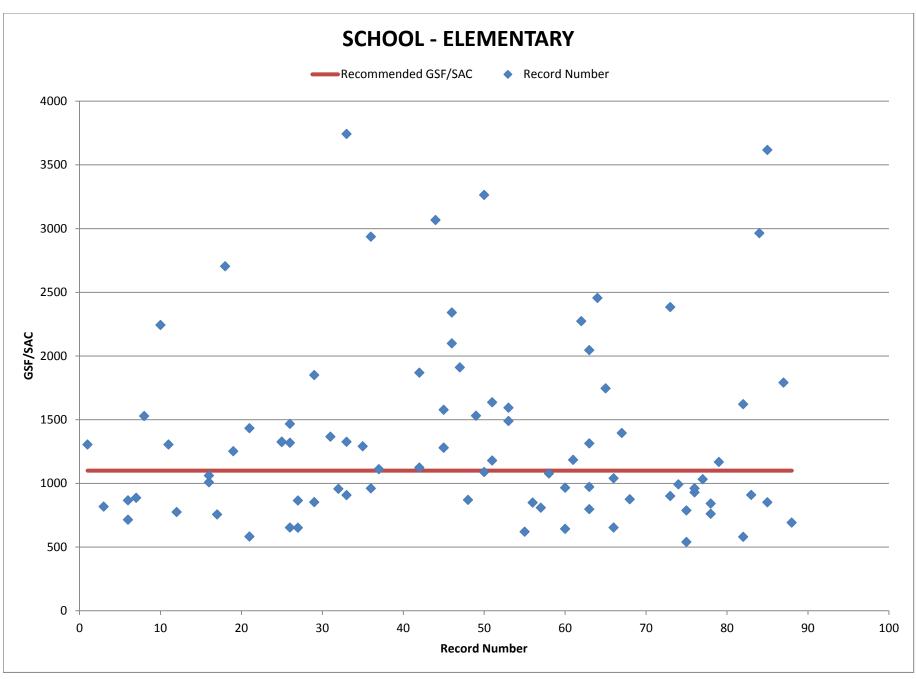


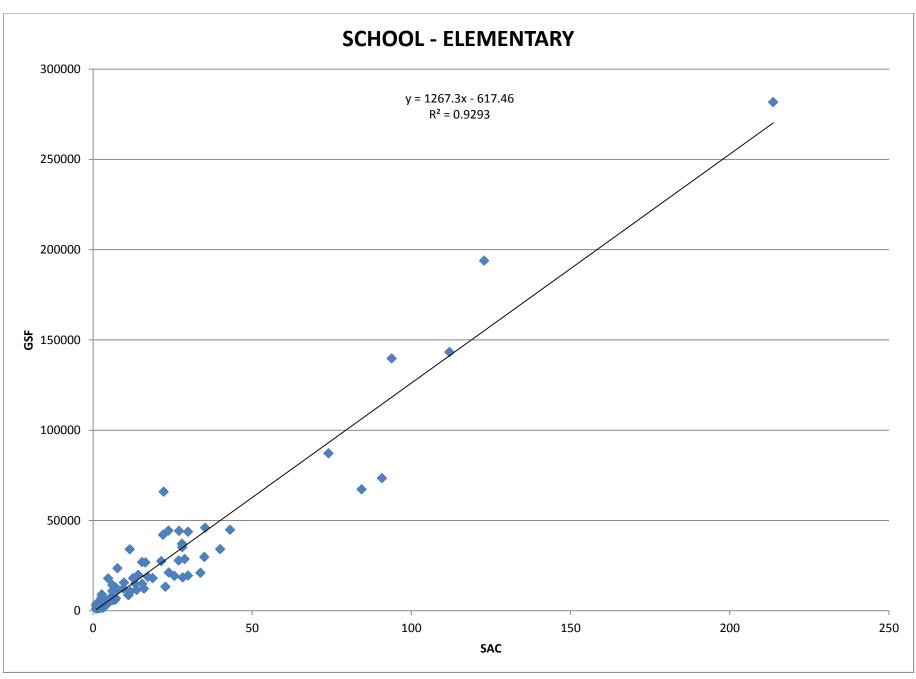




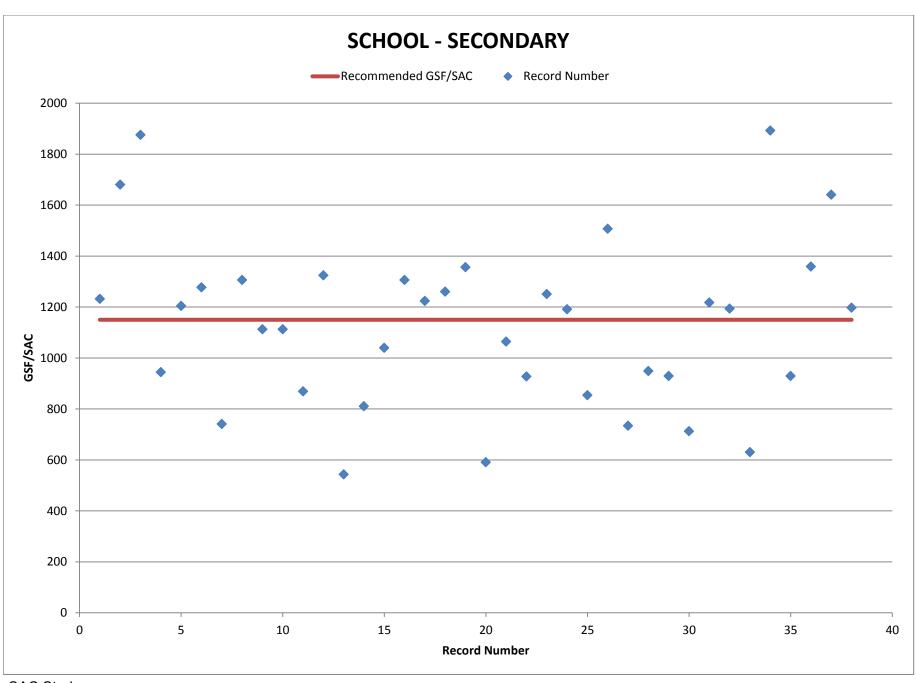


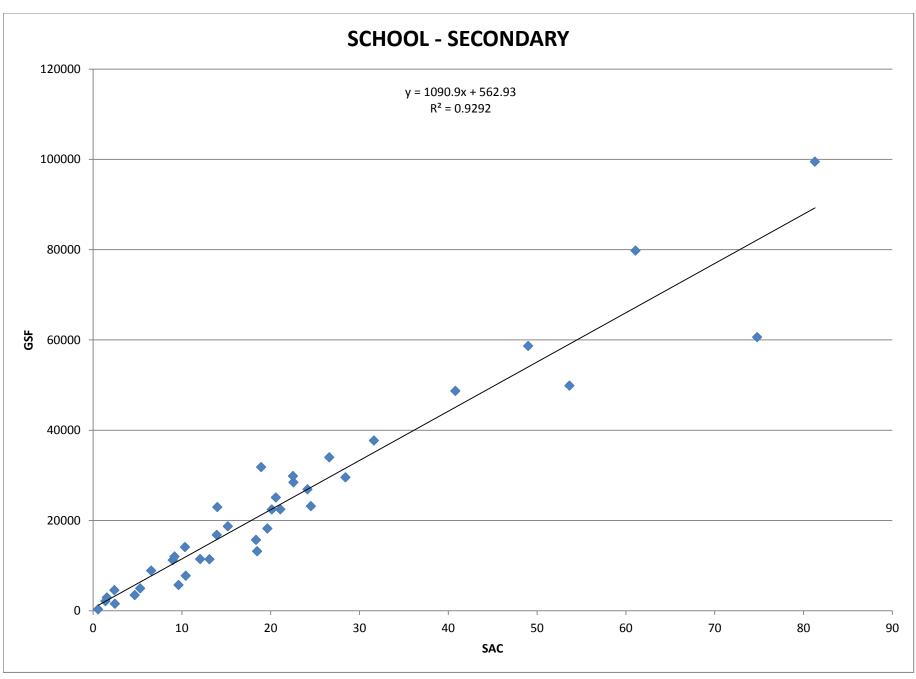
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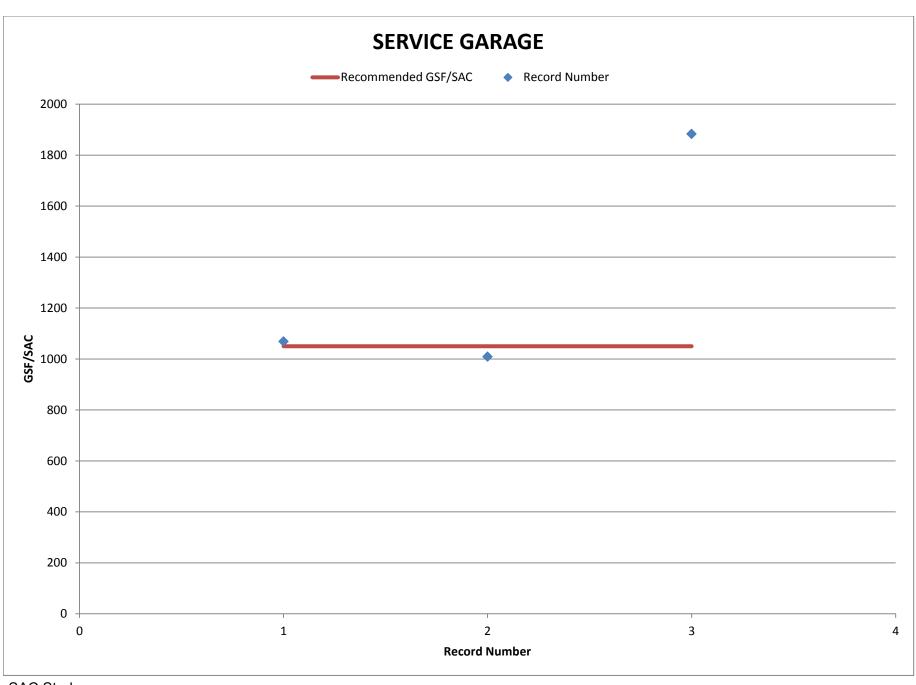


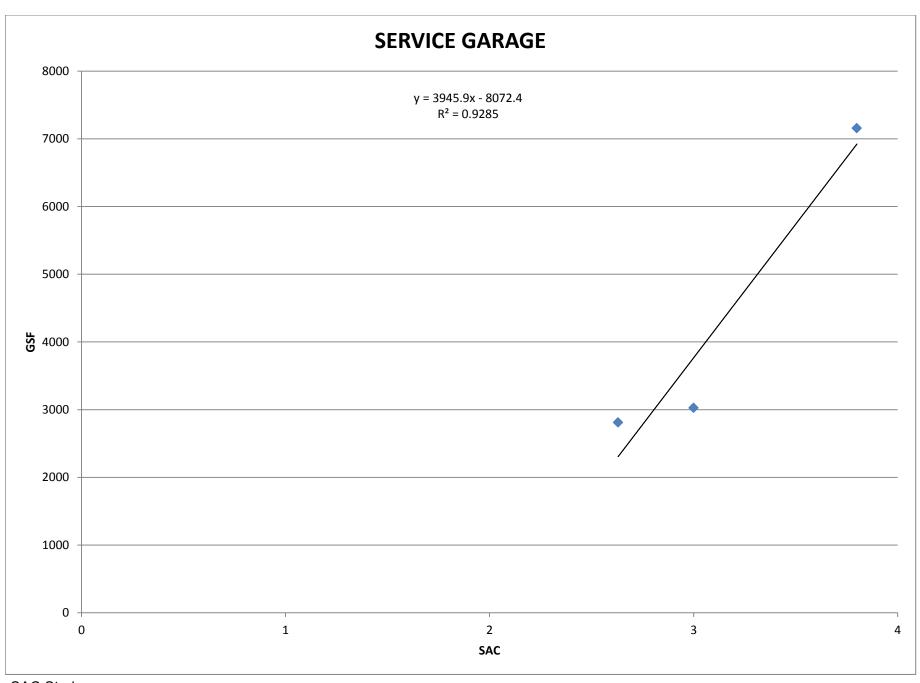
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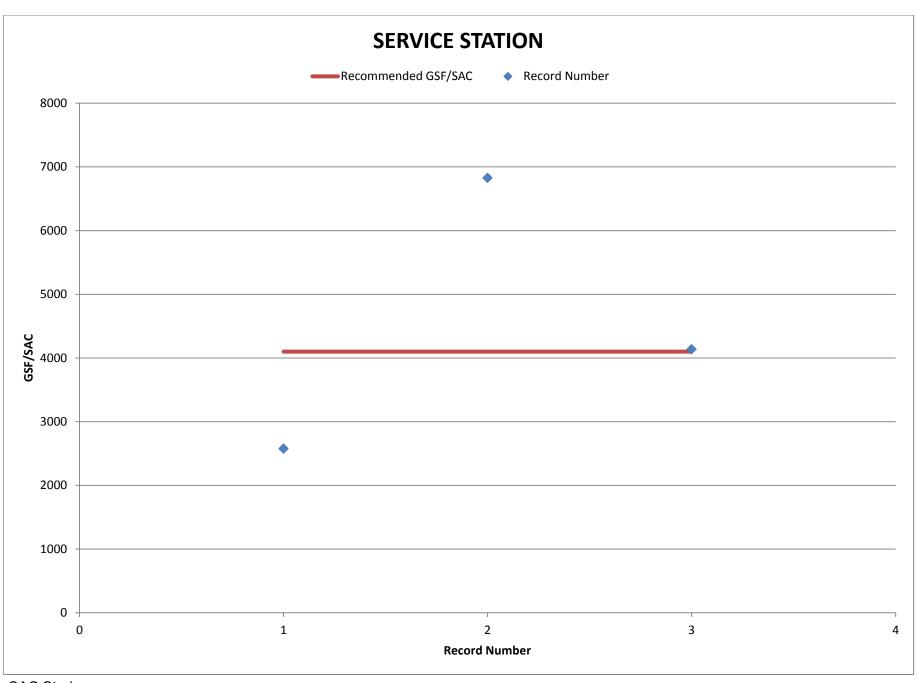


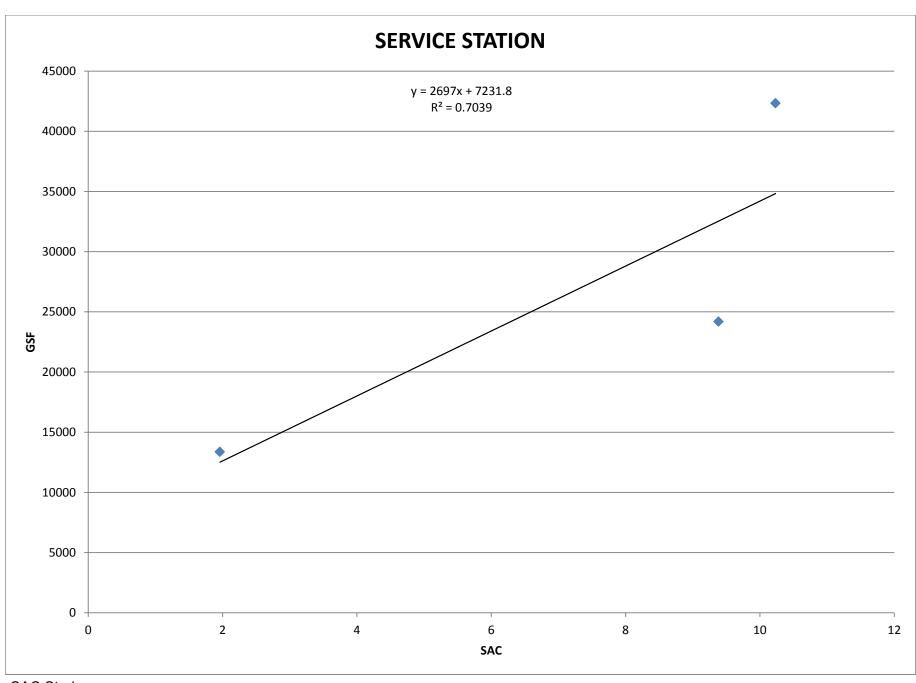


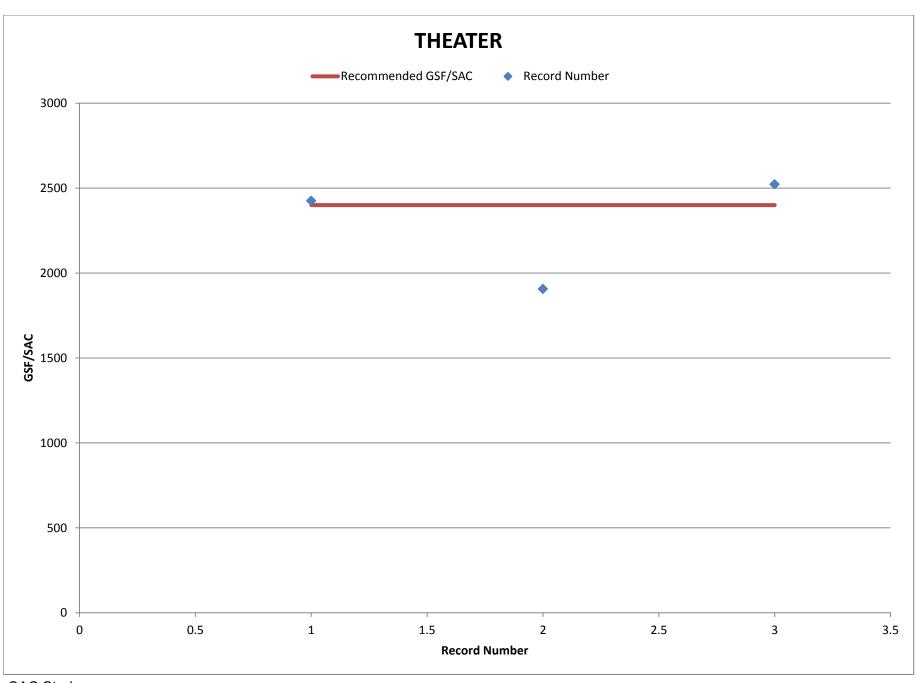
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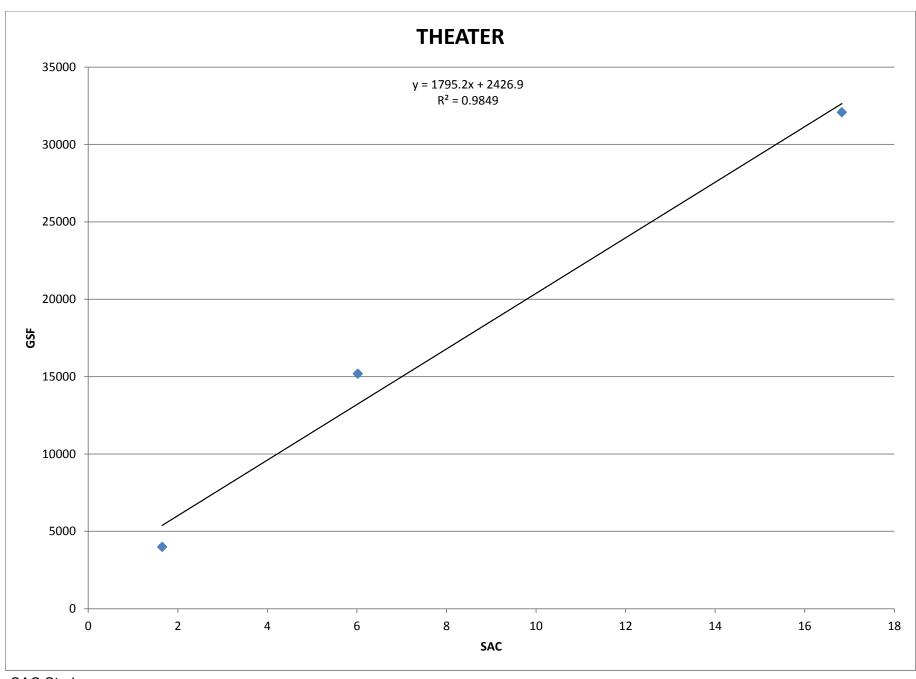




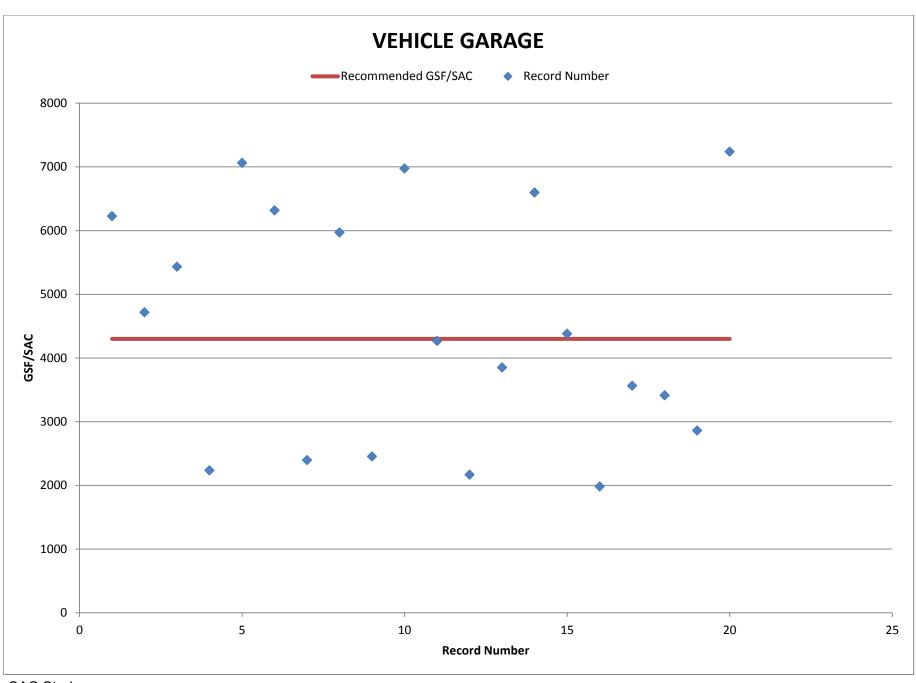


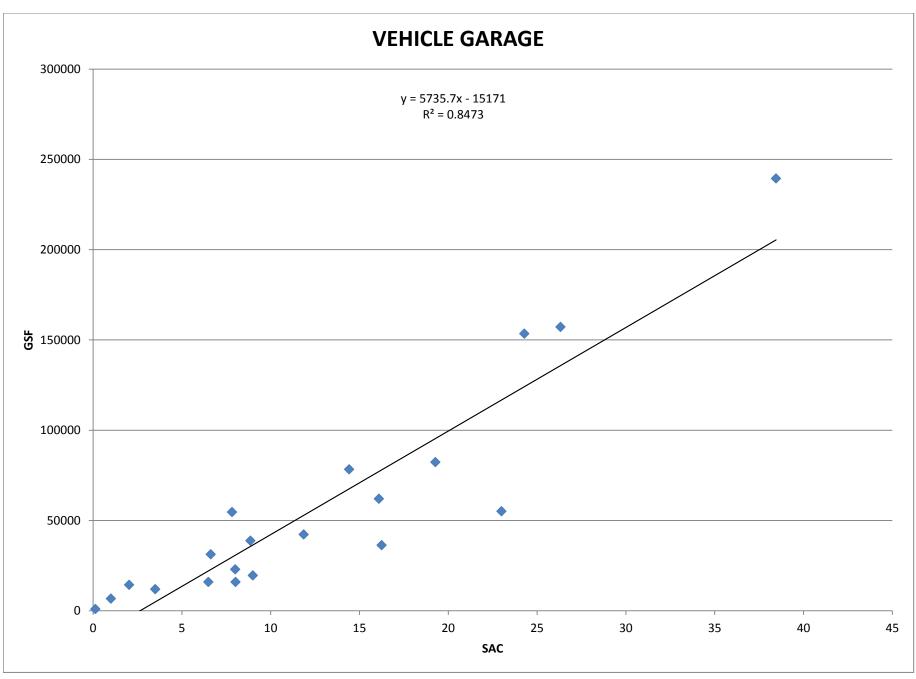




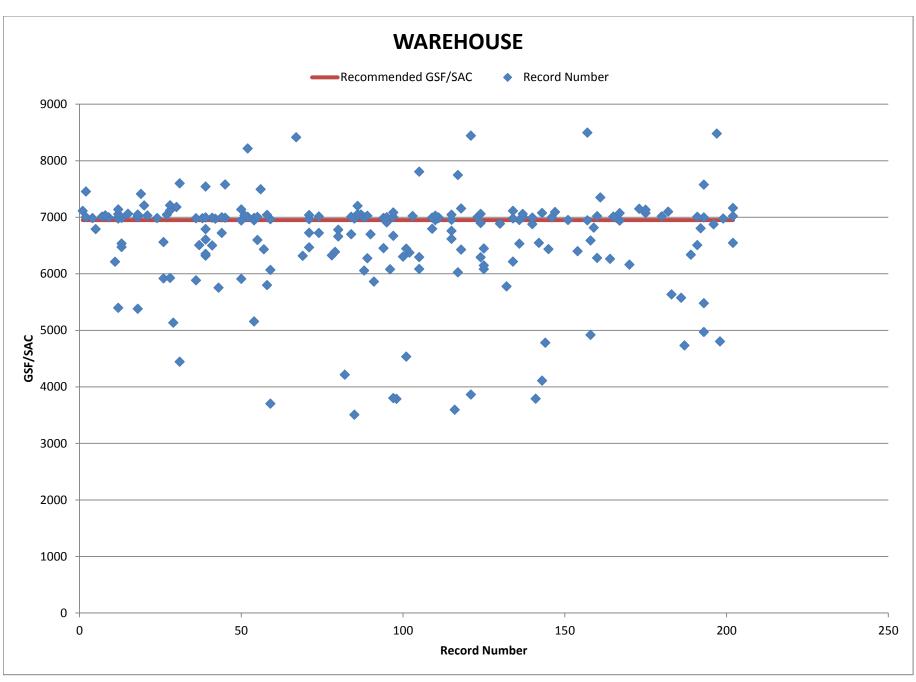


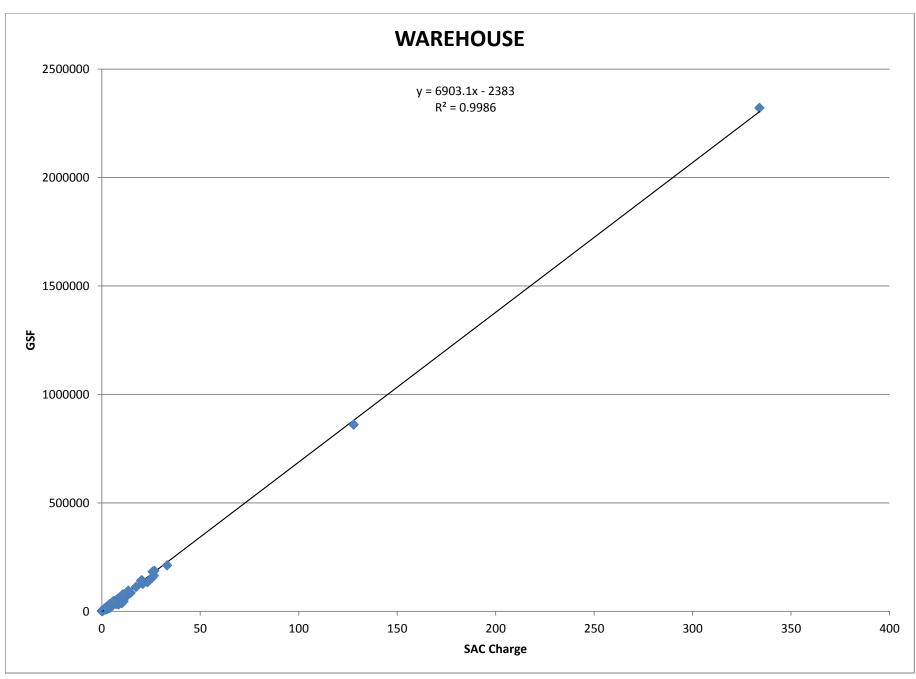
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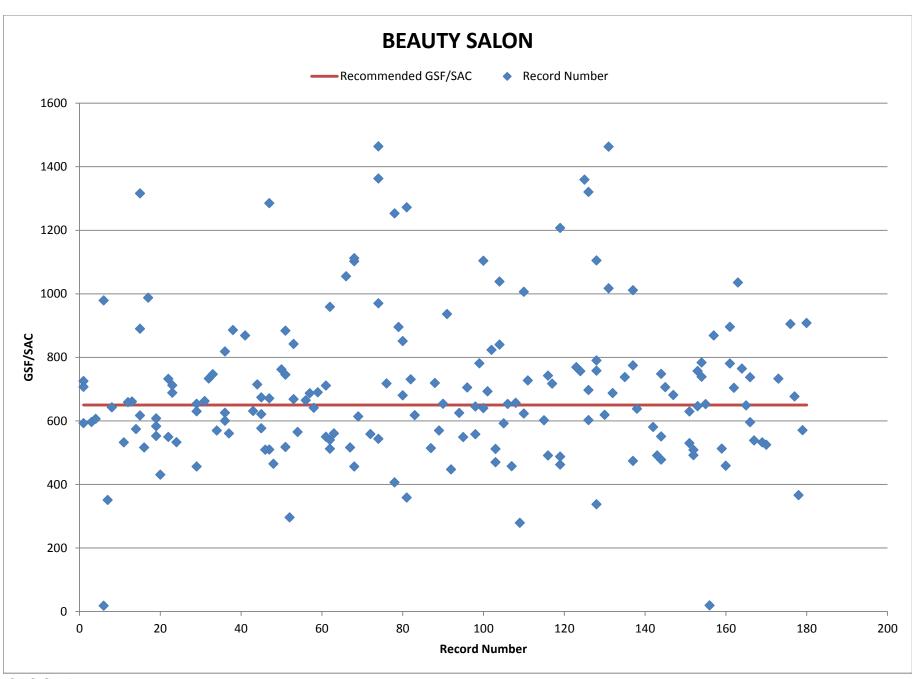
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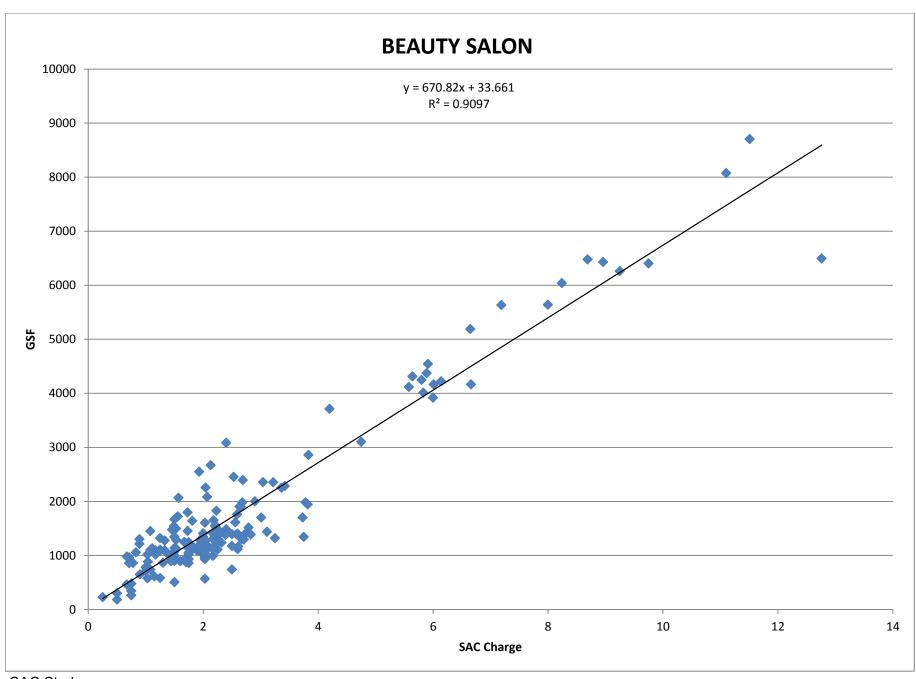




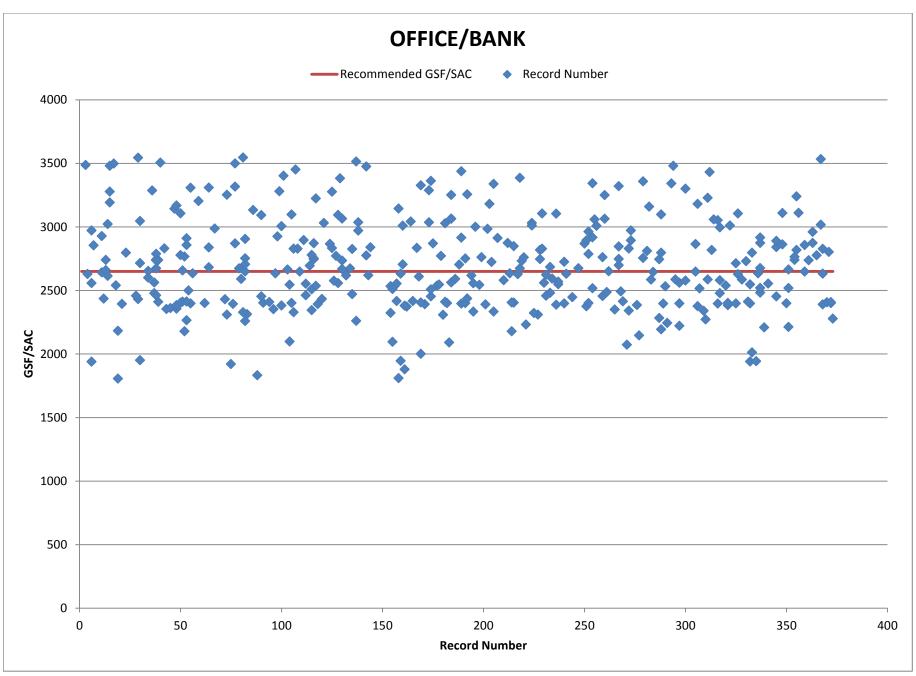
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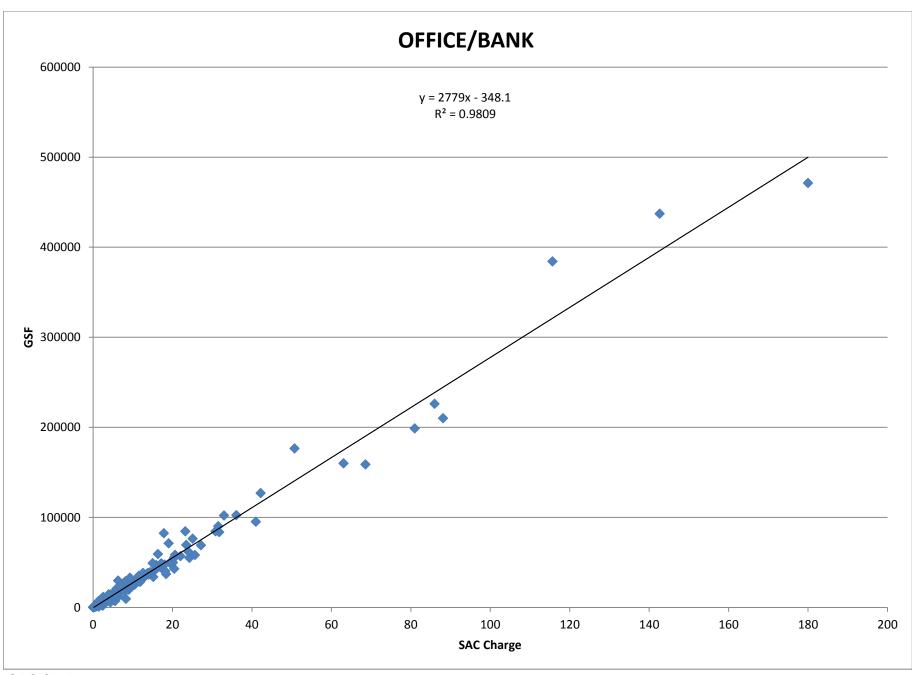
APPENDIX B-3 COMBINED CATEGORIES



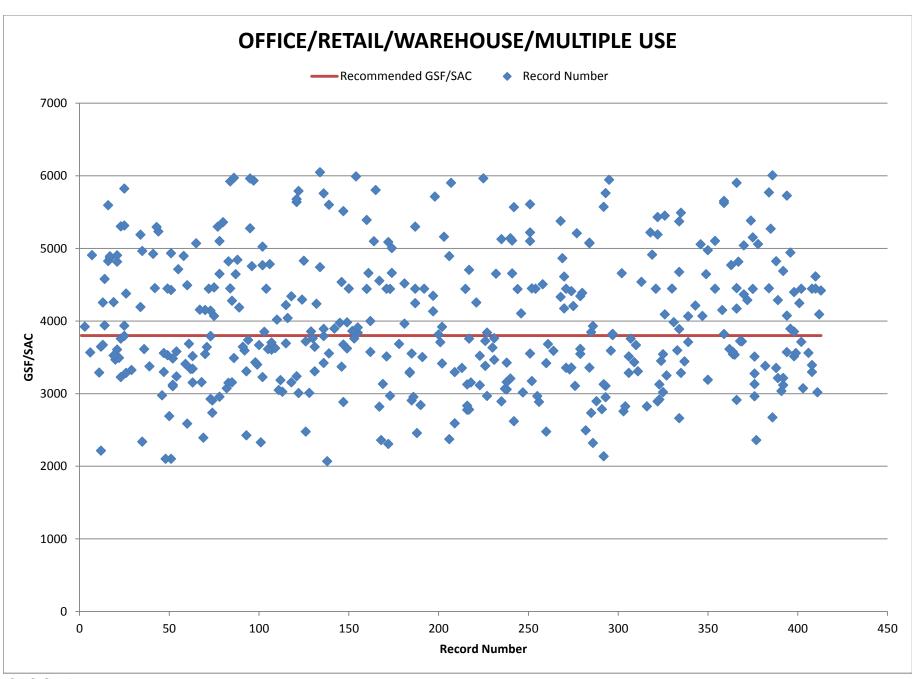


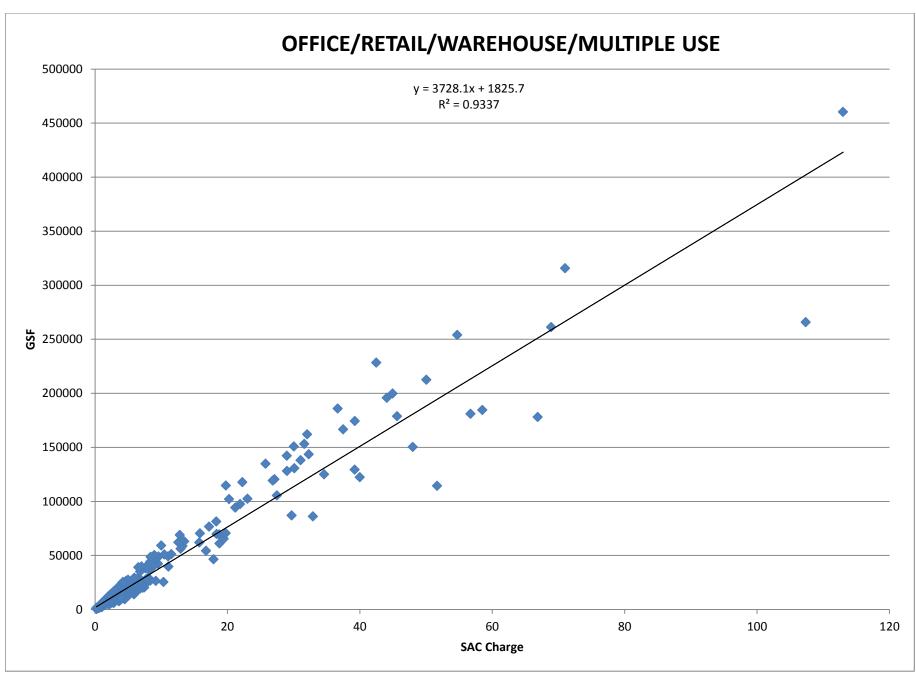
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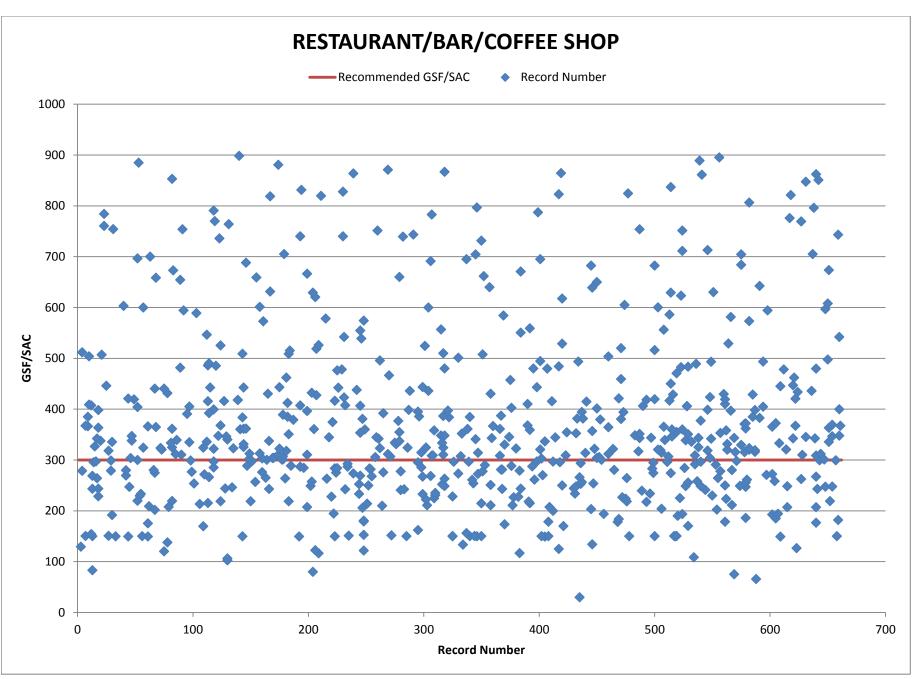


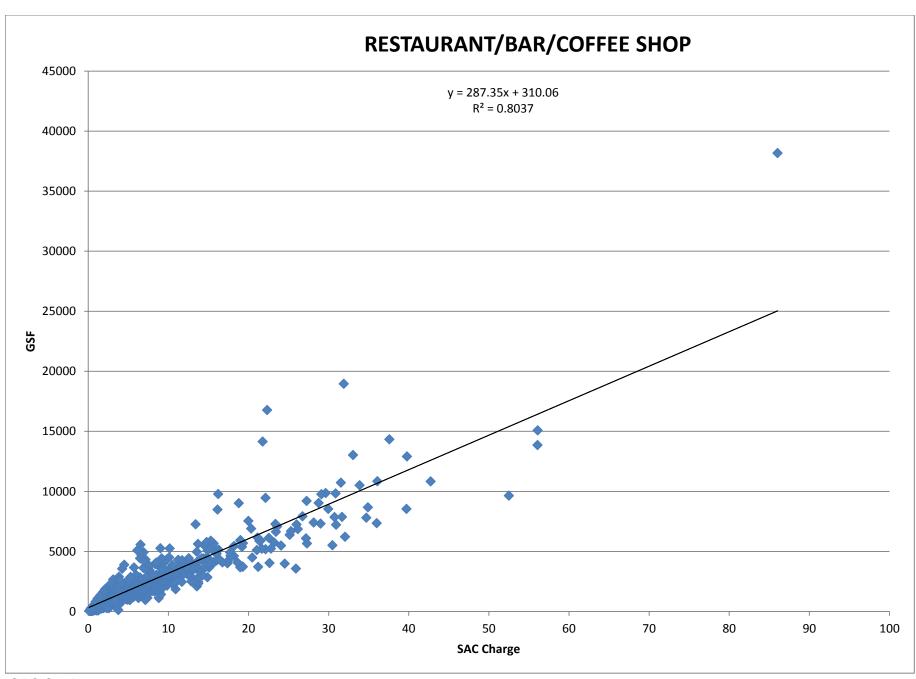


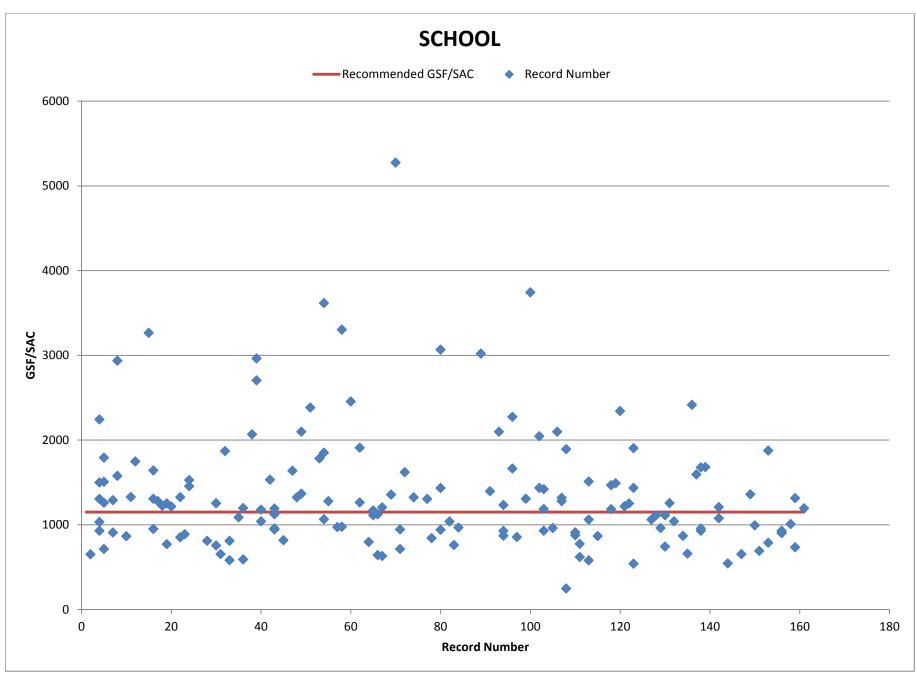
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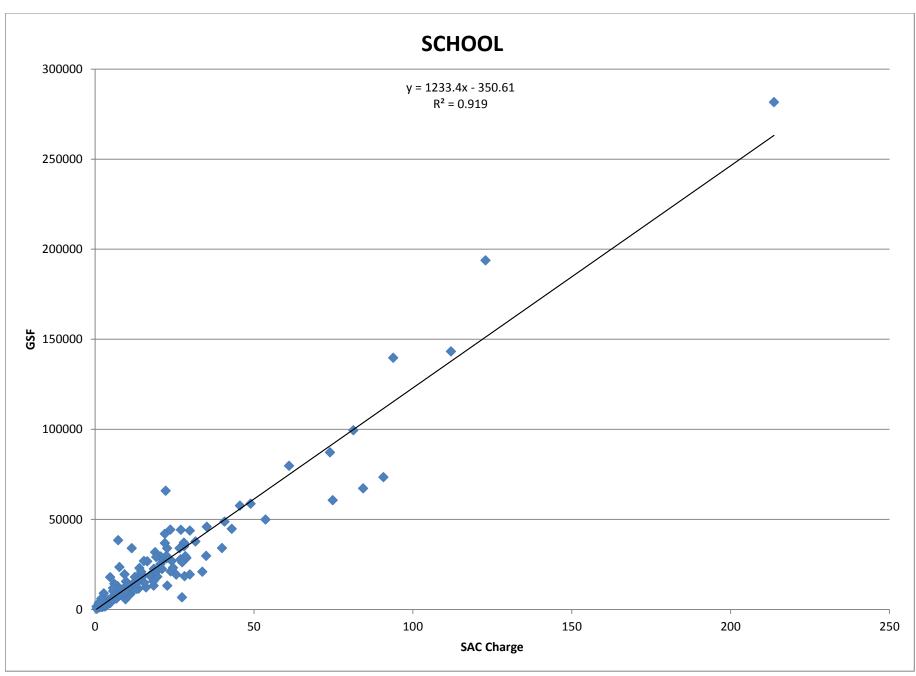




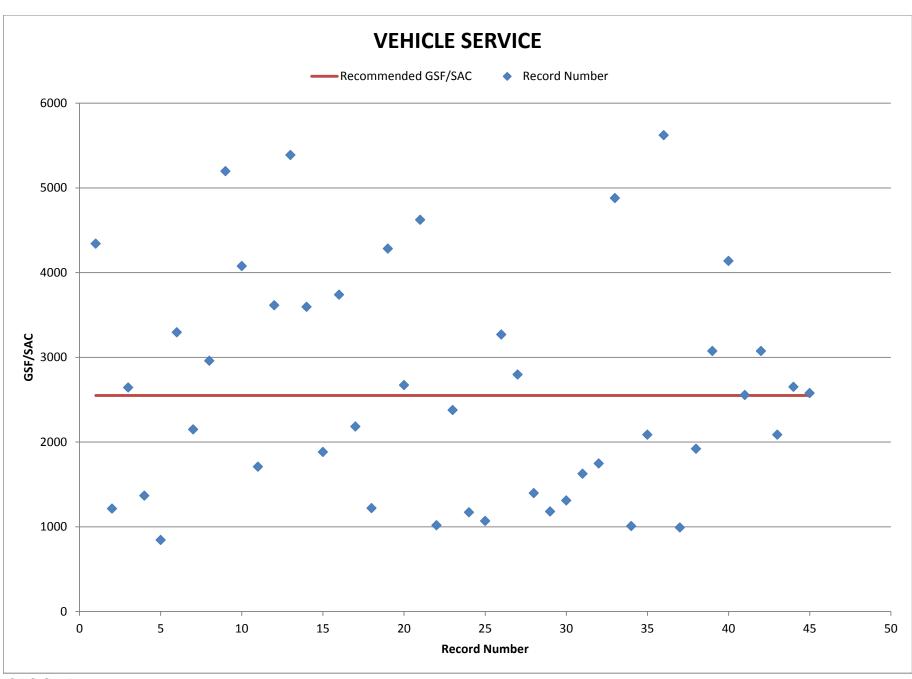


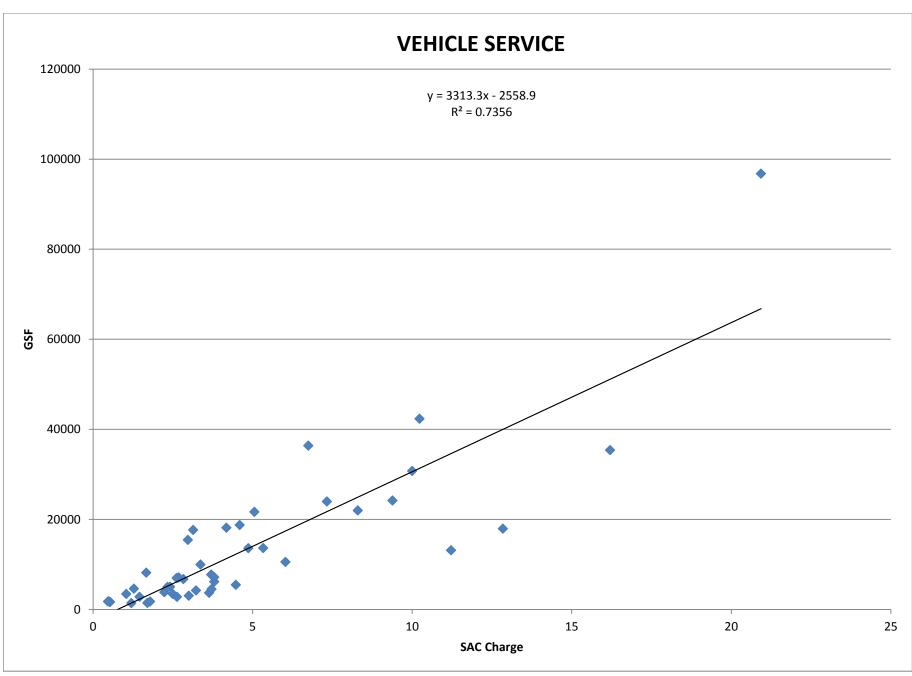


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