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R I O G R A N D E C O U N T Y
P R O P E R T Y A S S E S S M E N T
S T U D Y

WILDROSE
APPRAISAL, INCORPORATED
Audit Division
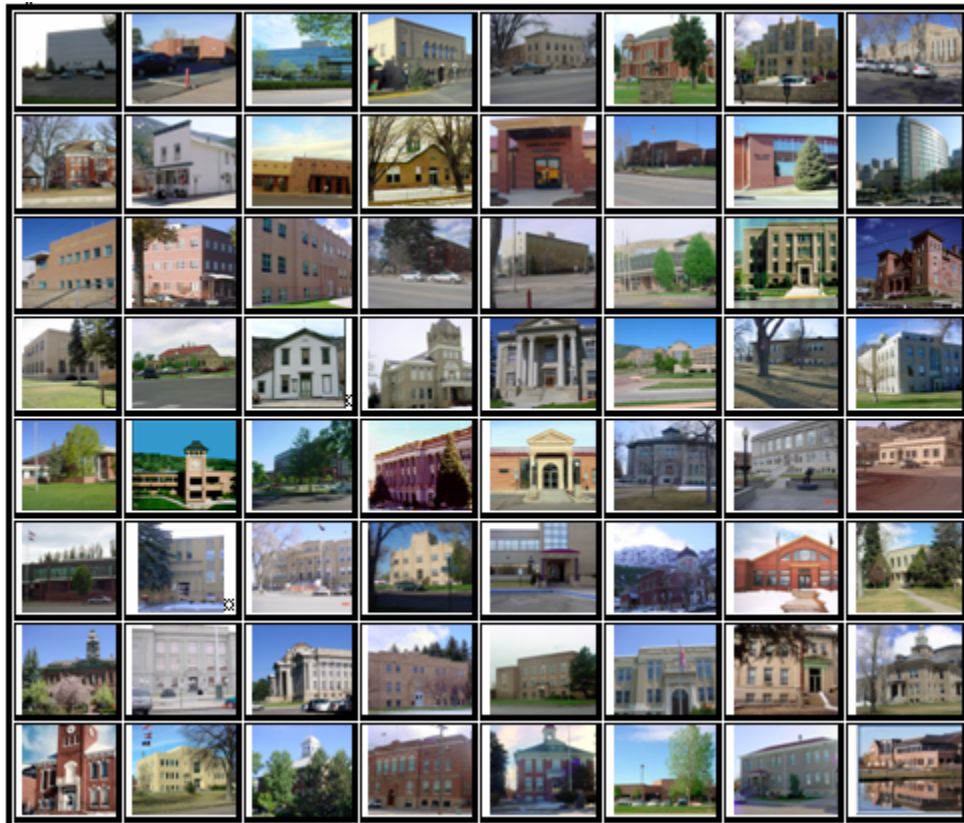
WILDROSE
APPRAISAL, INCORPORATED
Audit Division

September 15, 2009

Mr. Mike Mauer
Director of Research
Colorado Legislative Council
Room 029, State Capitol Building
Denver, Colorado 80203

RE: Final Report for the 2009 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2009 Colorado Property Assessment Study.

These reports are the result of two analyses: A procedural audit and a statistical audit.

The procedural audit examines all classes of property. It specifically looks at how the assessor develops economic areas, confirms and qualifies sales, develops time adjustments and performs periodic physical property inspections. The audit reviews the procedures for determining subdivision absorption and subdivision discounting. Valuation methodology is examined for residential properties and commercial properties. Procedures are reviewed for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims.

Statistical audits are performed on vacant land, residential properties, commercial/industrial properties and agricultural land. A statistical analysis is performed for personal property compliance on the eleven largest counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. The remaining counties receive a personal property procedural study.

Wildrose Appraisal Inc. — Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

Harry J. Fuller
Project Manager
Wildrose Appraisal Inc. — Audit Division

TABLE OF CONTENTS

INTRODUCTION

The State Board of Equalization (SBOE) reviews assessments for conformance to the Constitution. The SBOE will order revaluations for counties whose valuations do not reflect the proper valuation period level of value.

The statutory basis for the audit is found in C.R.S. 39-1-104 (16)(a)(b) and (c).

The legislative council sets forth two criteria that are the focus of the audit group:

To determine whether each county assessor is applying correctly the constitutional and statutory provisions, compliance requirements of the State Board of Equalization, and the manuals published by the State Property Tax Administrator to arrive at the actual value of each class of property.

To determine if each assessor is applying correctly the provisions of law to the actual values when arriving at valuations for assessment of all locally valued properties subject to the property tax.

The property assessment audit conducts a two-part analysis: A procedural analysis and a statistical analysis.

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for vacant land, improved residential properties and commercial properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax Administrator.

Wildrose Audit has completed the Property Assessment Study for 2009 and is pleased to report its findings for Rio Grande County in the following report.

REGIONAL/HISTORICAL SKETCH OF RIO GRANDE COUNTY

Regional Information

Rio Grande County is located in the San Luis Valley region of Colorado. The San Luis Valley is a large, broad, alpine valley in the Rio Grande Basin of south-central Colorado. The valley is drained to the south by the Rio Grande River which rises in the San Juan Mountains to the west of the valley. The San Luis Valley includes Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.

Historical Information

Rio Grande County has a population of approximately 12,006 people with 13.6 people per square mile, according to the U.S. Census Bureau's 2006 estimated population data.

The gateway to the San Juan Mountains, Rio Grande County is one of the highlights of the San Luis Valley. The county covers 913 square miles ranging from around 7,000 feet on valley floor to numerous 13,000-foot peaks. The scenic landscape and close community make Rio Grande County a great place to vacation, work and live. There are three municipalities within the county, Monte Vista, Del Norte, and South Fork and all have been historically developed along the rail line that follows the Rio Grande River.

Monte Vista is the county's largest community situated on the valley floor and is the center of the agricultural aspect of the county. There are numerous festivals, events, and clubs that take place in and around Monte Vista, and the

Monte Vista National Wildlife Refuge is a stop for migratory Sand Hill Cranes every year.

Del Norte is a quaint town with a focus on its historic past. It is the county seat, home to the Rio Grande County Museum, and maintains a historic façade in its main street. Home to many small shops and boutiques it is a beautiful place to shop and also provides recreational activity with climbing, hiking, and fishing close by.

The newest town in Rio Grande County is South Fork. South Fork is surrounded by the Rio Grande National Forest and other public lands and has easy access to Wolf Creek Ski Area. Developed as a logging center, it has become a gem of the Valley with a booming housing market, world class 18 hole golf course, and the distinction of being the Gateway to the Silver Thread scenic byway. (*www.riograndecounty.org*)

RATIO ANALYSIS

Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 2007 and June 2008. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2008 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

Conclusions

For this final analysis report, the minimum acceptable statistical standards allowed by the State Board of Equalization are:

ALLOWABLE STANDARDS RATIO GRID		
Property Class	Unweighted Median Ratio	Coefficient of Dispersion
Commercial/Industrial	Between .95-1.05	Less than 20.99
Condominium	Between .95-1.05	Less than 15.99
Single Family	Between .95-1.05	Less than 15.99
Vacant Land	Between .95-1.05	Less than 20.99

The results for Rio Grande County are:

Rio Grande County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	56	0.966	1.052	20.7	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	216	0.967	1.034	15.8	Compliant
Vacant Land	168	0.981	1.073	19.6	Compliant

After applying the above described methodologies, it is concluded from the sales ratios that Rio Grande County is in compliance with SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations

None

Random Deed Analysis

An additional analysis was performed as part of the Ratio Analysis. Ten randomly selected deeds with documentary fees were obtained from the Clerk and Recorder. These deeds were for sales that occurred from January 1, 2007 through June 30, 2008. These sales were then checked for inclusion on the Assessor's qualified or unqualified database.

Conclusions

After comparing the list of randomly selected deeds with the Assessor's database, Rio Grande County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

Recommendations

None

T IME T RENDING V ERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market trending adequately, and a further examination

is warranted. This validation methodology also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

After verification and analysis, it has been determined that Rio Grande County has complied with the statutory requirements to analyze the effects of time on value in their county. Rio Grande County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD/UNSOLD ANALYSIS

Methodology

Rio Grande County was tested for the equal treatment of sold and unsold properties to ensure that "sales chasing" has not occurred. The auditors employed a multi-step process to determine if sold and unsold properties were valued in a consistent manner.

All qualified residential and commercial class properties were examined using the unit value method, where the actual value per square foot was compared between sold and unsold properties. A class was considered qualified if it met the criteria for the ratio analysis. The median value per square foot for both groups was compared from an appraisal and statistical perspective. If no significant difference was indicated, then we concluded that no further testing was warranted and that the county was in compliance in terms of sold/unsold consistency.

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2008 and 2009 actual values for each qualified class of property. All qualified vacant land classes were tested using this method. The sale property ratios were arrayed using a range of 0.8 to 1.5, which theoretically excluded changes between years that were due to other unrelated changes in the property. These ratios were also stratified at the appropriate level of analysis. Once the percent change was determined for each appropriate class and sub-class, the next step was to select the unsold sample. This sample

was at least 1% of the total population of unsold properties and excluded any sale properties. The unsold sample was filtered based on the attributes of the sold dataset to closely correlate both groups. The ratio analysis was then performed on the unsold properties and stratified. The median and mean ratio distribution was then compared between the sold and unsold group. A non-parametric test such as the Mann-Whitney test for differences between independent samples was undertaken to determine whether any observed differential was significant. If this test determined that the unsold properties were treated in a manner similar to the sold properties, it was concluded that no further testing was warranted and that the county was in compliance.

If a class or sub-class of property was determined to be significantly different by this method, the final step was to perform a multi-variate mass appraisal model that developed ratio statistics from the sold properties that were then applied to the unsold sample. This test compared the measures of central tendency and confidence intervals for the sold properties with the unsold property sample. If this comparison was also determined to be significantly different, then the conclusion was that the county had treated the unsold properties in a different manner than sold properties.

These tests were supported by both tabular and chart presentations, along with saved sold and unsold sample files.

| Sold/Unsold Results	
Property Class	**Results**
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

Conclusions

After applying the above described methodologies, it is concluded that Rio Grande County is reasonably treating its sold and unsold properties in the same manner.
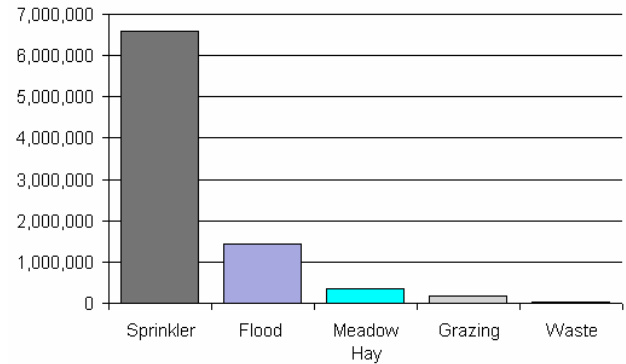
Recommendations

None

AGRICULTURAL LAND STUDY

Acres By Subclass
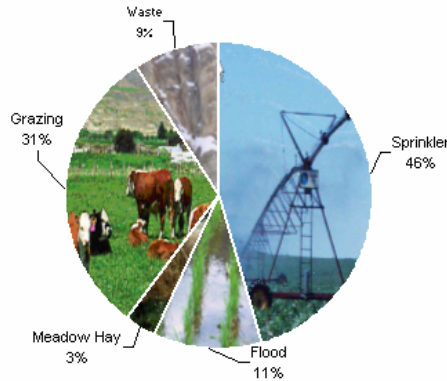
Value By Subclass

Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly.

(See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. County yields compared favorably to those published by Colorado Agricultural Statistics. Expenses used by the county were allowable expenses and were in an acceptable range. Grazing lands carrying capacities were in an acceptable range. The data analyzed resulted in the following ratios:

Rio Grande County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4107	Sprinkler	73,134	90.01	6,583,122	6,490,470	1.01
4117	Flood	18,237	78.84	1,437,861	1,462,936	0.98
4137	Meadow Hay	5,340	65.57	350,162	350,162	1.00
4147	Grazing	48,969	3.66	179,400	179,400	1.00
4167	Waste	14,645	1.62	23,653	23,653	1.00
Total/Avg		160,325	53.48	8,574,199	8,506,622	1.01

Recommendations

None

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.74 through 5.77 were being followed.

Conclusions

Rio Grande County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

A representative body of sales is required when considering the market approach to appraisal.

(8) In any case in which sales prices of comparable properties within any class or subclass are utilized when considering the market approach to appraisal in the determination of actual value of any taxable property, the following limitations and conditions shall apply:

(a)(I) Use of the market approach shall require a representative body of sales, including sales by a lender or government, sufficient to set a pattern, and appraisals shall reflect due consideration of the degree of comparability of sales, including the extent of similarities and dissimilarities among properties that are compared for assessment purposes. In order to obtain a reasonable sample and to reduce sudden price changes or fluctuations, all sales shall be included in the sample that reasonably reflect a true or typical sales price during the period specified in section 39-1-104 (10.2). Sales of personal property exempt pursuant to the provisions of sections 39-3-102, 39-3-103, and 39-3-119 to 39-3-122 shall not be included in any such sample.

(b) Each such sale included in the sample shall be coded to indicate a typical, negotiated sale, as screened and verified by the assessor. (39-1-103, C.R.S.)

The assessor is required to use sales of real property only in the valuation process.

(8)(f) Such true and typical sales shall include only those sales which have been determined on an individual basis to reflect the selling price of the real property only or which have been adjusted on an individual basis to reflect the selling price of the real property only. (39-1-103, C.R.S.)

Part of the Property Assessment Study is the sales verification analysis. WRA has used the above-cited statutes as a guide in our study of the county's procedures and practices for verifying sales.

WRA reviewed the sales verification procedures in 2009 for Rio Grande County. This study was conducted by checking selected sales from the master sales list for the Jan 1, 2007 - June 30, 2008 valuation period. Specifically WRA selected 31 sales listed as unqualified.

All of the sales in the unqualified sales sample had reasons that were clear and supportable.

Conclusions

Rio Grande County appears to be doing an excellent job of verifying their sales. WRA agreed with the county's reason for disqualifying each of the sales selected in the sample. There are no recommendations or suggestions.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Rio Grande County has submitted a written narrative describing the economic areas that make up the county's market areas. Rio Grande County has also submitted a map illustrating these areas. Each of these narratives have been read and analyzed for logic and appraisal sensibility. The maps were also compared to the narrative for consistency between the written description and the map.

Conclusions

After review and analysis, it has been determined that Rio Grande County has adequately identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

Conclusions

The County has applied the correct formulas and state guidelines to earth and stone production.

Recommendations

None

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Subdivision Discounting

Subdivisions were reviewed in 2009 in Rio Grande County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was developed using the summation method.

Subdivision land with structures was appraised at full market value.

Conclusions

Rio Grande County has implemented proper procedures to adequately estimate absorption periods, discount rates, and lot values for qualifying subdivisions.

Recommendations

None

POSSESSORY INTEREST PROPERTIES

Possessory Interest

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Section 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been granted under lease, permit, license, concession, contract, or other agreement.

Rio Grande County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

Conclusions

Rio Grande County has implemented a discovery process to place possessory interest properties on the roll. They have also correctly and consistently applied the correct procedures and valuation methods in the valuation of possessory interest properties.

Recommendations

None

PERSONAL PROPERTY AUDIT

Rio Grande County was studied for its procedural compliance with the personal property assessment outlined in the Assessor's Reference Library (ARL) Volume 5, and in the State Board of Equalization (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, classification, documentation procedures, current economic lives table, cost factor tables, depreciation table, and level of value adjustment factor table.

The personal property audit standards narrative must be in place and current. A listing of businesses that have been audited by the assessor within the twelve-month period reflected in the plan is given to the auditor. The audited businesses must be in conformity with those described in the plan.

Aggregate ratio will be determined solely from the personal property accounts that have been physically inspected. The minimum assessment sample is one percent or ten schedules, whichever is greater, and the maximum assessment audit sample is 100 schedules.

For the counties having over 100,000 population, WRA selected a sample of all personal property schedules to determine whether the assessor is correctly applying the provisions of law and manuals of the Property Tax Administrator in arriving at the assessment levels of such property. This sample was selected from the personal property schedules audited by the assessor. In no event was the sample selected by the contractor less than 30 schedules. The counties to be included in this study are Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

Rio Grande County is compliant with the guidelines set forth in ARL Volume 5 regarding discovery procedures, using the following methods to discover personal property accounts in the county:

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor
- New Sales Tax Accounts

The county uses the Division of Property Taxation (DPT) recommended classification and documentation procedures. The DPT's recommended cost factor tables, depreciation tables and level of value adjustment factor tables are also used.

Rio Grande County submitted their personal property written audit plan and was current for the 2009 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Accounts with obvious discrepancies
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available

- Accounts close to the $4,000 actual value exemption status
- Accounts protested with substantial disagreement
- Accounts showing greater than 10% change in General Ledger balances, but no additions or deletions
- Second year after a new business files rendition form
- Accounts ignoring audit information sent after an audit
- One potato warehouse per year

- Businesses claiming to be out of business

Conclusions

Rio Grande County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their personal property assessment and is in statistical compliance with SBOE requirements.

Recommendations

None

WILDROSE AUDITOR STAFF

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician / Field Analyst*

Carl W. Ross, *Agricultural / Natural Resource Analyst*

Andy Rodriguez, *Field Analyst*

A PPENDICES

STATISTICAL COMPLIANCE RESULTS
FOR RIO GRANDE COUNTY
2009

I. OVERVIEW

Rio Grande County is located in south central Colorado. The county has a total of 13,844 real property parcels, according to data submitted by the county assessor's office in 2009. The following provides a breakdown of property classes for this county:

Real Property Class Distribution
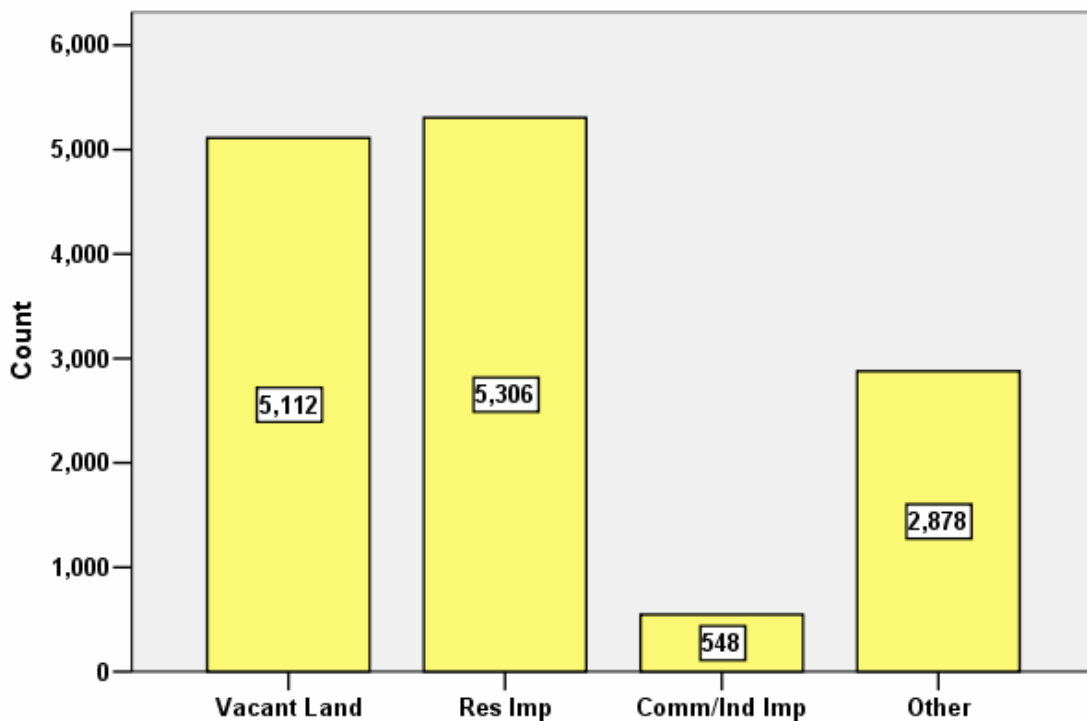
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 80% of all vacant land parcels.

For residential improved properties, single family properties accounted for 72% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 4% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2009 Colorado Property Assessment Study. Information was provided by the Rio Grande Assessor's Office on April 30, 2009. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

The following steps were taken to analyze the residential sales:

1. Total sales	2,495
2. Selected qualified sales	827
3. Select improved sales	428
4. Non duplicate sales	428
5. Select residential sales only	336
6. Sales between January 1, 2007 and June 30, 2008	234
7. Remove 18 extreme ratios	216

The sales ratio analysis was analyzed as follows:

Median	**0.967**
Price Related Differential	**1.034**
Coefficient of Dispersion	**.158**

The sale trimming exceeded the IAAO standard by several percentage points. The IAAO recommends up to 5% of sale can be trimmed from the analysis; in this instance, we trimmed 7% (18 out of 234 sales) to bring Rio Grande County into compliance in terms of the Coefficient of Dispersion. We recommend to the assessor to carefully examine their residential values and monitor the dispersion of the ratios about the median. Please note that the median ratio was within the SBOE acceptable range of 0.95 to 1.05.

The following graphs describe further the sales ratio distribution for these properties:

Mean =1.0005
Std. Dev. =0.19677
N =216
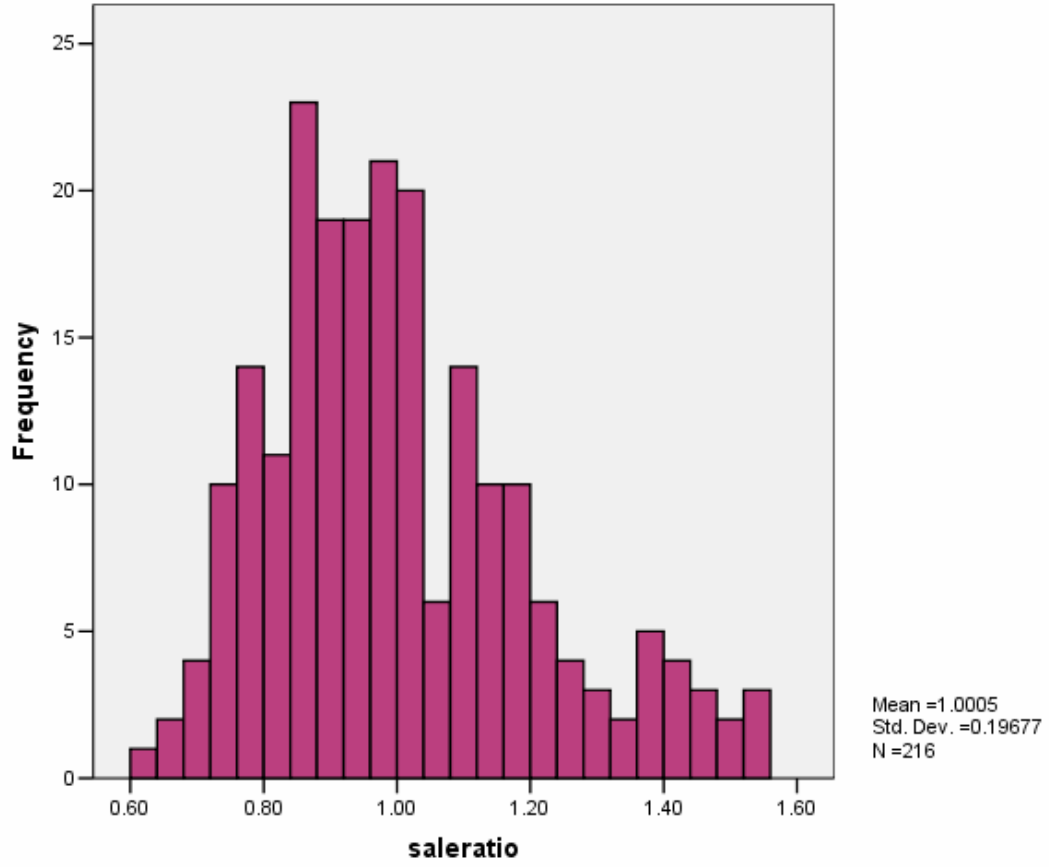
Residential Sale Price by Sales Ratio
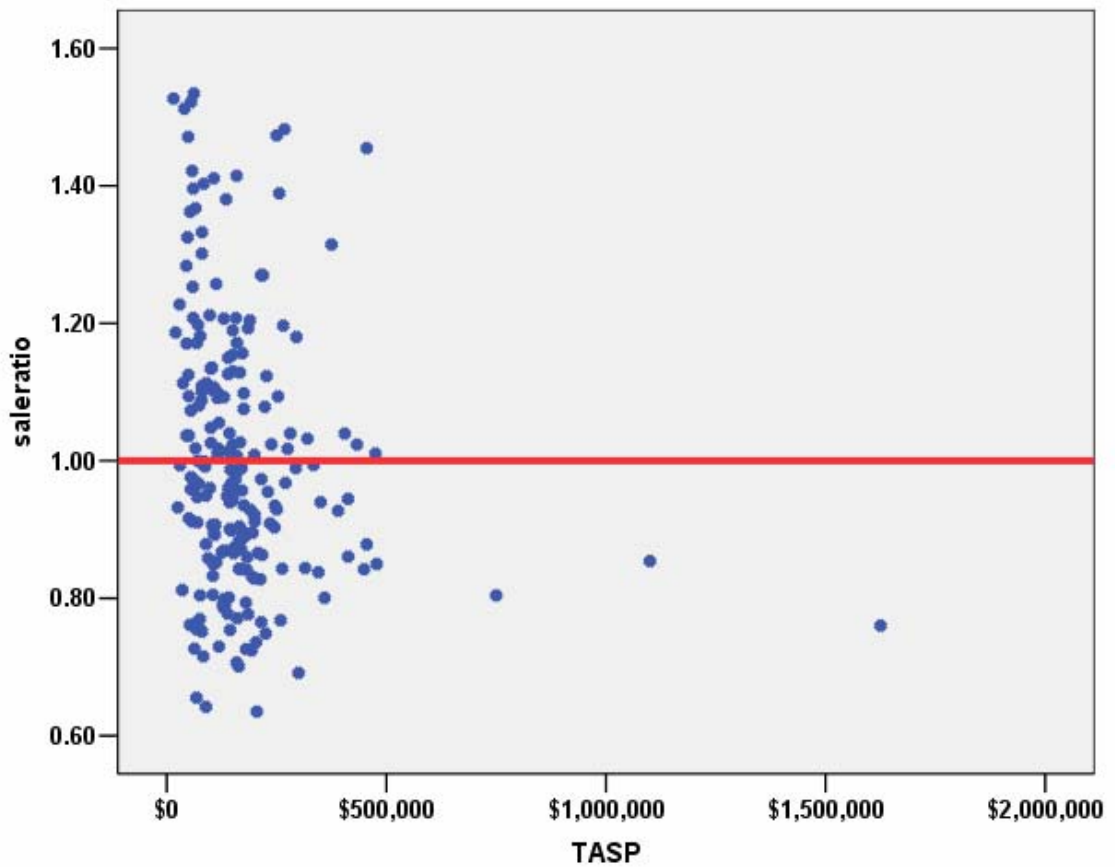
The above graphs indicate that the distribution of the sale ratios was within state mandated limits, after significant trimming.

Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.975	.029		33.765	.000
	SalePeriod	.003	.003	.068	.995	.321

a. Dependent Variable: saleratio

Residential Sale Price Market Trend
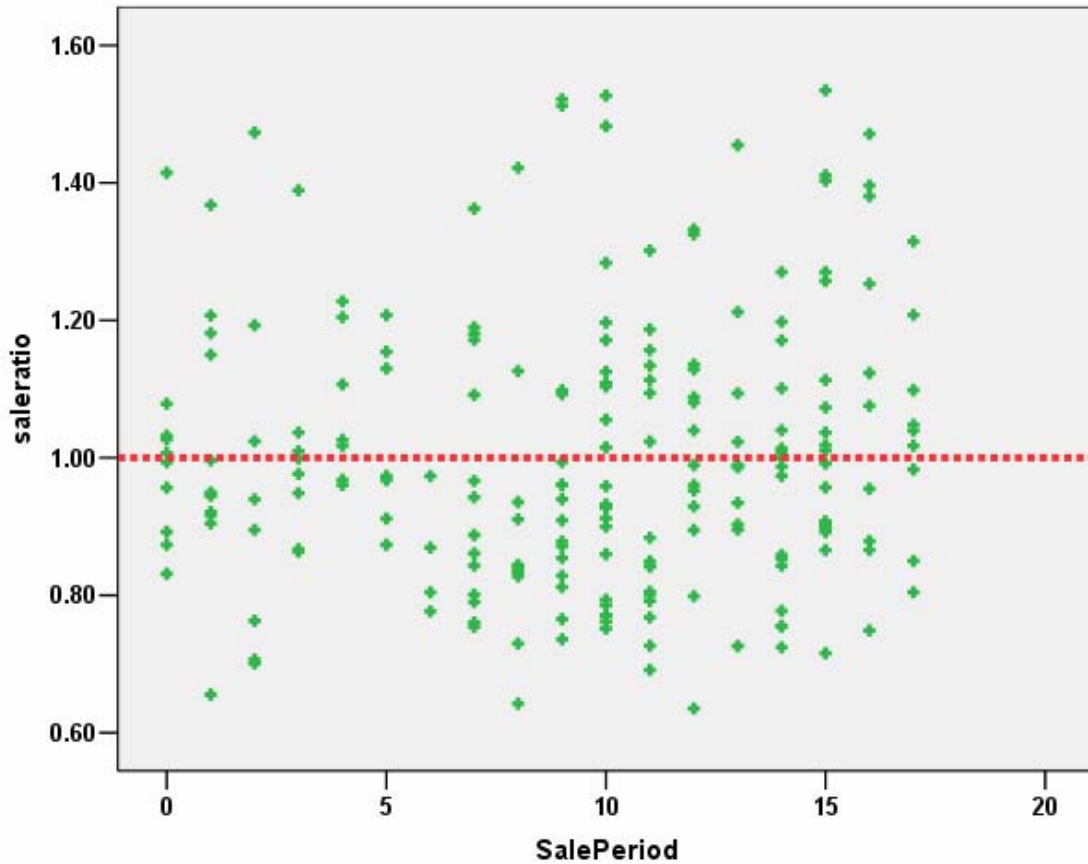
The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2009 between each group, as follows:

NBHD	Group	N	Median	Mean
1100	Unsold	654	$65	$67
	Sold	57	$71	$69
	Total	711	$66	$67
1200	Unsold	141	$86	$90
	Sold	13	$90	$87
	Total	154	$87	$90
1300	Unsold	117	$76	$76
	Sold	10	$62	$74
	Total	127	$76	$75

1400	Unsold	438	$48	$49
	Sold	15	$45	$51
	Total	453	$48	$49
1600	Unsold	407	$62	$64
	Sold	15	$71	$77
	Total	422	$62	$64
1800	Unsold	44	$39	$44
	Sold	2	$46	$46
	Total	46	$40	$44
2600	Unsold	198	$52	$53
	Sold	3	$68	$68
	Total	201	$52	$53
3100	Unsold	184	$56	$58
	Sold	18	$58	$67
	Total	202	$57	$59
3200	Unsold	57	$70	$77
	Sold	2	$80	$80
	Total	59	$70	$77
3400	Unsold	265	$47	$49
	Sold	12	$48	$50
	Total	277	$47	$49
3500	Unsold	116	$132	$140
	Sold	11	$118	$146
	Total	127	$130	$140
3600	Unsold	143	$73	$81
	Sold	6	$95	$99
	Total	149	$74	$81
4000	Unsold	114	$94	$93
	Sold	5	$118	$116
	Total	119	$97	$94
4100	Unsold	213	$122	$124
	Sold	16	$124	$126
	Total	229	$122	$124
4150	Unsold	148	$153	$159
	Sold	11	$141	$158
	Total	159	$153	$159
4200	Unsold	31	$101	$99
	Sold	3	$114	$113
	Total	34	$105	$100
4300	Unsold	269	$84	$88
	Sold	11	$92	$91
	Total	280	$84	$89
4500	Unsold	160	$212	$213
	Sold	9	$212	$201

	Total	169	$212	$213
4600	**Unsold**	132	$122	$140
	Sold	7	$117	$127
	Total	139	$121	$139
5100	**Unsold**	74	$90	$94
	Sold	3	$131	$124
	Total	77	$91	$95
Total	**Unsold**	3905	$71	$84
	Sold	229	$80	$91
	Total	4134	$71	$84

The above results indicate that sold and unsold residential properties were valued in a consistent manner.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

The following steps were taken to analyze the commercial sales:

1. Total sales	2,495
2. Selected qualified sales	827
3. Select improved sales	428
4. Non duplicate sales	428
5. Select commercial/industrial sales only	59
6. Trimmed extreme sales ratios	56

Again, the trimmed total was slightly over the IAAO limit of 5%. These sales were trimmed to bring the COD for commercial/industrial sales into compliance.

The sales ratio analysis was analyzed as follows:

Median	**0.966**
Price Related Differential	**1.052**
Coefficient of Dispersion	**.207**

The above tables indicate that the Rio Grande County commercial/industrial sale ratios were in compliance with the SBOE standards after trimming 4 sales. The following histogram and scatter plot describe the sales ratio distribution further:

Mean =0.9676
Std. Dev. =0.25236
N =55
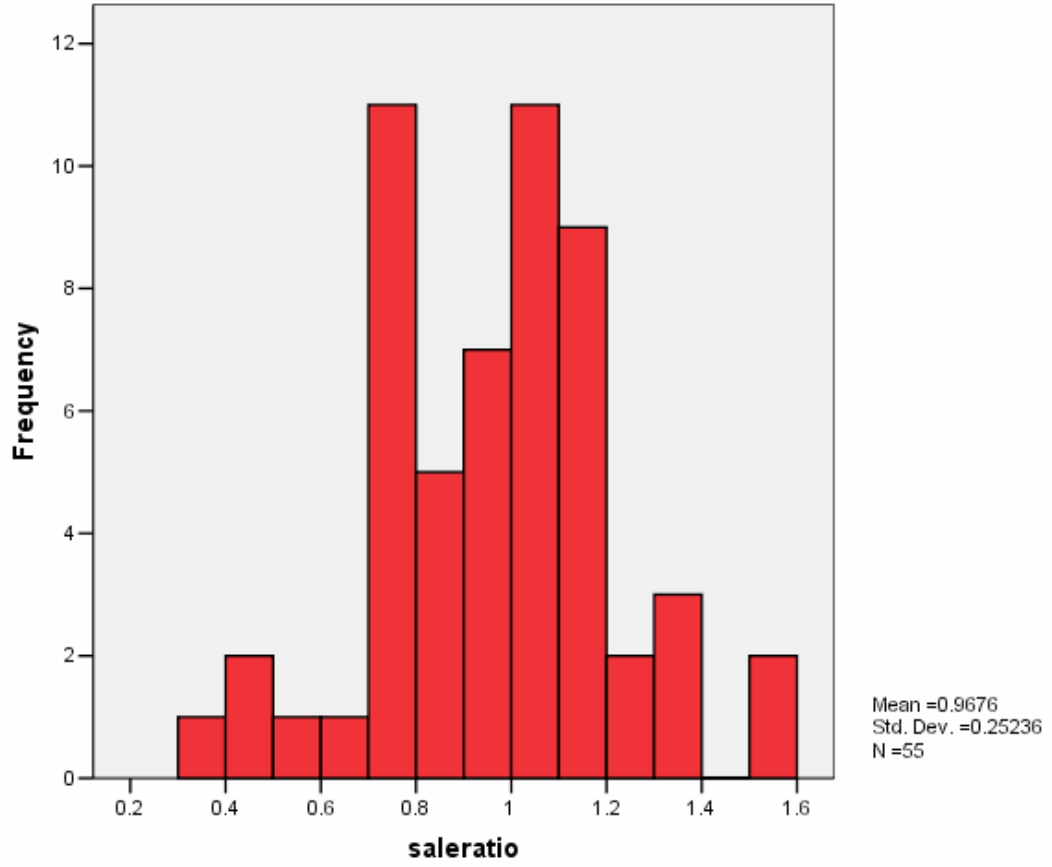
Commercial Sale Price by Sales Ratio
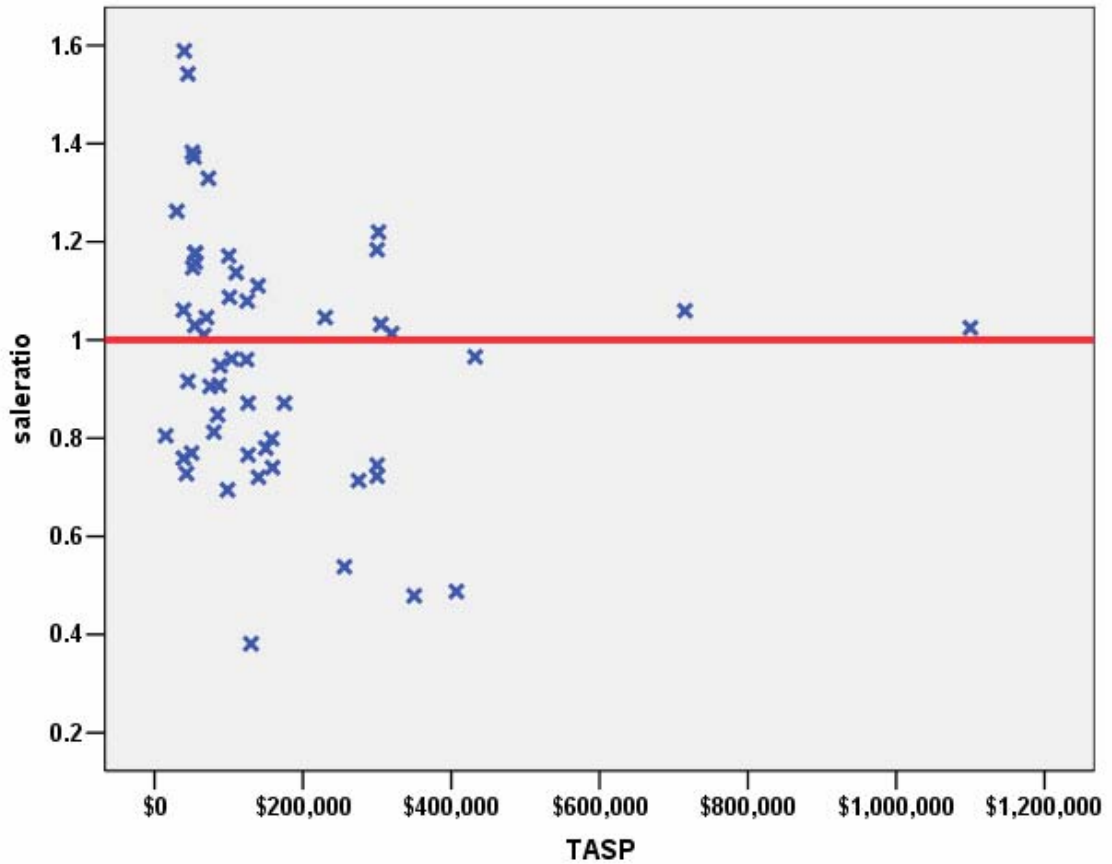
Commercial Market Trend Analysis

The assessor did not apply any market trend adjustment to the commercial dataset. The 56 commercial/industrial sales were analyzed, examining the sale ratios across an 18-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.924	.061		15.251	.000
	SalePeriod	.002	.002	.120	.877	.384

a. Dependent Variable: saleratio

Commercial Market Trend Analysis
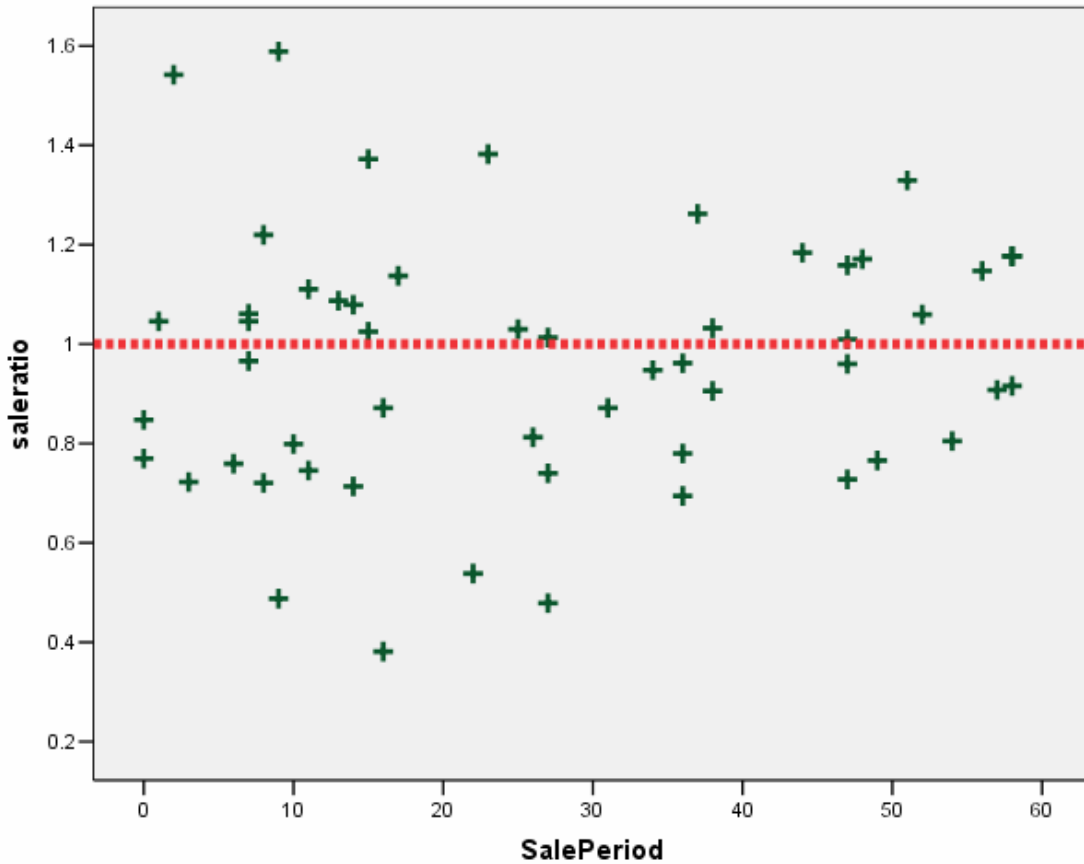
The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Rio Grande County.

Sold/Unsold Analysis

We compared the median actual value per square foot between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. We stratified the analysis by subclass in the following table, as follows:

Subclass	Group	No.	Median	Mean
2212	Unsold	45	$33	$48
	Sold	8	$32	$32
2220	Unsold	31	$46	$53
	Sold	15	$63	$77
2230	Unsold	200	$32	$51
	Sold	15	$52	$63
2235	Unsold	141	$9	$29
	Sold	10	$17	$16

The above table indicated some significant differences between sold and unsold properties. We therefore used the second test to compare the differences between sold and unsold commercial properties, this time comparing the change in value between 2008 and 2009 between sold and unsold commercial properties, as follows:

Group	No.	Median	Mean
Unsold	449	1.01	1.05
Sold	58	1.00	1.06

The above second analysis indicated that sold and unsold commercial properties were similarwhen comparing the median change in value between 2008 and 2009.

V. VACANT LAND SALE RESULTS

The following steps were taken to analyze vacant land sales:

1. Total sales 2,495
2. Selected qualified sales 827
3. Select vacant land sales 363
4. Select non-agricultural sales 256
5. Sales between July 1, 2006 and June 30, 2008 168

The sales ratio analysis was analyzed as follows:

Median	**0.981**
Price Related Differential	**1.073**
Coefficient of Dispersion	**.196**

The above tables indicate that the Rio Grande County vacant land sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:

Mean =0.984
Std. Dev. =0.2906
N =168
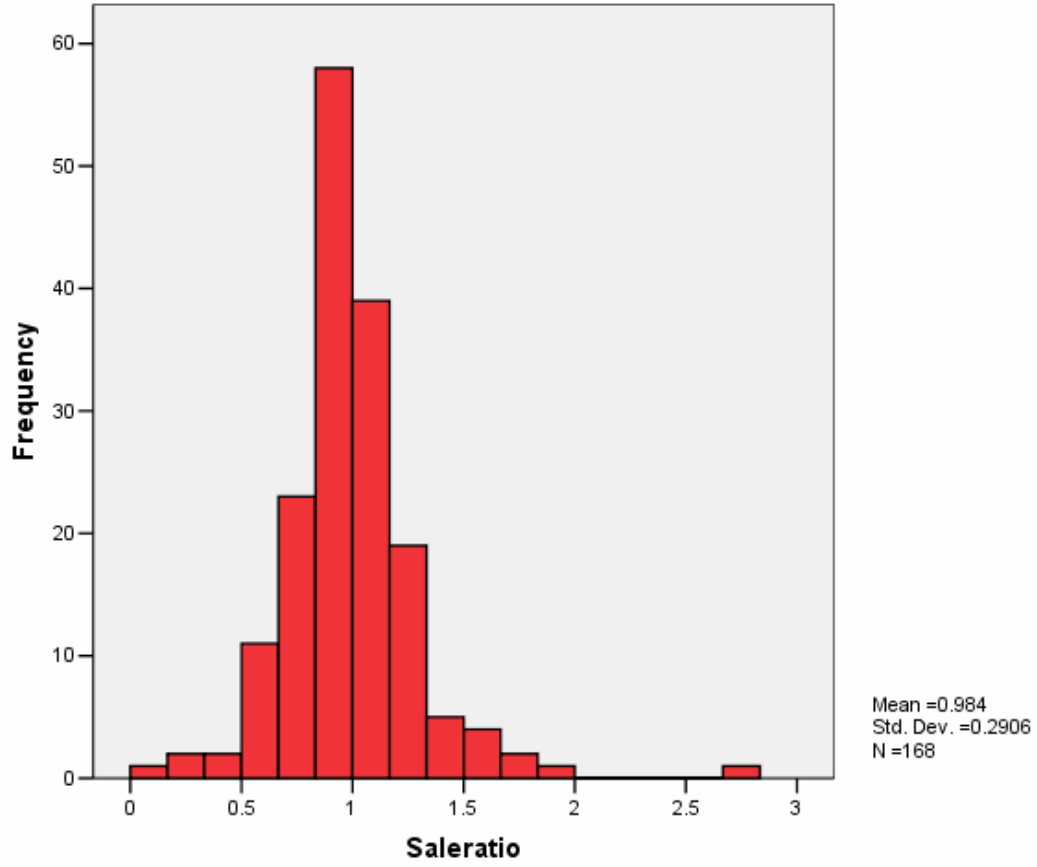
Vacant Land Sale Price by Sales Ratio
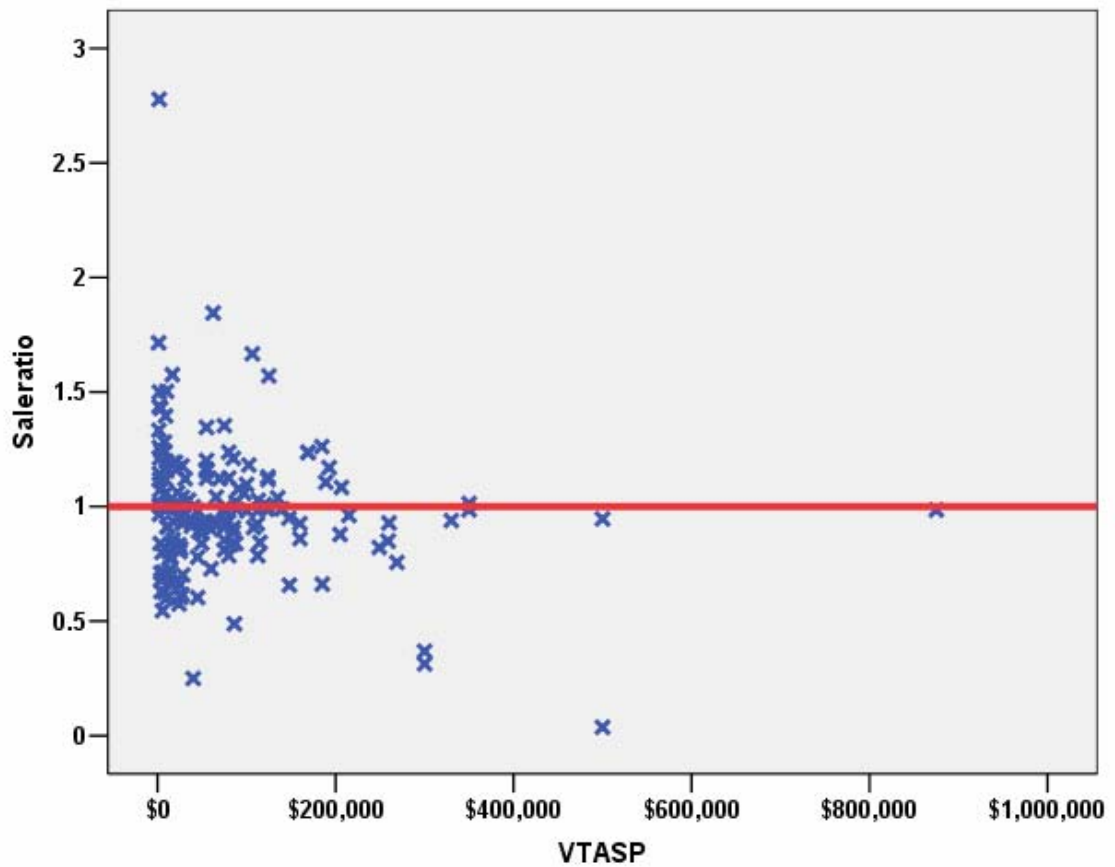
Vacant Land Market Trend Analysis

The assessor did not apply any market trend adjustment to the vacant land dataset. The 257 vacant land sales were analyzed, examining the sale ratios across the 18 month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.999	.051		19.454	.000
	VSalePeriod	-.002	.005	-.025	-.323	.747

a. Dependent Variable: Saleratio

Vacant Land Sales Market Trend Analysis
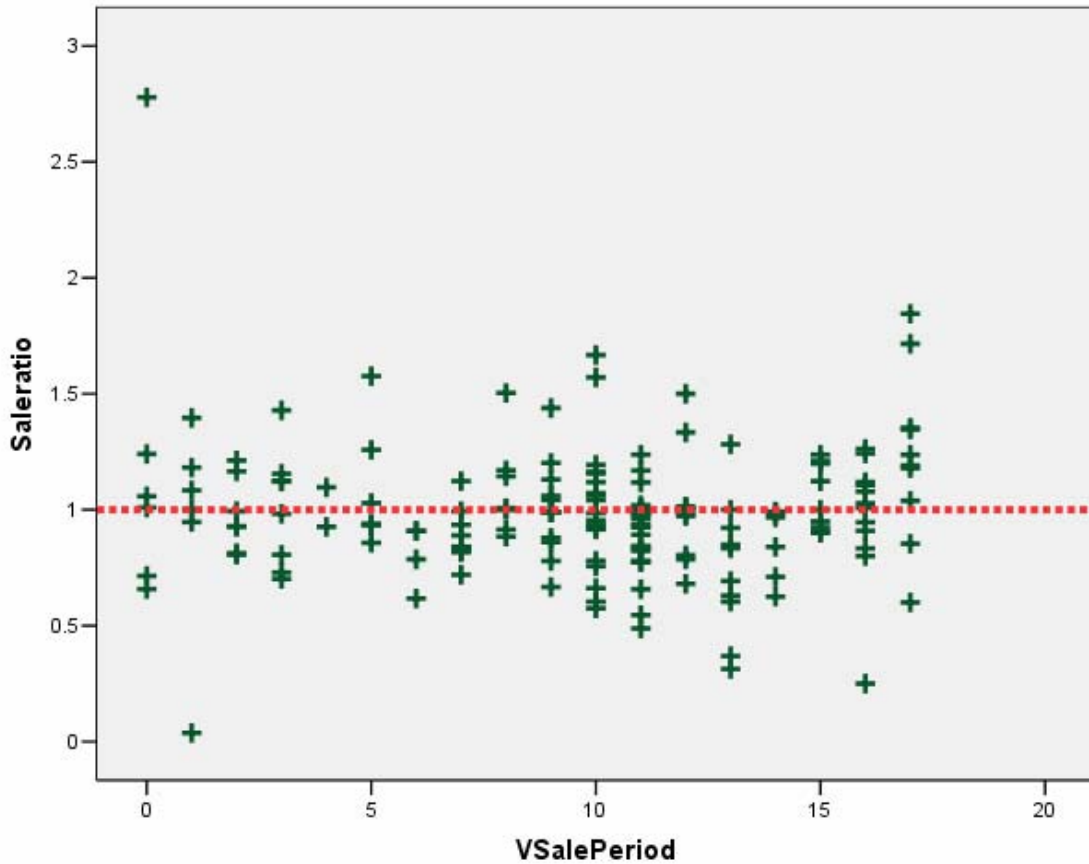
The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Rio Grande County.

Sold/Unsold Analysis

We compared the median change in actual value between 2008 and 2009 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean
Unsold	4,901	1.10	1.19
Sold	165	1.11	1.47

The above results indicated that sold and unsold vacant land properties were valued consistently overall.

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the actual value per square foot rate for this group and compared it to rates assigned to residential single family improvements in Rio Grande County.

The following indicates that agricultural residential improvements were valued in a manner similar to the single family residential improvements in this county:

Descriptives

	ABSTRIMP			Statistic	Std. Error
VaIImpSF	1212.00	Mean		$69.03	$.609
		95% Confidence Interval for Mean	Lower Bound	$67.84	
			Upper Bound	$70.23	
		5% Trimmed Mean		$68.00	
		Median		$61.05	
		Variance		1425.928	
		Std. Deviation		$37.761	
		Minimum		$3	
		Maximum		$414	
		Range		$411	
		Interquartile Range		$41	
		Skewness		1.528	.039
		Kurtosis		4.336	.079
	4277.00	Mean		$79.29	$2.710
		95% Confidence Interval for Mean	Lower Bound	$73.96	
			Upper Bound	$84.62	
		5% Trimmed Mean		$75.91	
		Median		$59.57	
		Variance		2892.530	
		Std. Deviation		$53.782	
		Minimum		$4	
		Maximum		$273	
		Range		$269	
		Interquartile Range		$71	
		Skewness		1.051	.123
		Kurtosis		.202	.245

VI. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Rio Grande County as of the date of this report. As noted, the COD statistics for residential and commercial properties were marginally passed in this analysis, although the assessor should carefully review the dispersion of values in these two classes for sold properties. In addition, we had to employ the second test for sold/unsold commercial properties, since the first test (based on the actual value per square foot) indicated significant valuation differences between sold and unsold properties. The assessor is again cautioned to ensure that sold and unsold commercial properties are valued consistently.

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

Mean		1.000
95% Confidence Interval for Mean	Lower Bound	.974
	Upper Bound	1.027
Median		.967
95% Confidence Interval for Median	Lower Bound	.943
	Upper Bound	.996
	Actual Coverage	95.2%
Weighted Mean		.968
95% Confidence Interval for Weighted Mean	Lower Bound	.934
	Upper Bound	1.001
Price Related Differential		1.034
Coefficient of Dispersion		.158
Coefficient of Variation	Mean Centered	19.7%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

Mean		.957
95% Confidence Interval for Mean	Lower Bound	.887
	Upper Bound	1.027
Median		.964
95% Confidence Interval for Median	Lower Bound	.871
	Upper Bound	1.046
	Actual Coverage	95.6%
Weighted Mean		.916
95% Confidence Interval for Weighted Mean	Lower Bound	.835
	Upper Bound	.996
Price Related Differential		1.045
Coefficient of Dispersion		.215
Coefficient of Variation	Mean Centered	27.4%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Vacant Land

Ratio Statistics for CURRLND / VTASP

Mean		.984
95% Confidence Interval for Mean	Lower Bound	.940
	Upper Bound	1.028
Median		.981
95% Confidence Interval for Median	Lower Bound	.932
	Upper Bound	1.000
	Actual Coverage	96.3%
Weighted Mean		.917
95% Confidence Interval for Weighted Mean	Lower Bound	.833
	Upper Bound	1.001
Price Related Differential		1.073
Coefficient of Dispersion		.196
Coefficient of Variation	Mean Centered	29.5%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	3	1.4%
	$25K to $50K	14	6.5%
	$50K to $100K	51	23.6%
	$100K to $150K	50	23.1%
	$150K to $200K	47	21.8%
	$200K to $300K	31	14.4%
	$300K to $500K	17	7.9%
	$500K to $750K	1	.5%
	Over $1,000K	2	.9%
Overall		216	100.0%
Excluded		0	
Total		216	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.187	1.043	.167	25.3%
$25K to $50K	1.119	.997	.135	18.0%
$50K to $100K	.999	1.007	.182	23.3%
$100K to $150K	.964	1.000	.131	16.5%
$150K to $200K	.904	1.002	.120	16.9%
$200K to $300K	.968	.994	.174	22.9%
$300K to $500K	.940	.997	.124	18.9%
$500K to $750K	.804	1.000	.000	.
Over $1,000K	.807	1.011	.058	8.2%
Overall	.967	1.034	.158	20.6%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	40	18.5%
	75 to 100	16	7.4%
	50 to 75	27	12.5%
	25 to 50	56	25.9%
	5 to 25	60	27.8%
	5 or Newer	17	7.9%
Overall		216	100.0%
Excluded		0	
Total		216	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	1.003	1.033	.161	20.7%
75 to 100	.971	1.056	.161	20.6%
50 to 75	.949	1.076	.164	23.3%
25 to 50	.925	1.056	.155	20.4%
5 to 25	.992	1.003	.152	20.0%
5 or Newer	.940	1.062	.133	19.5%
Overall	.967	1.034	.158	20.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	2	.9%
	500 to 1,000 sf	34	15.7%
	1,000 to 1,500 sf	64	29.6%
	1,500 to 2,000 sf	53	24.5%
	2,000 to 3,000 sf	49	22.7%
	3,000 sf or Higher	14	6.5%
Overall		216	100.0%
Excluded		0	
Total		216	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.163	1.330	.313	44.3%
500 to 1,000 sf	.933	1.057	.180	23.6%
1,000 to 1,500 sf	.960	1.057	.166	22.5%
1,500 to 2,000 sf	.973	1.015	.155	19.9%
2,000 to 3,000 sf	1.007	1.016	.109	14.2%
3,000 sf or Higher	.927	1.083	.193	27.7%
Overall	.967	1.034	.158	20.6%

Improvement Quality

Case Processing Summary

		Count	Percent
QUAL	1.00	1	.4%
	2.00	43	18.4%
	2.50	1	.4%
	2.67	1	.4%
	2.80	1	.4%
	3.00	175	74.8%
	4.00	12	5.1%
Overall		234	100.0%
Excluded		0	
Total		234	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1.00	1.527	1.000	.000	.
2.00	.916	1.180	.308	57.0%
2.50	1.692	1.000	.000	.
2.67	1.040	1.000	.000	.
2.80	.760	1.000	.000	.
3.00	.973	1.079	.178	25.3%
4.00	.990	1.053	.187	24.7%
Overall	.968	1.098	.205	32.6%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	1	1.8%
	$25K to $50K	8	14.3%
	$50K to $100K	19	33.9%
	$100K to $150K	11	19.6%
	$150K to $200K	3	5.4%
	$200K to $300K	6	10.7%
	$300K to $500K	6	10.7%
	$500K to $750K	1	1.8%
	Over $1,000K	1	1.8%
Overall		56	100.0%
Excluded		0	
Total		56	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	.805	1.000	.000	.
$25K to $50K	.988	1.012	.289	36.7%
$50K to $100K	1.046	1.025	.179	23.8%
$100K to $150K	.960	1.012	.176	24.5%
$150K to $200K	.799	.997	.055	8.3%
$200K to $300K	.734	1.000	.227	35.5%
$300K to $500K	.989	1.024	.224	34.1%
$500K to $750K	1.059	1.000	.000	.
Over $1,000K	1.025	1.000	.000	.
Overall	.964	1.045	.215	27.2%

Subclass

Case Processing Summary

		Count	Percent
PredUse	2112	12	21.4%
	2115	2	3.6%
	2120	16	28.6%
	2130	16	28.6%
	2135	5	8.9%
	2230	1	1.8%
	2235	4	7.1%
Overall		56	100.0%
Excluded		0	
Total		56	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2112	.909	.954	.148	17.8%
2115	1.046	.995	.013	1.9%
2120	.985	1.007	.194	27.6%
2130	1.006	1.143	.285	34.9%
2135	.770	1.308	.285	39.8%
2230	.805	1.000	.000	.
2235	1.177	.992	.055	12.8%
Overall	.964	1.045	.215	27.2%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
VPredUse	100	134	79.8%
	200	1	.6%
	510	1	.6%
	520	2	1.2%
	530	3	1.8%
	540	2	1.2%
	550	12	7.1%
	1112	10	6.0%
	1135	3	1.8%
Overall		168	100.0%
Excluded		0	
Total		168	

Ratio Statistics for CURRLND / VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	.977	1.040	.196	29.4%
200	.488	1.000	.000	.
510	.926	1.000	.000	.
520	.443	1.410	.916	129.6%
530	1.179	1.198	.159	25.8%
540	.986	1.000	.000	.0%
550	.991	1.047	.087	13.7%
1112	.947	.977	.286	40.6%
1135	.817	1.044	.127	20.9%
Overall	.981	1.073	.196	29.6%