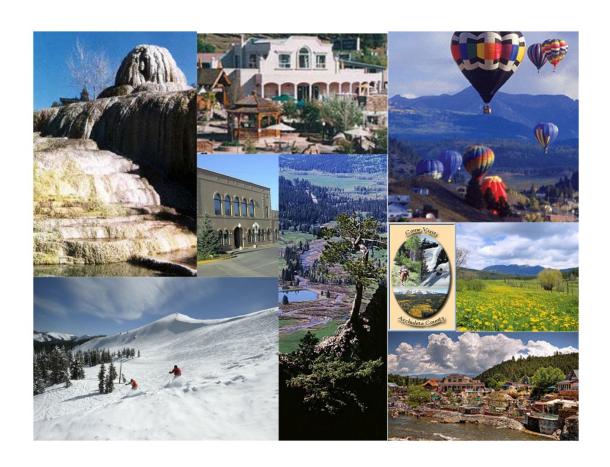


ARCHULETA COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2018

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

RE: Final Report for the 2018 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2018 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

Harry J. Zulln

Wildrose Appraisal Inc. - Audit Division



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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 twopart 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 subdivision and discounting procedures. Valuation methodology for vacant land, improved properties commercial residential and 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.

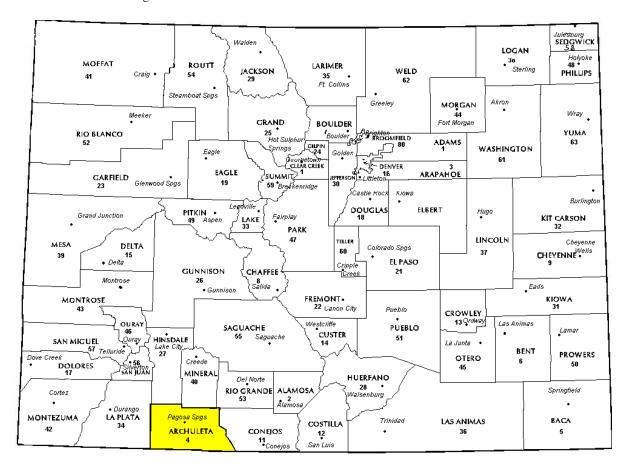
Wildrose Audit has completed the Property Assessment Study for 2018 and is pleased to report its findings for Archuleta County in the following report.



REGIONAL/HISTORICAL SKETCH OF ARCHULETA COUNTY

Regional Information

Archuleta County is located in the Western Slope region of Colorado. The Western Slope of Colorado refers to the region west of the Rocky Mountains. It includes Archuleta, Delta, Dolores, Eagle, Garfield, Grand, Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit counties.





Historical Information

Archuleta County had an estimated population of approximately 12,854 people with 9.5 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 6.37 percent change from April 1, 2010 to July 1, 2016.

The portion of Colorado that is now Archuleta County was originally occupied by the Anasazi, then by the Ute, Navajo and Apache. This area was first claimed for Spain by the early Spanish explorers. After the Mexican revolution it was in the Territory of Northern Mexico. Upon conclusion of the war with Mexico in 1848, it became a possession of the United States and was part of the Utah Territory. While a part of the Utah Territory this area was included in Iron County and later a portion was part of Washington County. Congress recognized the Colorado Territory in 1861 and at that time it became part of Conejos County, Colorado. Archuleta County was formed April 14,1885. It was named in honor of State Senator Antonio D. Archuleta.

The Escalante Trail and later the Spanish Trail traversed this area and was a trade route

between Santa Fe and California. The Spanish Trail was traveled by many now famous persons such as Pratt, Wolfskill and Carson.

Other than Native Americans, the earliest inhabitants of the area were miners, fur trappers and traders seeking their fortunes. The military made several expeditions into and through the area. One expedition was led by Lt. Col. E. H. Bergman to locate a suitable spot to construct Fort Plummer. Prior to the fort's construction, however, Col. William Henry Lewis, a graduate of the U.S. Military Academy at West Point and a distinguished veteran of the Civil War Battle of Glorieta Pass was killed in a battle on the Kansas frontier. The fort was subsequently named in his honor. Fort Lewis was established near the sacred Pagosa Hot Springs in 1878. Fort Lewis was moved to Hesperus Colorado in 1881 and on January 21, 1881 the military issued a general order to change the name of the temporary camp from Fort Lewis to Pagosa Springs. The Town of Pagosa Springs, the county seat and only municipality in the county, was incorporated on March 2, 1891.

(pagosamuseum.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 1, 2015 and June 30, 2016. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2016 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 pricerelated 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 Archuleta County are:

Archuleta County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	42	0.985	1.011	4.9	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	616	0.980	1.032	14.7	Compliant
Vacant Land	473	1.000	1.026	17.2	Compliant

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

Recommendations



TIME TRENDING VERIFICATION

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 method 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 Archuleta County has complied with the statutory requirements to analyze the effects of time on value in their county. Archuleta County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations



SOLD/UNSOLD ANALYSIS

Methodology

Archuleta 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.

We test the hypothesis that the assessor has valued unsold properties consistent with what is observed with the sold properties based on several units of comparison and tests. units of comparison include the actual value per square foot and the change in value from the previous base year period to the current base year. The first test compares the actual value per square foot between sold and unsold properties by class. The median and mean value per square foot is compared and tested for any significant difference. This is tested using non-parametric methods, such as the Mann-Whitney test for differences in the distributions or medians between sold and unsold groups. It is also examined graphically and from an appraisal perspective. Data can be stratified based on location and subclass. The second test compares the difference in the median change in value from the previous base year to the current base year between sold and unsold properties by class. The same combination of non-parametric and appraisal testing is used as with the first test. A third test employing a valuation model testing a sold/unsold binary variable while controlling for property attributes such as location, size, age and other attributes. determines if the sold/unsold variable is statistically and empirically significant. three tests indicate a significant difference between sold and unsold properties for a given class, the Auditor may meet with the county to determine if sale chasing is actually occurring,

or if there are other explanations for the observed difference.

If the unsold properties have a higher median value per square foot than the sold properties, or if the median change in value is greater for the unsold properties than the sold properties, the analysis is stopped and the county is concluded to be in compliance with sold and unsold guidelines. All sold and unsold properties in a given class are first tested, although properties with extreme unit values or percent changes can be trimmed to stabilize the analysis. The median is the primary comparison metric, although the mean can also be used as a comparison metric if the distribution supports that type of measure of central tendency.

The first test (unit value method) is applied to both residential and commercial/industrial sold and unsold properties. The second test is applied to sold and unsold vacant land properties. The second test (change in value method) is also applied to residential or commercial sold and unsold properties if the first test results in a significant difference observed and/or tested between sold and unsold properties. The third test (valuation modeling) is used in instances where the results from the first two tests indicate a significant difference between sold and unsold properties. It can also be used when the number of sold and unsold properties is so large that the nonparametric testing is indicating a false rejection of the hypothesis that there is no difference between the sold and unsold property values.

These tests were supported by both tabular and graphics presentations, along with written documentation explaining the methodology used.



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

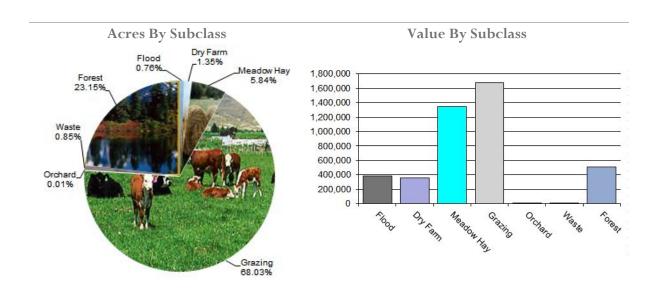
Conclusions

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

Recommendations



AGRICULTURAL LAND STUDY



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: 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 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:



	Archuleta County Agricultural Land Ratio Grid					
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Fotal Value	WRA Total Value	Ratio
4117	Flood	2,102	212.11	383,491	394,710	0.97
4127	Dry Farm	2,902	110.92	353,941	355,116	1.00
4137	Meadow Hay	13,856	96.98	1,343,726	1,343,726	1.00
4147	Grazing	161,293	10.37	1,673,412	1,673,412	1.00
4157	Orchard	33	226.00	7,548	7,548	1.00
4177	Forest	54,892	9.34	512,667	511,660	1.00
4167	Waste	2,023	2.22	4,495	4,495	1.00
Total/Avg		237,101	18.05	4,279,281	4,290,668	1.00

Recommendations

None

Agricultural Outbuildings

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

Archuleta County has substantially complied with the procedures provided by the Division

of Property Taxation for the valuation of agricultural outbuildings.

Recommendations



Agricultural Land Under Improvements

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.19 and 5.20 were being followed.

Conclusions

Archuleta County has used the following methods to discover land under a residential improvement on a farm or ranch that is determined to be not integral under 39-1-102, C.R.S.:

- Field Inspections
- In-Person Interviews with Owners/Tenants
- Personal Knowledge of Occupants at Assessment Date

Aerial Photography/Pictometry

Archuleta County has used the following methods to discover the land area under a residential improvement that is determined to be not integral under 39-1-102, C.R.S.:

Used 2 acres

Archuleta County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of land under residential improvements that may or may not be integral to an agricultural operation.

Recommendations



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 2018 for Archuleta County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 44 sales listed as unqualified.

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

For residential, commercial, and vacant land sales with considerations over \$500, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.

The contractor has reviewed with the assessor any analysis indicating that sales data are inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code. If there appears to be any inconsistency in the coding, the contractor has



conducted further analysis to determine if the sales included in that code have been assigned appropriately.

Conclusions

Archuleta County appears to be doing a good 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



ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Archuleta County has submitted a written narrative describing the economic areas that make up the county's market areas. Archuleta 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 Archuleta 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



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

Producing Oil and Gas

Methodology

Assessors Reference Library (ARL) Volume 3, Chapter 6: Valuation of Natural Resources

STATUTORY REFERENCES

Section § 39-1-103, C.R.S., specifies that producing oil or gas leaseholds and lands are valued according to article 7 of title 39, C.R.S.

Actual value determined - when.

(2) The valuation for assessment of leaseholds and lands producing oil or gas shall be determined as provided in article 7 of this title. § 39-1-103, C.R.S.

Article 7 covers the listing, valuation, and assessment of producing oil and gas leaseholds and lands.

Valuation:

Valuation for assessment.

- (1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:
- (a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;
- (b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.

§ 39-7-102, C.R.S.

Conclusions

The county applied approved appraisal procedures in the valuation of oil and gas.

Recommendations



VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2018 in Archuleta County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14) and by applying the recommended methodology in ARL Vol 3, Chap 4. Subdivision Discounting in the intervening year can be accomplished by reducing the absorption period by one year. In instances where the number of sales within an approved plat was less than the absorption rate per year calculated

for the plat, the absorption period was left unchanged.

Conclusions

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

Recommendations



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 Chapter 39-1-103 (17)(a)(II)C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 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 under lease, permit, concession, contract, or other agreement.

Archuleta County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural and commercial 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

Archuleta 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



PERSONAL PROPERTY AUDIT

Archuleta 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, documentation procedures, classification, 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.

Archuleta 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
- Internet

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.

Archuleta County submitted their personal property written audit plan and was current for the 2018 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
- New businesses filing for the first time
- Incomplete or inconsistent declarations
- Same business type or use
- Businesses with no deletions or additions for 2 or more years



- Non-filing Accounts Best Information Available
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement

Conclusions

Archuleta 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



WILDROSE AUDITOR STAFF

Harry J. Fuller, Audit Project Manager

Suzanne Howard, Audit Administrative Manager

Steve Kane, Audit Statistician

Carl W. Ross, Agricultural/Natural Resource Analyst

J. Andrew Rodriguez, Field Analyst



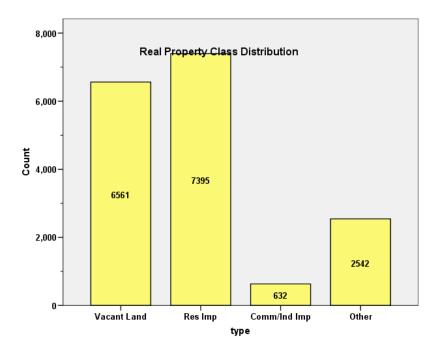
APPENDICES



STATISTICAL COMPLIANCE REPORT FOR ARCHULETA COUNTY 2018

I. OVERVIEW

Archuleta County is located in southwestern Colorado. The county has a total of 17,130 real property parcels, according to data submitted by the county assessor's office in 2018. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100) accounted for 79.2% of all vacant land parcels.

For residential improved properties, single family properties accounted for 89.9% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 3.7% of all such properties in this county.



II. DATA FILES

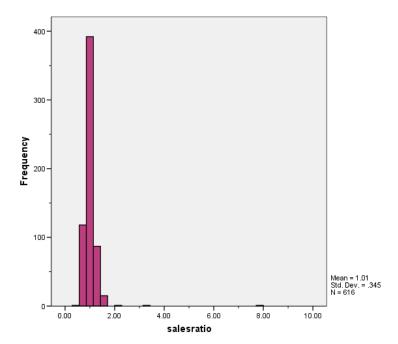
The following sales analyses were based on the requirements of the 2018 Colorado Property Assessment Study. Information was provided by the Archuleta Assessor's Office in April 2018. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 616 qualified residential sales for the 24-month period ending June 30, 2016. The sales ratio analysis results were as follows:

Median	0.980
Price Related Differential	1.032
Coefficient of Dispersion	14.7

The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The following graphs describe further the sales ratio distribution for these properties:







The above graphs indicate that the distribution of the sale ratios was within state mandated limits. No sales were trimmed.

Residential Market Trend Analysis

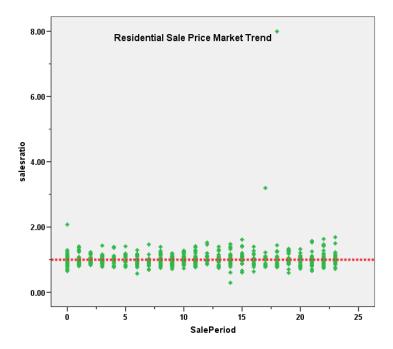
We next analyzed the residential dataset using the 24-month sale period for any residual market trending, with the following results:

Coefficients^a

		Unstandardized		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.977	.027		36.613	.000
	SalePeriod	.003	.002	.064	1.579	.115

a. Dependent Variable: salesratio





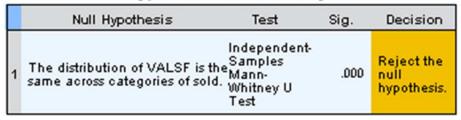
With no significant statistical trend evident in the sales ratio data, the above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the 2018 median value per square foot between each group, as follows:

Report VALSF			
sold	N	Median	Mean
UNSOLD	6,779	\$124	\$126
SOLD	616	\$134	\$132

Hypothesis Test Summary



Asymptotic significances are displayed. The significance level is .01.



Given that the Mann-Whitney test indicated a significant difference between sold and unsold residential properties based on this metric, we next compared the median percent change in actual value for taxable years 2016 and 2018 for sold and unsold residential properties, as follows:

Report			
DIFF			
sold	N	Median	Mean
UNSOLD	6,374	1.19	1.21
SOLD	602	1.20	1.24

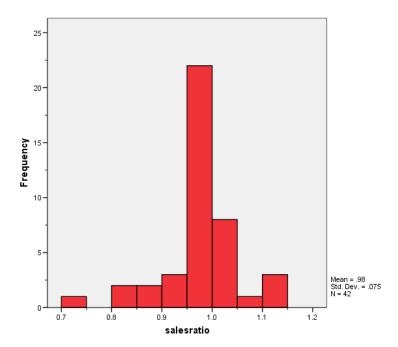
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

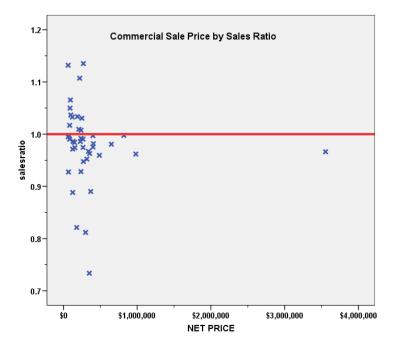
There were 42 qualified commercial/industrial sales for the 36-month period ending June 30, 2016. The sales ratio analysis results were as follows:

Median	0.985
Price Related Differential	1.011
Coefficient of Dispersion	4.9

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







Commercial Market Trend Analysis

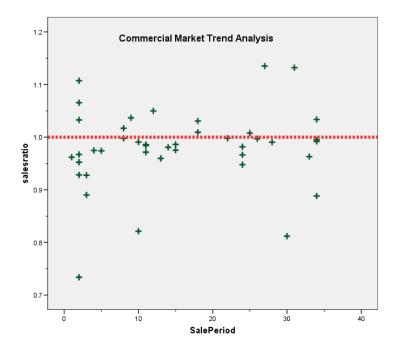
The 42 commercial/industrial sales were next analyzed by subclass for any residual market trending, examining the sale ratios across the 36-month sale period with the following results:

Coefficients^a

				Standardized		
		Unstandardized	Coefficients	Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.966	.020		48.962	.000
	SalePeriod	.001	.001	.135	.862	.394

a. Dependent Variable: salesratio





Based on a lack of a residual market trend, we concluded that the assessor adequately considered market trending in their valuation of commercial and industrial properties.

Sold/Unsold Analysis

We compared the 2018 median values per square feet between sold and unsold commercial properties to determine if the assessor was valuing each group consistently, as follows:

Report VALSF			
sold	N	Median	Mean
UNSOLD	593	\$54	\$67
SOLD	42	\$95	\$90

We also performed the comparison by commercial subclasses with at least three sales as follows:

Report VALSF				
ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	63	\$73	\$77
	SOLD	11	\$66	\$82
2220.00	UNSOLD	33	\$85	\$89
	SOLD	6	\$100	\$115
2225.00	UNSOLD	10	\$93	\$215
	SOLD	2	\$54	\$54
2230.00	UNSOLD	136	\$36	\$60
	SOLD	5	\$126	\$92
2245.00	UNSOLD	156	\$54	\$59
	SOLD	15	\$104	\$99



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of VALSF is to same across categories of solo	Independent- Samples he Mann- d. Whitney U Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Because there was a significant difference between sold and unsold groups using this metric, we also examined the median change in actual value for taxable years 2016 and 2018 for commercial properties using the same breakdowns and test, as follows:

Report	
DIFF	

sold	N	Median	Mean
UNSOLD	589	1.00	1.06
SOLD	42	1.01	1.08

Report

DIFF			le e e	6.5
ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	63	1.00	1.01
	SOLD	11	1.02	1.10
2220.00	UNSOLD	33	.99	.99
	SOLD	6	1.07	1.04
2230.00	UNSOLD	136	.99	1.06
	SOLD	5	1.00	1.02
2245.00	UNSOLD	156	.98	.90
	SOLD	15	1.04	1.13

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the sam across categories of sold.	Independent- Samples Mann- Whitney U Test	.004	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .00.



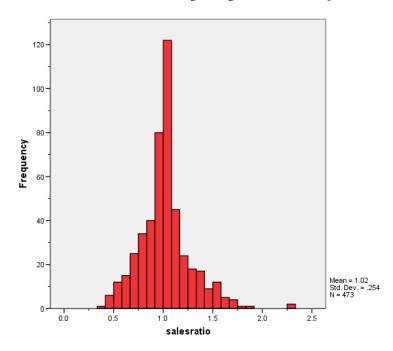
Based on the above results, we concluded that there was no statistically significant difference between the percent change in value between sold and unsold commercial properties in Archuleta County.

V. VACANT LAND SALE RESULTS

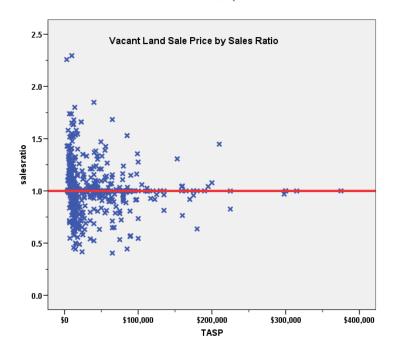
There were 473 qualified vacant land sales initially in our analysis for the 24-month period ending June 30, 2016. The vacant land sales were analyzed as follows:

Median	1.000
Price Related Differential	1.026
Coefficient of Dispersion	17.2

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







Vacant Land Market Trend Analysis

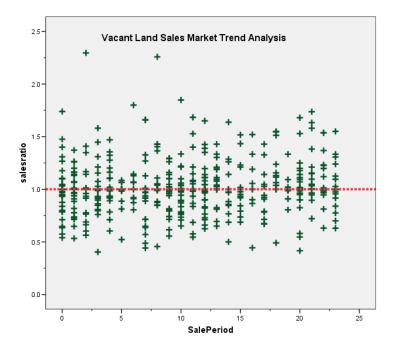
The 473 vacant land sales were analyzed for residual market trending, examining the sale ratios across the 24-month sale period with the following results:

Coefficients^a

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.982	.021		46.612	.000
	SalePeriod	.003	.002	.092	2.001	.046

a. Dependent Variable: salesratio





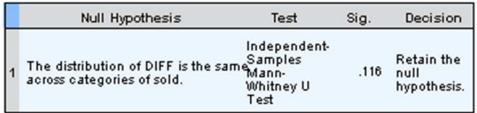
With no significant statistical trend evident in the sales ratio data, the above analysis indicated that the assessor has adequately addressed market trending in the valuation of vacant land properties.

Sold/Unsold Analysis

We compared the median change in actual value for taxable years 2016 and 2018 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Report DIFF			
sold	N	Median	Mean
UNSOLD	6,157	1.05	1.21
SOLD	473	1.05	1.11

Hypothesis Test Summary



Asymptotic significances are displayed. The significance level is .00.



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

VI. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the median actual value for this group and compared it to the median actual value for residential single family improvements in Archuleta County in selected neighborhoods.

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

Report			
IMPVALSF			
ABSTRIMP	N	Median	Mean
1212	585	\$95.38	\$97.04
4277	95	\$93.41	\$98.45

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of IMPVALSF same across categories of ABSTRIMP.	Independent- is th&les Mann- Whitney U Test	.627	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

VII. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Archuleta County as of the date of this report.



STATISTICAL ABSTRACT Residential

Ratio Statistics for CURRTOT / TASP

	95% Confiden Me	ce Interval for		95% Cor	nfidence Interval fo	or Median		95% Confiden Weighte	ce Interval for ed Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.013	.986	1.040	.980	.970	.992	95.2%	.982	.966	.997	1.032	.147	34.0%

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 / NET PRICE

	95% Confiden Me			95% Cor	nfidence Interval fo	or Median		95% Confider Weighte	nce Interval for ed Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.980	.956	1.003	.985	.971	.997	95.6%	.969	.951	.987	1.011	.049	7.7%

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.

Vacant Land

Ratio Statistics for CURRLND / TASP

	95% Confiden	nce Interval for ean		95% Cor	nfidence Interval fo	r Median		95% Confider Weighte	nce Interval for ed Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.017	.994	1.040	1.000	1.000	1.000	95.7%	.991	.968	1.014	1.026	.172	24.9%

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	1	0.2%
	\$25K to \$50K	6	1.0%
	\$50K to \$100K	55	8.9%
	\$100K to \$150K	71	11.5%
	\$150K to \$200K	91	14.8%
	\$200K to \$300K	169	27.4%
	\$300K to \$500K	171	27.8%
	\$500K to \$750K	44	7.1%
	\$750K to \$1,000K	6	1.0%
	Over \$1,000K	2	0.3%
Overall		616	100.0%
Excluded		0	
Total		616	

Ratio Statistics for CURRTOT / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$25K	7.995	1.000	.000	
\$25K to \$50K	1.243	.996	.500	78.6%
\$50K to \$100K	1.030	1.001	.147	19.5%
\$100K to \$150K	.999	.997	.129	19.8%
\$150K to \$200K	.996	1.000	.128	17.3%
\$200K to \$300K	.977	1.000	.112	15.8%
\$300K to \$500K	.960	1.000	.137	18.0%
\$500K to \$750K	.907	1.002	.134	17.8%
\$750K to \$1,000K	.965	1.012	.114	18.3%
Over \$1,000K	.895	1.017	.133	18.8%
Overall	.980	1.032	.147	35.3%

Sub Class

		Count	Percent
ABSTRIMP	1212	545	88.5%
	1215	5	0.8%
	1230	66	10.7%
Overall		616	100.0%
Excluded		0	
Total		616	



Ratio Statistics for CURRTOT / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
1212	.978	1.032	.151	37.2%
1215	1.026	1.047	.152	23.2%
1230	.997	1.010	.106	16.6%
Overall	.980	1.032	.147	35.3%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	3	0.5%
	75 to 100	1	0.2%
	50 to 75	4	0.6%
	25 to 50	179	29.1%
	5 to 25	392	63.6%
	5 or Newer	37	6.0%
Overall		616	100.0%
Excluded		0	
Total		616	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	1.058	1.024	.090	15.4%
75 to 100	1.432	1.000	.000	
50 to 75	1.198	1.136	.124	15.9%
25 to 50	.975	1.020	.141	19.6%
5 to 25	.988	1.034	.143	39.8%
5 or Newer	.895	1.068	.188	46.3%
Overall	.980	1.032	.147	35.3%

Improved Area

		Count	Percent
ImpSFRec	LE 500 sf	3	0.5%
	500 to 1,000 sf	43	7.0%
	1,000 to 1,500 sf	151	24.5%
	1,500 to 2,000 sf	170	27.6%
	2,000 to 3,000 sf	162	26.3%
	3,000 sf or Higher	87	14.1%
Overall		616	100.0%
Excluded		0	
Total		616	



Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.011	1.012	.029	5.4%
500 to 1,000 sf	.962	1.020	.131	17.5%
1,000 to 1,500 sf	.962	1.090	.192	65.5%
1,500 to 2,000 sf	.981	1.026	.114	16.0%
2,000 to 3,000 sf	.980	1.023	.136	18.7%
3,000 sf or Higher	1.074	1.042	.139	17.5%
Overall	.980	1.032	.147	35.3%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	1	0.2%
	2	19	3.1%
	2 3 4	532	86.4%
	4	8	1.3%
	5	2	0.3%
	6	2	0.3%
	6 7 8	17	2.8%
	8	4	0.6%
	10	1	0.2%
	11	14	2.3%
	12	10	1.6%
	13	4	0.6%
	14	2	0.3%
Overall		616	100.0%
Excluded		0	
Total		616	

Ratio Statistics for CURRTOT / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
1	1.277	1.000	.000	
2	1.153	1.054	.214	45.5%
3	.978	1.031	.142	35.7%
4	.993	1.024	.126	17.9%
5	1.071	1.018	.046	6.5%
6	1.007	1.036	.069	9.7%
7	.962	1.002	.101	14.0%
8	.971	1.009	.121	22.7%
10	1.398	1.000	.000	
11	1.021	1.052	.216	33.9%
12	.988	1.008	.111	16.0%
13	.869	1.013	.163	22.1%
14	.938	1.016	.065	9.2%
Overall	.980	1.032	.147	35.3%



Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	2	15	2.4%
	3	598	97.6%
Overall		613	100.0%
Excluded		3	
Total		616	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	1.093	1.011	.184	23.8%
3	.979	1.031	.145	35.6%
Overall	.980	1.032	.147	35.4%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	\$50K to \$100K	9	21.4%
	\$100K to \$150K	5	11.9%
	\$150K to \$200K	3	7.1%
	\$200K to \$300K	12	28.6%
	\$300K to \$500K	9	21.4%
	\$500K to \$750K	1	2.4%
	\$750K to \$1,000K	2	4.8%
	Over \$1,000K	1	2.4%
Overall		42	100.0%
Excluded		0	
Total		42	

Ratio Statistics for CURRTOT / NET PRICE

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
\$50K to \$100K	1.017	.999	.041	5.7%
\$100K to \$150K	.984	1.000	.032	5.5%
\$150K to \$200K	.974	1.000	.073	11.9%
\$200K to \$300K	.991	1.004	.054	8.3%
\$300K to \$500K	.963	.997	.044	9.0%
\$500K to \$750K	.981	1.000	.000	
\$750K to \$1,000K	.980	1.002	.018	2.6%
Over \$1,000K	.966	1.000	.000	
Overall	.985	1.011	.049	7.6%



Sub Class

Case Processing Summary

		Count	Percent
ABSTRIMP	2212.00	11	26.2%
	2220.00	6	14.3%
	2225.00	2	4.8%
	2230.00	5	11.9%
	2235.00	1	2.4%
	2240.00	1	2.4%
	2245.00	15	35.7%
	3212.00	1	2.4%
Overall		42	100.0%
Excluded		0	
Total		42	

Ratio Statistics for CURRTOT / NET PRICE

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
2212.00	.963	1.001	.058	9.7%
2220.00	.978	1.008	.024	3.8%
2225.00	1.018	1.003	.088	12.4%
2230.00	.981	1.016	.022	3.3%
2235.00	.998	1.000	.000	
2240.00	.975	1.000	.000	
2245.00	.995	.998	.055	8.2%
3212.00	1.031	1.000	.000	
Overall	.985	1.011	.049	7.6%

Age

		Count	Percent
AgeRec	Over 100	1	2.4%
	75 to 100	2	4.8%
	50 to 75	2	4.8%
	25 to 50	14	33.3%
	5 to 25	22	52.4%
	5 or Newer	1	2.4%
Overall		42	100.0%
Excluded		0	
Total		42	



Ratio Statistics for CURRTOT / NET PRICE

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	1.050	1.000	.000	
75 to 100	.871	1.031	.157	22.2%
50 to 75	.880	1.004	.077	10.9%
25 to 50	.983	1.005	.042	6.7%
5 to 25	.990	1.008	.040	6.0%
5 or Newer	.966	1.000	.000	
Overall	.985	1.011	.049	7.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	500 to 1,000 sf	9	21.4%
	1,000 to 1,500 sf	4	9.5%
	1,500 to 2,000 sf	4	9.5%
	2,000 to 3,000 sf	8	19.0%
	3,000 sf or Higher	17	40.5%
Overall		42	100.0%
Excluded		0	
Total		42	

Ratio Statistics for CURRTOT / NET PRICE

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
500 to 1,000 sf	.998	1.005	.050	7.2%
1,000 to 1,500 sf	.982	.996	.013	1.8%
1,500 to 2,000 sf	1.010	1.056	.090	16.1%
2,000 to 3,000 sf	.964	.995	.039	6.2%
3,000 sf or Higher	.981	1.012	.047	7.4%
Overall	.985	1.011	.049	7.6%

Improvement Quality

		Count	Percent
QUALITY	2	1	2.4%
	3	39	92.9%
	4	2	4.8%
Overall		42	100.0%
Excluded		0	
Total		42	



Ratio Statistics for CURRTOT / NET PRICE

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
2	1.107	1.000	.000	
3	.984	1.010	.049	7.7%
4	.979	.998	.007	1.0%
Overall	.985	1.011	.049	7.6%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	1	2	4.8%
	2	2	4.8%
	3	28	66.7%
	4	4	9.5%
	7	5	11.9%
	8	1	2.4%
Overall		42	100.0%
Excluded		0	
Total		42	

Ratio Statistics for CURRTOT / NET PRICE

0	NA - di	Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
1	1.043	1.000	.006	0.9%
2	1.052	1.031	.052	7.4%
3	.985	1.009	.048	7.2%
4	.986	1.010	.072	14.8%
7	.971	1.003	.009	1.5%
8	.890	1.000	.000	
Overall	.985	1.011	.049	7.6%

Vacant Land Median Ratio Stratification

Sale Price

		Count	Percent
SPRec	LT \$25K	272	57.5%
	\$25K to \$50K	79	16.7%
	\$50K to \$100K	84	17.8%
	\$100K to \$150K	15	3.2%
	\$150K to \$200K	15	3.2%
	\$200K to \$300K	6	1.3%
	\$300K to \$500K	2	0.4%
Overall		473	100.0%
Excluded		0	
Total		473	



Ratio Statistics for CURRLND / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$25K	1.000	1.038	.206	28.8%
\$25K to \$50K	1.001	.994	.134	20.6%
\$50K to \$100K	.990	1.005	.148	22.2%
\$100K to \$150K	1.000	1.003	.033	6.2%
\$150K to \$200K	1.000	1.001	.083	14.7%
\$200K to \$300K	.999	1.011	.109	21.6%
\$300K to \$500K	1.000	1.000	.000	0.1%
Overall	1.000	1.026	.172	25.4%

Sub Class

Case Processing Summary

		Count	Percent
ABSTRLND	100	322	68.1%
	200	5	1.1%
	300	3	0.6%
	520	4	0.8%
	530	3	0.6%
	540	2	0.4%
	550	2	0.4%
	1112	113	23.9%
	1113	12	2.5%
	1135	5	1.1%
	2135	2	0.4%
Overall		473	100.0%
Excluded		0	
Total		473	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	1.000	1.036	.182	26.5%
200	1.000	.956	.135	24.4%
300	1.006	1.015	.053	9.8%
520	.979	1.018	.050	10.3%
530	.792	.873	.256	39.0%
540	.907	.993	.078	11.0%
550	.958	.987	.043	6.1%
1112	1.000	1.020	.157	24.0%
1113	1.023	1.042	.108	17.7%
1135	.840	1.103	.225	32.8%
2135	1.186	.989	.045	6.4%
Overall	1.000	1.026	.172	25.4%