2013 SUMMIT COUNTY PROPERTY ASSESSMENT STUDY

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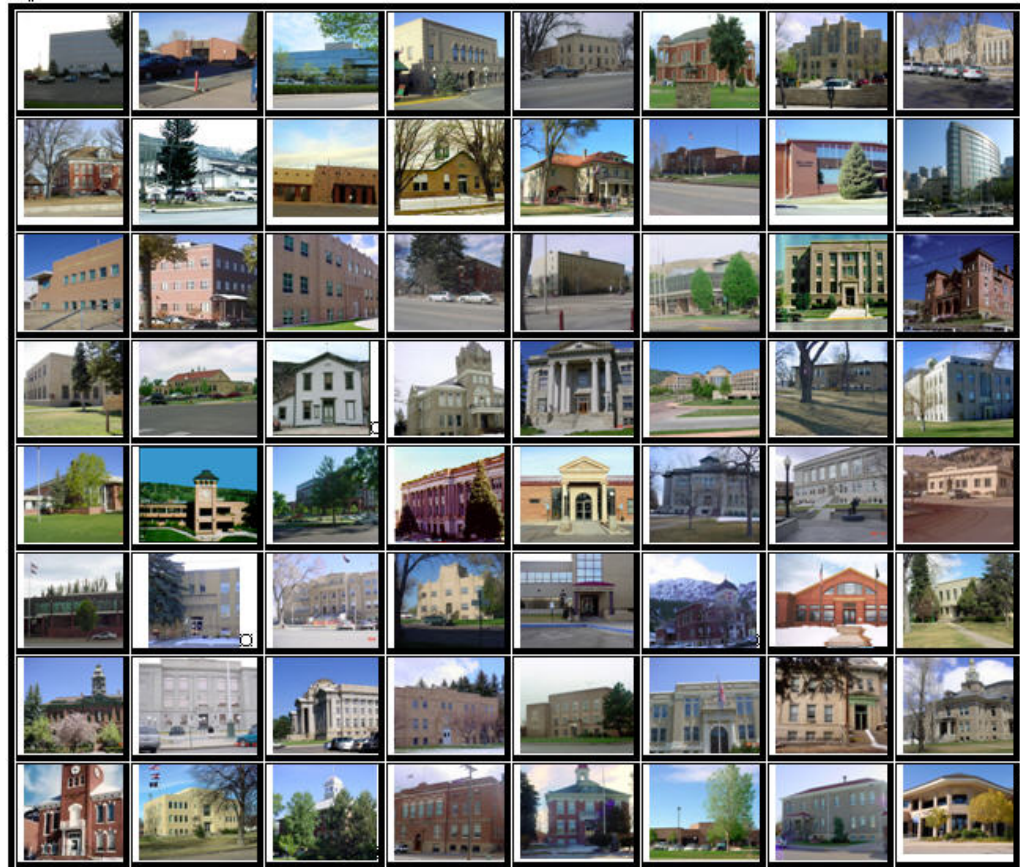
WILDROSE
APPRAISAL, INCORPORATED
Audit Division

September 15, 2013

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

RE: Final Report for the 2013 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2013 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

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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 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 2013 and is pleased to report its findings for Summit County in the following report.

REGIONAL/HISTORICAL SKETCH OF SUMMIT COUNTY

Regional Information

Summit 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

Summit County has a population of approximately 27,994 people with 46.04 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 18.88 percent change from the 2000 Census.

Summit County was organized as one of the seventeen original Colorado counties by the First Territorial Legislature on November 1, 1861. It was named for the many mountain summits in the county. Until February 2, 1874, its boundaries included the area now comprising Summit County, Grand County, Routt County, Moffat County, Garfield County, Eagle County, and Rio Blanco County.

In 1874, the northern half of the original Summit County was split off to form Grand County. With the creation of Garfield and Eagle counties in 1883, Summit County arrived at its present boundaries.

Established in 1859, the historic Town of Breckenridge is a Home Rule Municipality and is the county seat. The town of Breckenridge was formally created in November 1859 by General George E. Spencer. Spencer chose the name "Breckinridge" after the United States' Vice President of the time, John C. Breckinridge of Kentucky in the hopes of

flattering the government and gaining a post office. Spencer succeeded in his plan and a post office was built in Breckinridge. When the Civil War broke out in 1861, however, the former vice president sided with the Confederates (as a brigadier general) and the pro-Union citizens of Breckinridge decided to change the town's name. The first "i" was changed to an "e" and the town's name has been spelled Breckenridge ever since.

Prospectors entered what is now Summit County (then part of Utah Territory) during the Pikes Peak Gold Rush of 1859 and soon after that, the placer gold discoveries farther east at Idaho Springs. Breckenridge was founded to serve the miners working rich placer gold deposits discovered along Georgia Gulch. Placer gold mining was soon joined by hard rock mining, as prospectors followed the gold to its source veins in the hills.

Summit county is rich in activities for locals and visitors. It is home to Copper Mountain, Breckenridge, Keystone and Arapahoe Ski Resorts. Winter activities include skiing, snowboarding, ice-skating, cross-country skiing, dog sleigh, and snowmobiling. Summer activities include hiking, biking, fishing, and trail running. *(www.wikipedia.org)*

R ATIO A NALYSIS

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 2011 and June 2012. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2012 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 Summit County are:

Summit County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	104	0.997	1.108	11.2	Compliant
Condominium	1,097	1.000	1.011	4.3	Compliant
Single Family	1.143	1.000	1.011	5.5	Compliant
Vacant Land	178	1.000	1.013	9.1	Compliant

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

Recommendations

None

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 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 Summit County has complied with the statutory requirements to analyze the effects of time on value in their county. Summit 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

Summit 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 2012 and 2013 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	Compliant
Single Family	Compliant
Vacant Land	Compliant

Conclusions

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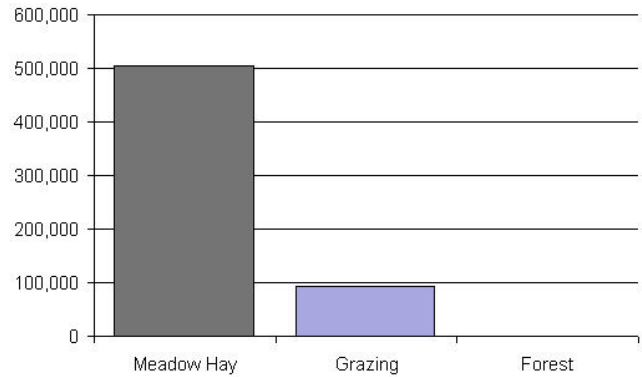
Recommendations

None

AGRICULTURAL LAND STUDY

Acres By Subclass

Forest 0.89%

Meadow Hay 20.03%

Grazing 79.08%
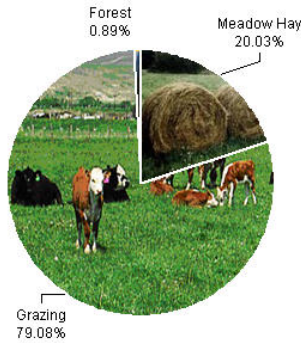
Value By Subclass

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. 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:

Summit County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4137	Meadow Hay	5,818	87.00	504,823	504,823	1.00
4147	Grazing	22,967	4.00	91,938	91,938	1.00
4177	Forest	259	2.00	635	635	1.00
Total/Avg		**29,044**	**21.00**	**597,396**	**597,396**	**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

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

Recommendations

None

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.

Summit County utilized the following discovery method(s):

- Questionnaires
- Phone Interviews
- In-Person Interviews
- Personal Knowledge of Owners and Tenants
- Field inspections

Conclusions

Summit 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

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 2013 for Summit County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 30 sales listed as unqualified.

All but one of the sales selected in the sample gave reasons that were clear and supportable. One sale had insufficient reason for disqualification.

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.

> When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number

of properties or by value, from the prior year. 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.

If 50 percent or more of the sales are qualified, the contractor has reviewed a statistically significant sample of unqualified sales, excluding sales that were disqualified for obvious reasons.

Summit County did not qualify for in-depth subclass analysis.

Conclusions

Summit County appears to be doing a good job of verifying their sales. There are no recommendations.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2013 in Summit 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

Summit 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 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 granted under lease, permit, license, concession, contract, or other agreement.

Summit County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural, commercial and ski area 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

Summit 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

Summit 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.

Summit 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
- 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
- Town's New Business Lists
- BOCC Resolutions

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.

Summit County submitted their personal property written audit plan and was current for the 2013 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:

- Businesses in a selected area
- Accounts with obvious discrepancies
- New businesses filing for the first time
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Same business type or use
- Businesses with no deletions or additions for 2 or more years

- Non-filing Accounts - Best Information Available
- Accounts close to the $7,000 actual value exemption status
- Accounts protested with substantial disagreement

Conclusions

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

Recommendations

None

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 RESULTS
FOR SUMMIT COUNTY
2013

I. OVERVIEW

Summit County is located in central Colorado. The county has a total of 32,371 real property parcels, according to data submitted by the county assessor's office in 2013. The following provides a breakdown of property classes for this county:
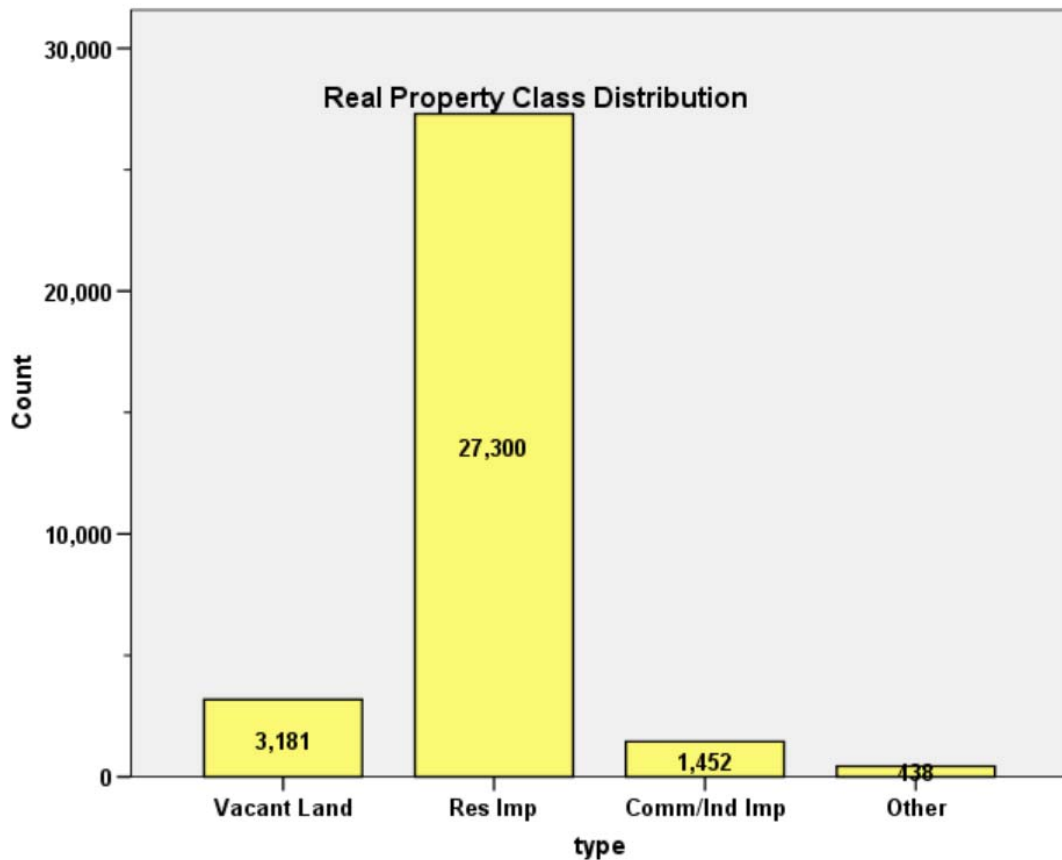
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 48.2% of all vacant land parcels.

For residential improved properties, single family properties accounted for 32.1% of all residential properties. Residential condominiums, coded as 1230, accounted for 45.1% of all residential properties. Based on the guidelines of the 2013 audit, we will analyze residential condominiums separately in the following analysis.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 4.5% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2013 Colorado Property Assessment Study. Information was provided by the Summit Assessor's Office in April 2013. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 2,240 qualified residential sales for the 24 month sale period ending June 30, 2012. We stratified our sales ratio analysis by residential non-condominiums and condominiums, as follows:

Residential Non-Condo = 1,143

Median	**1.000**
Price Related Differential	**1.011**
Coefficient of Dispersion	**.055**

Residential Condo = 1,097

Median	**1.000**
Price Related Differential	**1.011**
Coefficient of Dispersion	**.043**

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:

RESIDENTIAL NON-CONDOMINIUMS

ResCondo: .00

Mean = 1.02
Std. Dev. = 0.105
N = 1,143

ResCondo: .00

Residential Sale Price by Sales Ratio

RESIDENTIAL CONDOMINIUMS

ResCondo: 1.00

Mean = 1.01
Std. Dev. = 0.076
N = 1,097

ResCondo: 1.00
Residential Sale Price by Sales Ratio
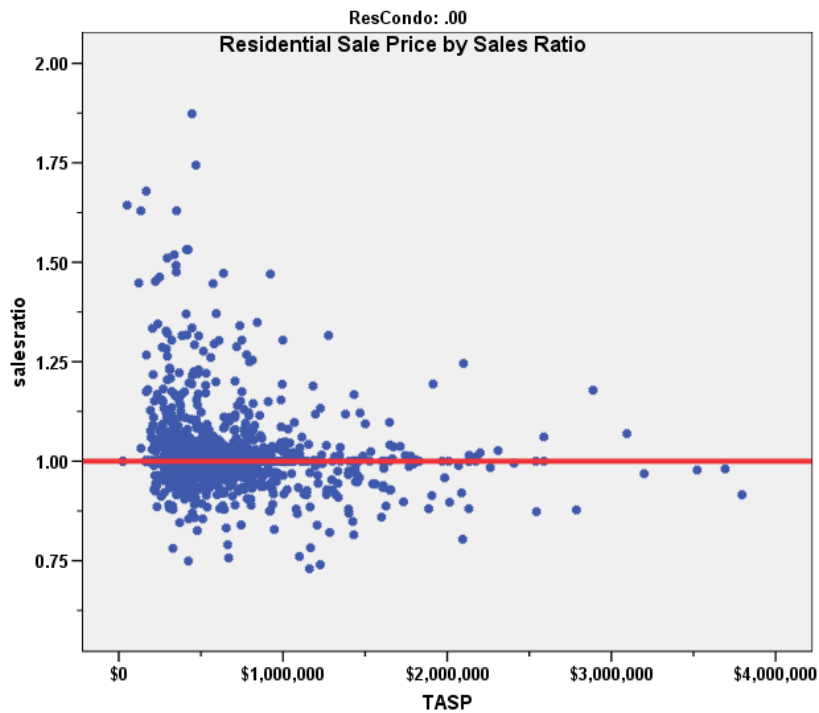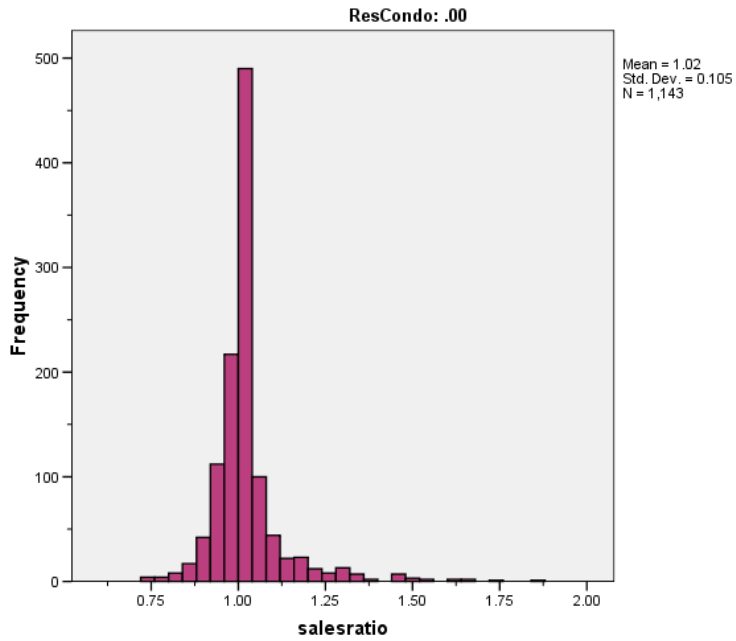
The above graphs indicate that the distribution of the sale ratios was within state mandated limits. No sales were trimmed.

Residential Market Trend Analysis

We next analyzed the residential dataset using the 24-month sale period for any residual market trending. We again stratified the analysis between residential non-condominiums and condominiums, with the following results:

Coefficients[a]

ResCondo	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
.00	1	(Constant)	1.017	.006		173.089	.000
		SalePeriod	.000	.000	.019	.644	.520
1.00	1	(Constant)	1.007	.005		222.451	.000
		SalePeriod	-8.282E-5	.000	-.008	-.248	.804

a. Dependent Variable: salesratio

RESIDENTIAL Non-CONDOMINIUMS
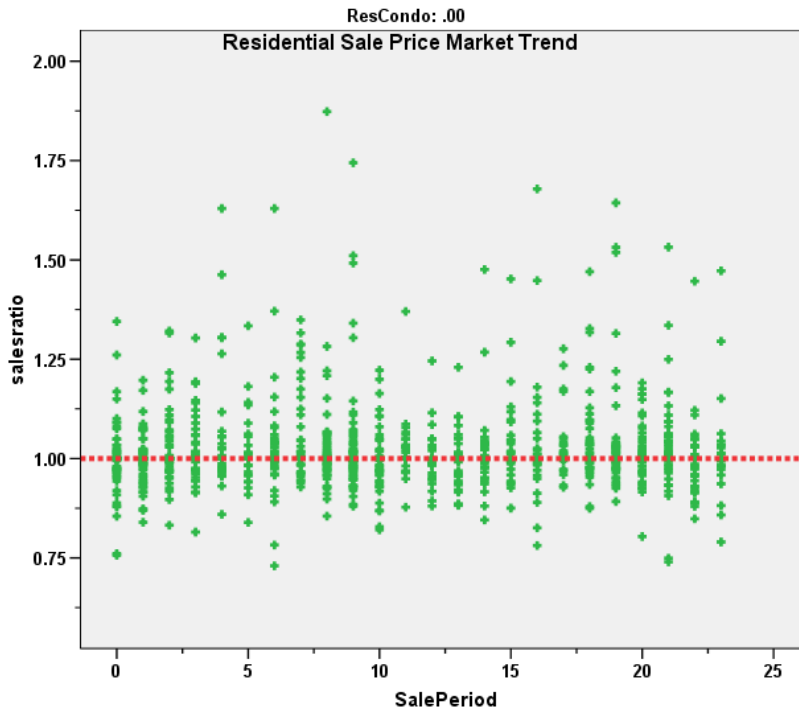
RESIDENTIAL CONDOMINIUMS

With no significant market 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 median actual value per square foot for 2013 between each group stratified by residential non-condominiums and condominiums, as follows:

Residential Type	Group	N	Median Val/SF	Mean Val/SF
Residential Non-Condo	**Unsold**	13,622	$304	$333
	Sold	1,141	$307	$343
Residential Condo	**Unsold**	11,204	$299	$325
	Sold	1,097	$313	$345
Total	**Unsold**	24,826	$302	$330
	Sold	2,238	$310	$344

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 104 qualified commercial and industrial sales for the 60 month sale period ending June 30, 2012. The sales ratio analysis results were as follows:

Median	**0.997**
Price Related Differential	**1.108**
Coefficient of Dispersion	**.112**

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

Mean = 0.99
Std. Dev. = 0.173
N = 104

Commercial Sale Price by Sales Ratio
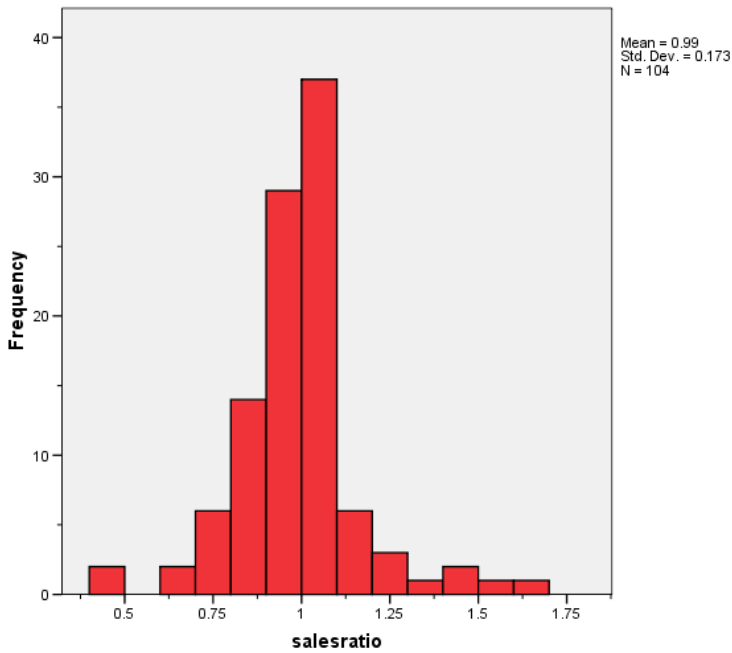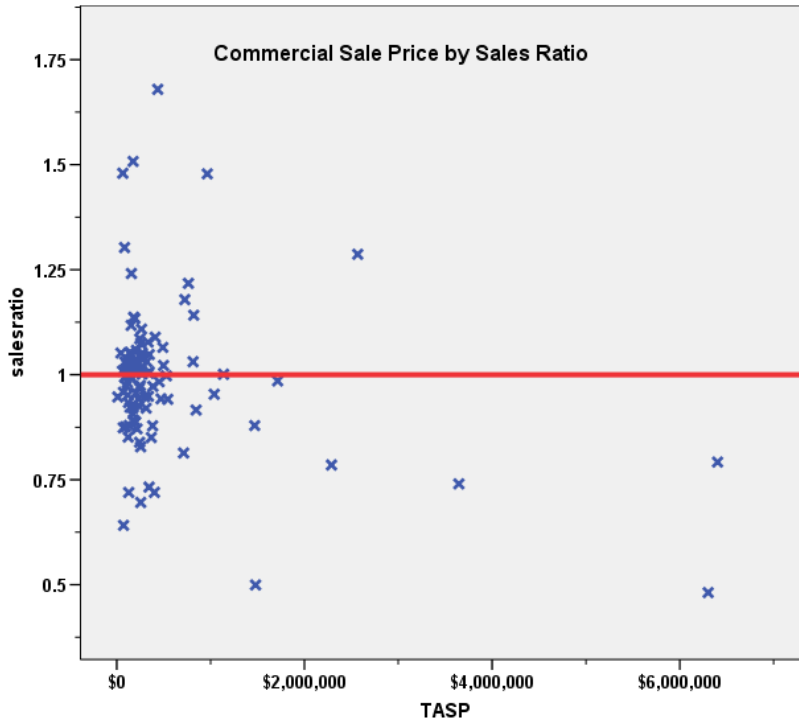
Commercial Market Trend Analysis

The 104 commercial/industrial sales were next analyzed by subclass for any residual market trending, examining the sale ratios across the 60-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.009	.033		30.841	.000
	SalePeriod	-.001	.001	-.072	-.731	.467

a. Dependent Variable: salesratio
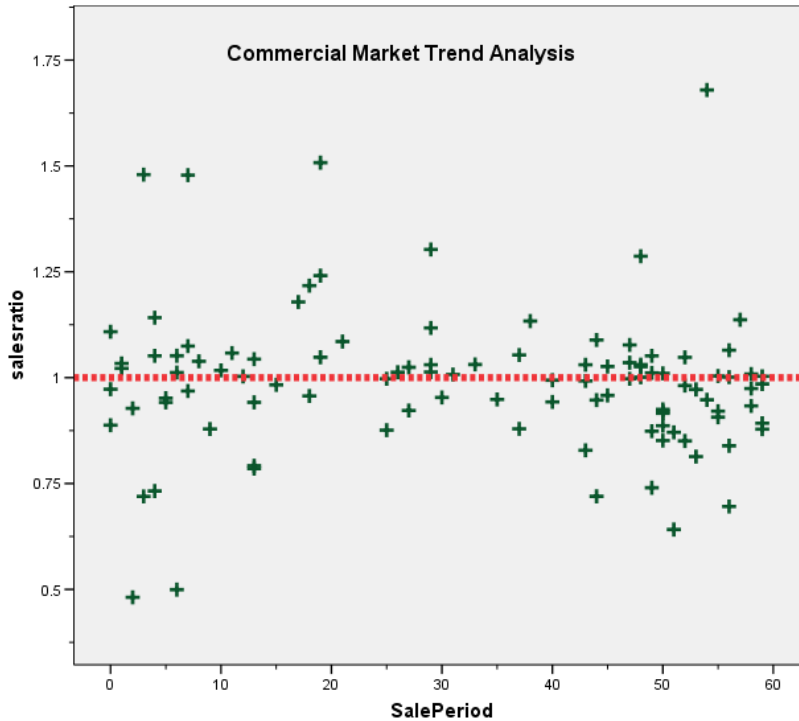
The market trend results indicated no statistically significant residual market trend. We concluded that the assessor adequately considered market trending in their valuation of commercial/industrial properties.

Sold/Unsold Analysis

For the sold/unsold analysis of commercial properties, 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, as follows:

Subclass	Group	No.	Median	Mean
Total	**Unsold**	1,329	$169	$187
	Sold	104	$167	$189

Based on the results of these comparisons, we concluded that the Summit County assessor was valuing sold and unsold commercial properties consistently**.**

V. VACANT LAND SALE RESULTS

There were 178 qualified vacant land sales for the 48 month sale period ending June 30, 2012. The sales ratio analysis results were as follows:

Median	**1.000**
Price Related Differential	**1.013**
Coefficient of Dispersion	**.091**

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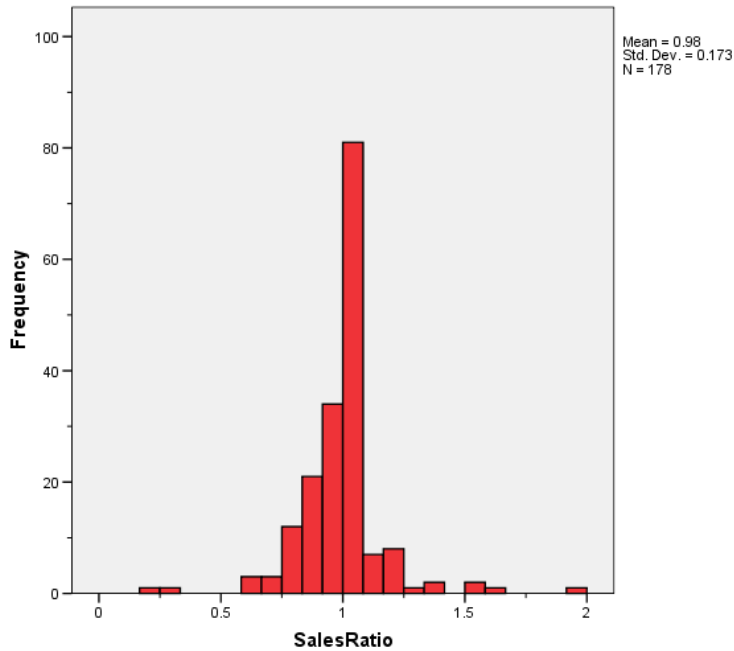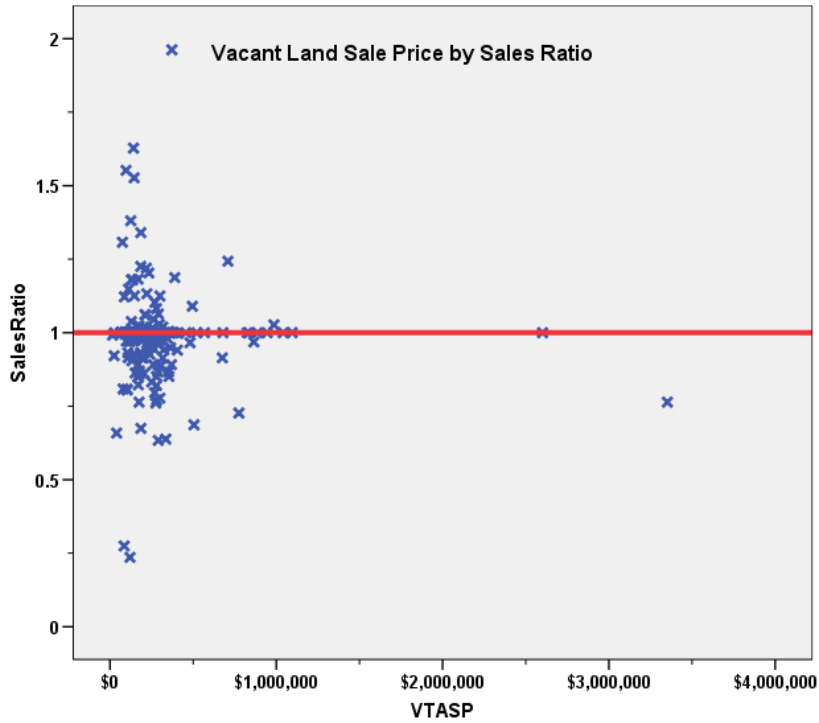
Vacant Land Market Trend Analysis

The assessor did not apply any market trend adjustments to the vacant land dataset. The 178 vacant land sales were analyzed, examining the sale ratios across the 48 month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.976	.024		40.569	.000
	VSalePeriod	.000	.001	.032	.419	.676

a. Dependent Variable: SalesRatio
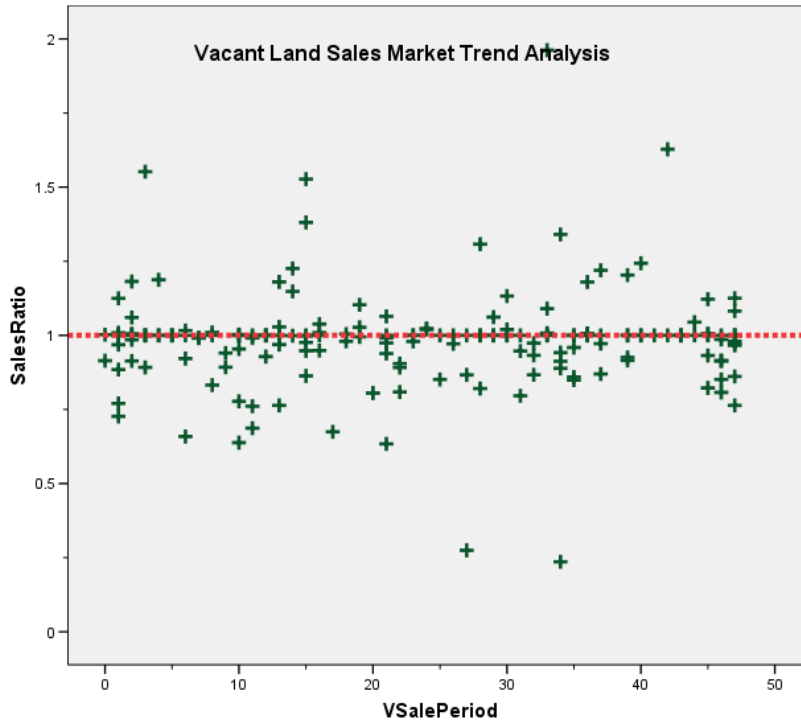
The market trend results indicated no statistically significant trend. We concluded that the assessor has adequately considered market tending in Summit County's vacant land valuation for 2013.

Sold/Unsold Analysis

We compared the median change in actual value between 2010 and 2013 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median Chg Val	Mean Chg Val
Unsold	2,848	0.96	1.13
Sold	178	0.87	0.94

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 Summit 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
ImpVal SF	SFR	Mean		$226.74	$1.122
		95% Confidence Interval for Mean	Lower Bound	$224.54	
			Upper Bound	$228.94	
		5% Trimmed Mean		$218.84	
		Median		$207.00	
		Variance		11027.429	
		Std. Deviation		$105.012	
		Minimum		$1	
		Maximum		$1,581	
		Range		$1,580	
		Interquartile Range		$106	
		Skewness		2.042	.026
		Kurtosis		11.014	.052
	Ag Res	Mean		$227.08	$43.244
		95% Confidence Interval for Mean	Lower Bound	$121.27	
			Upper Bound	$332.90	
		5% Trimmed Mean		$222.08	
		Median		$222.20	
		Variance		13090.237	
		Std. Deviation		$114.413	
		Minimum		$111	
		Maximum		$433	
		Range		$322	
		Interquartile Range		$193	
		Skewness		.970	.794
		Kurtosis		.571	1.587

VI. CONCLUSIONS

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

STATISTICAL ABSTRACT
Residential

Ratio Statistics for CURRTOT / TASP

| ResCondo | Mean | 95% Confidence Interval for Mean | | Median | 95% Confidence Interval for Median | | | Weighted Mean | 95% Confidence Interval for Weighted Mean | | Price Related Differential | Coefficient of Dispersion | Coefficient of Variation |
		Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.00	1.020	1.014	1.026	1.000	1.000	1.000	95.6%	1.009	1.002	1.015	1.011	.055	10.3%
1.00	1.006	1.001	1.010	1.000	1.000	1.000	95.4%	.995	.989	1.000	1.011	.043	7.6%

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 | 95% Confidence Interval for Mean | | Median | 95% Confidence Interval for Median | | | Weighted Mean | 95% Confidence Interval for Weighted Mean | | Price Related Differential | Coefficient of Dispersion | Coefficient of Variation |
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.989	.955	1.023	.997	.958	1.012	96.1%	.893	.776	1.010	1.108	.112	17.5%

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.

Vacant Land

Ratio Statistics for CURRLND / VTASP

| Mean | 95% Confidence Interval for Mean | | Median | 95% Confidence Interval for Median | | | Weighted Mean | 95% Confidence Interval for Weighted Mean | | Price Related Differential | Coefficient of Dispersion | Coefficient of Variation |
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.984	.958	1.010	1.000	1.000	1.000	95.7%	.971	.936	1.007	1.013	.091	17.6%

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	4	.2%
	$50K to $100K	29	1.3%
	$100K to $150K	97	4.3%
	$150K to $200K	178	7.9%
	$200K to $300K	443	19.8%
	$300K to $500K	690	30.8%
	$500K to $750K	435	19.4%
	$750K to $1,000K	181	8.1%
	Over $1,000K	183	8.2%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation — Median Centered
LT $25K	1.000	1.000	.012	2.8%
$50K to $100K	1.000	1.015	.104	18.3%
$100K to $150K	1.002	1.000	.074	12.7%
$150K to $200K	1.000	1.000	.061	11.3%
$200K to $300K	1.000	1.000	.041	7.9%
$300K to $500K	1.000	.999	.048	9.7%
$500K to $750K	1.000	1.000	.044	8.2%
$750K to $1,000K	1.000	1.000	.047	8.1%
Over $1,000K	1.000	1.000	.055	8.6%
Overall	1.000	1.009	.049	9.3%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212	694	31.0%
	1213	111	5.0%
	1214	233	10.4%
	1215	1	.0%
	1217	36	1.6%
	1218	16	.7%
	1219	49	2.2%
	1229	2	.1%
	1230	1097	49.0%
	1246	1	.0%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212	1.000	1.015	.067	11.9%
1213	1.000	1.010	.049	9.4%
1214	1.000	1.007	.038	9.3%
1215	1.006	1.000	.000	.%
1217	1.000	1.004	.024	5.1%
1218	1.000	1.004	.022	4.8%
1219	1.000	.999	.007	5.0%
1229	1.000	1.000	.000	.0%
1230	1.000	1.011	.043	7.6%
1246	1.216	1.000	.000	.%
Overall	1.000	1.009	.049	9.3%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	5	.2%
	75 to 100	3	.1%
	50 to 75	9	.4%
	25 to 50	928	41.4%
	5 to 25	1050	46.9%
	5 or Newer	245	10.9%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	1.000	1.013	.062	9.0%
75 to 100	1.041	1.014	.046	7.1%
50 to 75	1.012	1.020	.216	37.6%
25 to 50	1.000	1.006	.056	10.0%
5 to 25	1.000	1.006	.044	8.1%
5 or Newer	1.000	1.010	.038	9.3%
Overall	1.000	1.009	.049	9.3%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	80	3.6%
	500 to 1,000 sf	625	27.9%
	1,000 to 1,500 sf	766	34.2%
	1,500 to 2,000 sf	358	16.0%
	2,000 to 3,000 sf	286	12.8%
	3,000 sf or Higher	125	5.6%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.000	1.004	.040	7.6%
500 to 1,000 sf	1.000	1.010	.048	9.1%
1,000 to 1,500 sf	1.000	1.006	.041	7.6%
1,500 to 2,000 sf	1.000	1.012	.050	9.2%
2,000 to 3,000 sf	1.000	1.017	.067	13.1%
3,000 sf or Higher	1.000	1.016	.066	11.3%
Overall	1.000	1.009	.049	9.3%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	A	12	.5%
	B	106	4.7%
	C	559	25.0%
	D	1504	67.1%
	E	57	2.5%
	F	2	.1%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
A	1.000	1.013	.086	12.2%
B	1.000	1.008	.049	8.9%
C	1.000	1.006	.046	9.3%
D	1.000	1.006	.049	9.2%
E	1.000	1.016	.064	12.0%
F	1.080	.992	.044	6.2%
Overall	1.000	1.009	.049	9.3%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITIOn	D	2216	98.9%
	E	24	1.1%
Overall		2240	100.0%
Excluded		0	
Total		2240	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
D	1.000	1.008	.048	9.1%
E	1.007	1.035	.108	21.5%
Overall	1.000	1.009	.049	9.3%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	1	1.0%
	$25K to $50K	1	1.0%
	$50K to $100K	10	9.6%
	$100K to $150K	19	18.3%
	$150K to $200K	14	13.5%
	$200K to $300K	22	21.2%
	$300K to $500K	18	17.3%
	$500K to $750K	4	3.8%
	$750K to $1,000K	5	4.8%
	Over $1,000K	10	9.6%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	.947	1.000	.000	.%
$25K to $50K	1.052	1.000	.000	.%
$50K to $100K	.983	1.005	.152	23.8%
$100K to $150K	1.003	1.000	.054	8.8%
$150K to $200K	1.008	1.005	.125	17.8%
$200K to $300K	1.006	.999	.072	10.3%
$300K to $500K	.993	.993	.116	20.2%
$500K to $750K	.969	.997	.109	15.7%
$750K to $1,000K	1.142	.992	.131	18.7%
Over $1,000K	.835	1.084	.216	28.8%
Overall	.997	1.108	.112	17.4%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	2212	7	6.7%
	2215	2	1.9%
	2220	1	1.0%
	2230	9	8.7%
	2235	3	2.9%
	2245	82	78.8%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212	1.022	.918	.188	25.7%
2215	.766	.991	.034	4.8%
2220	.985	1.000	.000	.%
2230	.916	1.336	.263	38.1%
2235	.953	1.074	.186	34.2%
2245	.999	1.006	.085	13.1%
Overall	.997	1.108	.112	17.4%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	1	1.0%
	25 to 50	26	25.0%
	5 to 25	75	72.1%
	5 or Newer	2	1.9%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Over 100	.720	1.000	.000	.%
25 to 50	1.011	1.045	.122	20.1%
5 to 25	.994	1.075	.101	15.2%
5 or Newer	.717	1.309	.329	46.5%
Overall	.997	1.108	.112	17.4%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	9	8.7%
	500 to 1,000 sf	26	25.0%
	1,000 to 1,500 sf	27	26.0%
	1,500 to 2,000 sf	13	12.5%
	2,000 to 3,000 sf	13	12.5%
	3,000 sf or Higher	16	15.4%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation / Median Centered
LE 500 sf	.947	1.007	.089	13.4%
500 to 1,000 sf	.923	1.044	.133	18.7%
1,000 to 1,500 sf	1.026	1.003	.051	7.7%
1,500 to 2,000 sf	1.013	.975	.137	24.9%
2,000 to 3,000 sf	.997	1.043	.083	10.7%
3,000 sf or Higher	.969	1.144	.186	26.5%
Overall	.997	1.108	.112	17.4%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	B	3	2.9%
	C	17	16.3%
	D	82	78.8%
	E	2	1.9%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
B	1.030	1.001	.013	2.0%
C	.953	1.329	.117	17.1%
D	.997	1.050	.116	17.9%
E	1.026	1.002	.004	.6%
Overall	.997	1.108	.112	17.4%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITIOn	C	1	1.0%
	D	99	95.2%
	E	4	3.8%
Overall		104	100.0%
Excluded		0	
Total		104	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
C	.997	1.000	.000	.%
D	.992	1.132	.115	17.6%
E	1.026	.888	.069	14.7%
Overall	.997	1.108	.112	17.4%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	2	1.1%
	$25K to $50K	2	1.1%
	$50K to $100K	14	7.9%
	$100K to $150K	41	23.0%
	$150K to $200K	23	12.9%
	$200K to $300K	55	30.9%
	$300K to $500K	24	13.5%
	$500K to $750K	6	3.4%
	$750K to $1,000K	7	3.9%
	Over $1,000K	4	2.2%
Overall		178	100.0%
Excluded		0	
Total		178	

Ratio Statistics for CURRLND / VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	.957	1.009	.037	5.2%
$25K to $50K	.829	1.043	.206	29.1%
$50K to $100K	1.000	.997	.138	27.4%
$100K to $150K	1.000	.994	.095	20.1%
$150K to $200K	.976	.998	.108	15.0%
$200K to $300K	1.000	1.004	.070	11.0%
$300K to $500K	.995	.995	.102	22.8%
$500K to $750K	1.000	.986	.107	18.1%
$750K to $1,000K	1.000	.995	.047	11.3%
Over $1,000K	1.000	1.043	.059	13.6%
Overall	1.000	1.013	.091	17.4%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100	104	58.4%
	190	17	9.6%
	200	4	2.2%
	401	24	13.5%
	402	1	.6%
	491	18	10.1%
	511	2	1.1%
	521	4	2.2%
	531	1	.6%
	541	2	1.1%
	551	1	.6%
Overall		178	100.0%
Excluded		0	
Total		178	

Ratio Statistics for CURRLND / VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	1.000	1.008	.071	12.8%
190	1.000	1.003	.057	9.8%
200	1.022	1.164	.157	20.3%
401	.995	1.029	.109	17.7%
402	1.023	1.000	.000	.%
491	1.000	1.019	.133	28.4%
511	1.001	1.000	.001	.2%
521	.790	1.340	.310	42.7%
531	.236	1.000	.000	.%
541	1.002	1.001	.002	.3%
551	.727	1.000	.000	.%
Overall	1.000	1.013	.091	17.4%