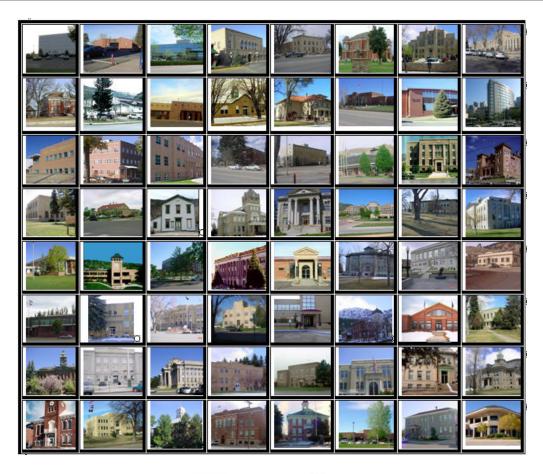


# 2012 DELTA COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2012

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

**RE:** Final Report for the 2012 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2012 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. Zulla

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 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 2012 and is pleased to report its findings for Delta County in the following report.



# REGIONAL/HISTORICAL SKETCH OF DELTA COUNTY

# **Regional Information**

Delta 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**

Delta County has a population of approximately 30,952 people with 27.10 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 11.2 percent change from the 2000 Census.

Delta County is located on Colorado's western slope at the base of Grand Mesa (one of the largest flat top mountains in the world) and was created by the Colorado legislature on February 11, 1883 out of portions of central Gunnison County. The county was named for the City of Delta, which was named for its location on the delta of the Uncompandere River. The county was primarily settled by a German populace, although many English, Irish and Mexican people brought their roots from the homeland to settle in Delta County.

The city of Delta is situated just west of the Black Canyon of the Gunnison. Seven buildings downtown act as canvasses for local artists displaying murals depicting the local economy, history and the natural surroundings. Another town symbol at the entrance to Delta is Ute Council Tree, an 85-foot cottonwood, once a gathering point for tribal discussions. Today the tree symbolizes the growing connections between Colorado Utes and the Western Slope's other residents.

The Delta County Museum, housed in an old firehouse, recounts the Western Slope's cultural heritage and natural history. The butterfly exhibit contains some of the only-known specimens from now extinct species. The Fort Uncompander Living History Museum at the entrance to the 265-acre Confluence Park is staffed by authentically garbed interpreters who guide visitors through an old fur trading post. Just outside Delta is Dry Mesa Quarry, the site where archeologists first discovered Brachiosaurus and Ultrasaurus bones. This dig-in-process is open to the public. (Wikipedia.org, deltacolorado.org)



# RATIO ANALYSIS

### Methodology

All significant classes of properties were Sales were collected for each analyzed. property class over the appropriate sale period, which was typically defined as the 18-month period between January 2009 and June 2010. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2010 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 Delta County are:

Delta County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	38	0.979	1.031	14.5	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	258	0.991	1.017	9.4	Compliant
Vacant Land	53	1.000	1.083	11.6	Compliant

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

### Recommendations

None

# **Random Deed Analysis**

An additional analysis was performed as part of the Ratio Analysis. Ten randomly selected deeds with documentary fees were obtained from the Clerk and Recorder. These deeds were for sales that occurred from January 1, 2009 through June 30, 2010. These sales were then checked for inclusion on the Assessor's qualified or unqualified database.

### **Conclusions**

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

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

Delta 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 2010 and 2012 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. 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 nonparametric 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 multivariate 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 R	esults
Property Class	Results
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

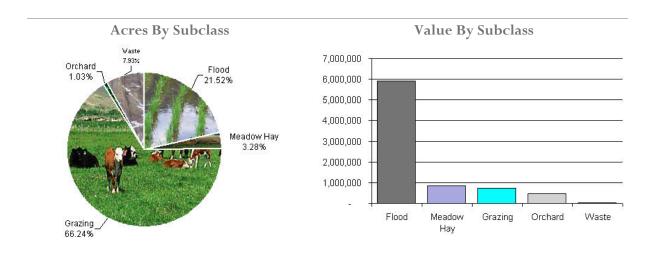
### Conclusions

After applying the above described methodologies, it is concluded that Delta 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: 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 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:



	Delta 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	56,409	105.00	5,910,506	6,204,255	0.95
4137	Meadow Hay	8,591	99.00	847,382	847,382	1.00
4147	Grazing	173,601	4.00	726,417	726,417	1.00
4157	Orchard	2,692	172.00	462,360	462,360	1.00
4167	Waste	20,782	2.00	33,541	33,541	1.00
Total/Avg		262,075	0.00	7,980,207	8,273,955	0.96

### 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**

Delta 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.

### **Conclusions**

Delta 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 2012 for Delta County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 31 sales listed as unqualified.

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

### Conclusions

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

### Recommendations



# ECONOMIC AREA REVIEW AND EVALUATION

# Methodology

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

# 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



# **Producing Coal Mines**

### Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Section 6, Valuation of Producing Coal Leaseholds and Lands, the income approach is the primary method applied to find value for the valuation of coalmines. This methodology estimates annual economic royalty income based on previous year's production, then capitalizes

that income to value using a Hoskold factor to estimate the present worth of the permitted acres. The operator provides production data and the life of the leases.

### Conclusions

County has applied the correct formulas and state guidelines to coal mine valuation.

### Recommendations



# VACANT LAND

### **Subdivision Discounting**

Subdivisions were reviewed in 2012 in Delta 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 was 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**

Delta 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 C.R.S. Chapter 39-1-103 (17)(a)(II)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.

Delta 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**

Delta 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

Delta 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 This sample was levels of such property. 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.

Delta 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

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.

Delta County submitted their personal property written audit plan and was current for the 2012 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
- Accounts with greater than 10% change
- 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 \$5,500 actual value exemption status
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement

### **Conclusions**

Delta 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



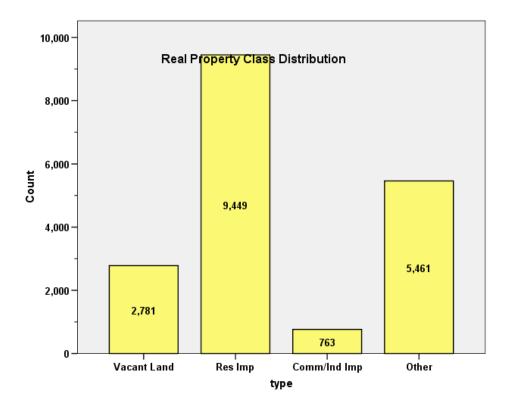
# APPENDICES



# STATISTICAL COMPLIANCE REPORT FOR DELTA COUNTY 2012

### I. OVERVIEW

Delta County is located in western Colorado. The county has a total of 18,454 real property parcels, according to data submitted by the county assessor's office in 2012. 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 49.7% of all vacant land parcels, followed by mobile home lots (1135) at 20%.

For residential improved properties, single family properties accounted for 94.0% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 4.1% of all such properties in this county.

### II. DATA FILES

The following sales analyses were based on the requirements of the 2012 Colorado Property Assessment Study. Information was provided by the Delta Assessor's Office in May 2012. The data included all 5 property record files as specified by the Auditor.

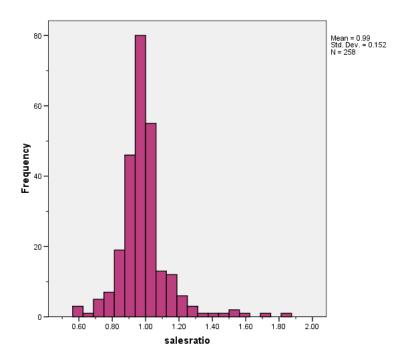


### III. RESIDENTIAL SALES RESULTS

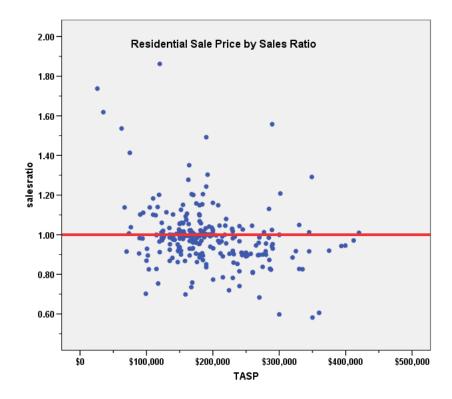
There were 258 qualified residential sales. The sales ratio analysis results were as follows:

Median	0.991
Price Related Differential	1.017
Coefficient of Dispersion	.094

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

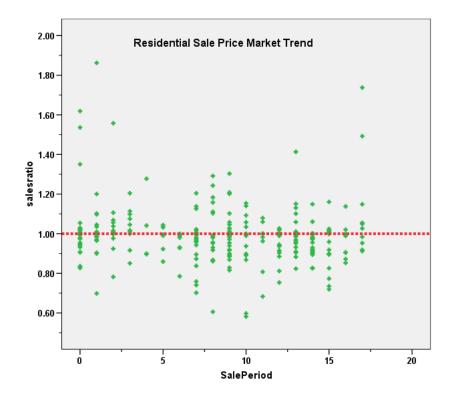
We next analyzed the residential dataset using the 18-month sale period for any residual market trending, with the following results:

Coefficients<sup>a</sup>

Mo	odel	Unstandardized Coefficients		Standardized Coefficients		
L		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.020	.018		57.111	.000
L	SalePeriod	003	.002	116	-1.867	.063

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 median actual value per square foot for 2012 between each group, as follows:

Group	No. Props	Median Val/SF	Mean Val/SF
Unsold	8,903	\$106	\$109
Sold	254	\$117	\$118

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

### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

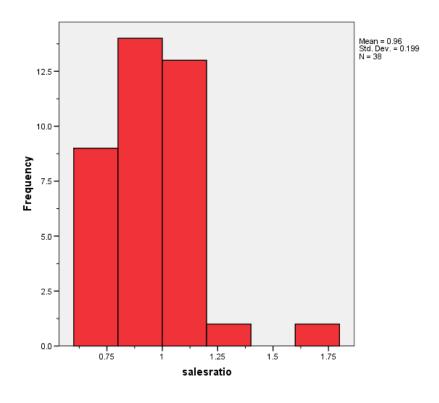
There were 38 qualified commercial and industrial sales, spanning a 42-month period prior to June 2010.

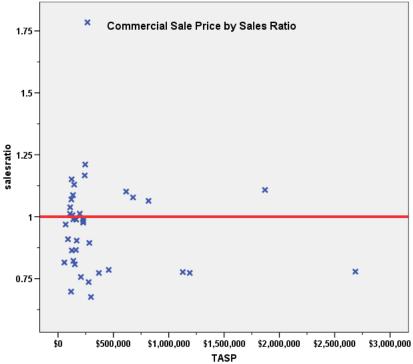
The sales ratio analysis resulted in the following ratio statistics:

Median	0.979
Price Related Differential	1.031
Coefficient of Dispersion	.145



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







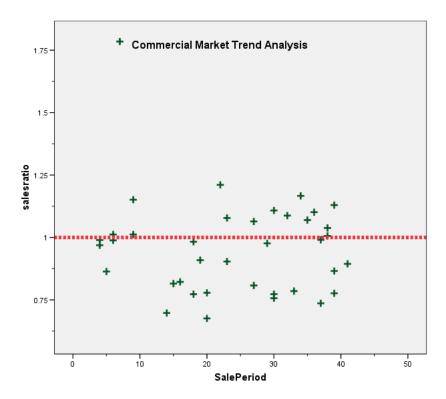
### **Commercial Market Trend Analysis**

The 37 commercial/industrial sales were next analyzed by subclass for any residual market trending, examining the sale ratios across the 42-month sale period with the following results:

### Coefficients<sup>a</sup>

Model	I	Unstandardized Coefficients		Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.012	.073		13.795	.000
	SalePeriod	002	.003	126	764	.450

a. Dependent Variable: salesratio



The market trend results indicated no significant residual sales ratio trend in the commercial/industrial data. We therefore concluded that the assessor adequately considered market trending in their valuation of commercial and industrial properties.



### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold commercial/industrial properties, we compared the median actual value per square foot for 2012 between each group, as follows:

Group	No. Props	Median Chg Val	Mean Chg Val
Unsold	721	\$68	\$82
Sold	38	\$80	\$82

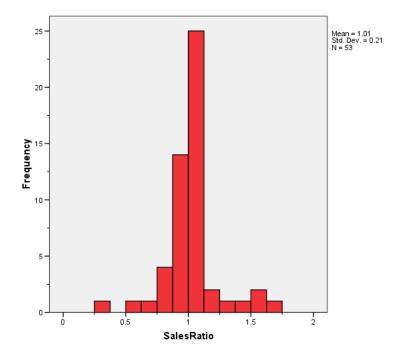
Based on the above results, we concluded that the Delta County assessor was valuing sold and unsold commercial properties consistently.

### V. VACANT LAND SALE RESULTS

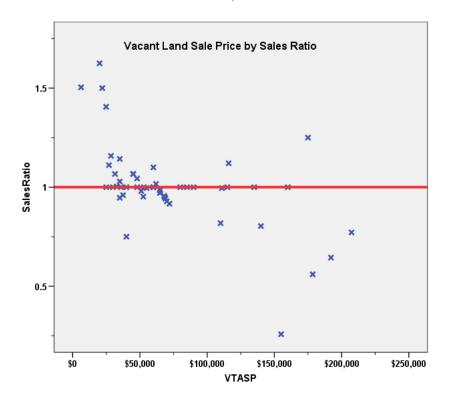
There were 53 qualified vacant land sales between January 2009 and June 2010, with the following results:

Median	1.000
Price Related Differential	1.083
Coefficient of Dispersion	.116

The above tables indicate that the Delta 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**

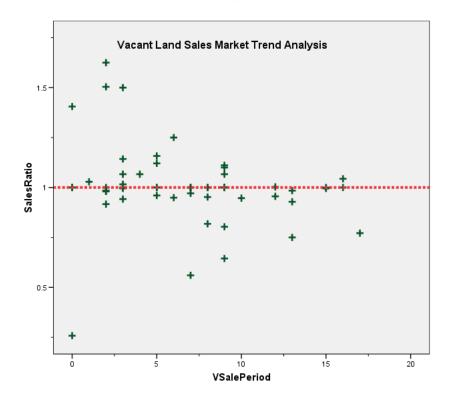
The assessor did not apply any market trend adjustments to the vacant land dataset. The 53 vacant land sales were analyzed, examining the sale ratios across the 18-month sale period with the following results:

Coefficients<sup>a</sup>

М	odel	Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.075	.051		21.186	.000
	VSalePeriod	010	.006	225	-1.652	.105

a. Dependent Variable: SalesRatio





The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Delta County.

### **Sold/Unsold Analysis**

We compared the median change in actual value between 2010 and 2012 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

SUBDIVNO	Group	N	Median	Mean
Total	Unsold	2,555	0.875	0.87
	Sold	53	0.920	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 Delta County.

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



Descriptives

	abstrim	Descri		Statistic	Std. Error
Imp\/oCE					
ImpVaSF	1212	Mean	Lawas Barrad	\$77.06	\$.444
		95% Confidence Interval for		\$76.19	
		Mean	Upper Bound	\$77.93	
		5% Trimmed Mean		\$76.19	
		Median		\$77.52	)
		Variance		1737.188	
		Std. Deviation		\$41.680	
		Minimum		\$0	
		Maximum		\$2,581	
		Range		\$2,581	
		Interquartile Range		\$43	
		Skewness		25.063	.026
		Kurtosis		1479.297	.052
	4277	Mean		\$80.51	\$.841
		95% Confidence Interval for	Lower Bound	\$78.86	
		Mean	Upper Bound	\$82.16	
		5% Trimmed Mean		\$79.53	
		Median		\$78.46	)
		Variance		1249.394	
		Std. Deviation		\$35.347	
		Minimum		\$0	
		Maximum		\$217	
		Range		\$217	
		Interquartile Range		\$49	
		Skewness		.450	.058
		Kurtosis		.293	.116

### VI. CONCLUSIONS

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



### STATISTICAL ABSTRACT

### **Residential**

#### Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Con	fidence Interval fo	or Median		95% Confiden Weighte				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
.992	.973	1.011	.991	.980	.999	96.0%	.976	.957	.994	1.017	.094	15.4%

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

### Commercial/Industrial

#### Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Con	fidence Interval fo	or Median		95% Confiden Weighte				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
.962	.896	1.027	.979	.864	1.012	96.6%	.933	.838	1.027	1.031	.145	20.7%

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**

	95% Confider Me			95% Con	ifidence Interval fo	or Median		95% Confiden Weighte	ce Interval for d 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
1.005	.947	1.063	1.000	.985	1.000	97.3%	.928	.844	1.012	1.083	.116	20.9%

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	\$25K to \$50K	2	.8%
	\$50K to \$100K	13	5.0%
	\$100K to \$150K	57	22.1%
	\$150K to \$200K	102	39.5%
	\$200K to \$300K	68	26.4%
	\$300K to \$500K	16	6.2%
Overall		258	100.0%
Excluded	1	0	
Total		258	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
\$25K to \$50K	1.678	1.005	.035	5.0%
\$50K to \$100K	1.007	1.019	.152	22.5%
\$100K to \$150K	.995	1.002	.075	14.4%
\$150K to \$200K	1.000	.999	.072	11.6%
\$200K to \$300K	.931	1.000	.092	13.6%
\$300K to \$500K	.931	1.001	.131	19.4%
Overall	.991	1.017	.094	15.4%



# **Subclass**

# **Case Processing Summary**

		Count	Percent
abstrimp	1212	254	98.4%
	1230	4	1.6%
Overall		258	100.0%
Excluded		0	
Total		258	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1212	.992	1.017	.094	15.5%
1230	.956	.994	.063	8.4%
Overall	.991	1.017	.094	15.4%



# Improvement Age

# **Case Processing Summary**

		Count	Percent
AgeRec	.00	4	1.6%
	Over 100	17	6.6%
	75 to 100	18	7.0%
	50 to 75	30	11.6%
	25 to 50	88	34.1%
	5 to 25	74	28.7%
	5 or Newer	27	10.5%
Overall		258	100.0%
Excluded		0	
Total		258	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
.00	.956	.994	.063	8.4%
Over 100	.952	1.036	.083	12.7%
75 to 100	1.000	1.080	.179	32.7%
50 to 75	.979	1.004	.101	13.5%
25 to 50	.996	1.020	.082	13.4%
5 to 25	.993	1.007	.088	12.8%
5 or Newer	.988	1.006	.091	15.0%
Overall	.991	1.017	.094	15.4%



# Improved Area

# **Case Processing Summary**

		Count	Percent
ImpSFRec	.00	4	1.6%
	LE 500 sf	1	.4%
	500 to 1,000 sf	27	10.5%
	1,000 to 1,500 sf	88	34.1%
	1,500 to 2,000 sf	85	32.9%
	2,000 to 3,000 sf	47	18.2%
	3,000 sf or Higher	6	2.3%
Overall		258	100.0%
Excluded		0	
Total		258	



Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
.00	.956	.994	.063	8.4%
LE 500 sf	.702	1.000	.000	.%
500 to 1,000 sf	.972	1.087	.160	25.9%
1,000 to 1,500 sf	.992	1.016	.071	11.5%
1,500 to 2,000 sf	.999	1.018	.084	14.8%
2,000 to 3,000 sf	.960	1.012	.100	14.7%
3,000 sf or Higher	1.060	1.014	.177	24.3%
Overall	.991	1.017	.094	15.4%



# Improvement Quality

# Case Processing Summary

	Count	Percent
QUALITY 1	3	1.2%
2	43	16.9%
3	208	81.9%
Overall	254	100.0%
Excluded	4	
Total	258	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	.998	.989	.024	3.8%
2	.995	1.038	.125	20.6%
3	.990	1.012	.089	14.3%
Overall	.992	1.017	.094	15.5%



# **Commercial Median Ratio Stratification**

### Sale Price

### **Case Processing Summary**

		Count	Percent
SPRec	\$50K to \$100K	3	7.9%
	\$100K to \$150K	11	28.9%
	\$150K to \$200K	5	13.2%
	\$200K to \$300K	10	26.3%
	\$300K to \$500K	2	5.3%
	\$500K to \$750K	2	5.3%
	\$750K to \$1,000K	1	2.6%
	Over \$1,000K	4	10.5%
Overall		38	100.0%
Excluded	I	18416	
Total		18454	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
\$50K to \$100K	.909	.994	.056	8.7%
\$100K to \$150K	1.012	.999	.099	14.0%
\$150K to \$200K	.903	.994	.072	9.5%
\$200K to \$300K	.979	1.002	.214	33.1%
\$300K to \$500K	.779	.999	.008	1.1%
\$500K to \$750K	1.090	1.001	.011	1.5%
\$750K to \$1,000K	1.064	1.000	.000	.%
Over \$1,000K	.777	.991	.108	24.6%
Overall	.979	1.031	.145	20.4%



# Subclass

√ c	Case Processing Summary					
		Count	Percent			
abstrimp	1546	1	2.6%			
	1716	1	2.6%			
	1724	1	2.6%			
	2008	1	2.6%			
	2212	13	34.2%			
	2215	2	5.3%			
	2220	9	23.7%			
	2224	1	2.6%			
	2225	1	2.6%			
	2230	6	15.8%			
	2235	2	5.3%			
Overall		38	100.0%			
Excluded		18416				
Total		18454				

Group					fficient of riation
	Median	Price Related Differential	Coefficient of Dispersion		edian entered
1546	.773	1.000	.000	.%	
1716	.983	1.000	.000	.%	
1724	1.151	1.000	.000	.%	
2008	.773	1.000	.000	.%	
2212	.988	.982	.104		14.5%
2215	.920	1.026	.156		22.1%
2220	.976	1.019	.113		15.2%
2224	1.038	1.000	.000	.%	
2225	.785	1.000	.000	.%	
2230	.839	1.033	.138		19.4%
2235	1.476	.990	.209		29.6%
Overall	.979	1.031	.145		20.4%



# Improvement Age

# **Case Processing Summary**

		Count	Percent
AgeRec	Over 100	7	18.4%
	75 to 100	2	5.3%
	50 to 75	7	18.4%
	25 to 50	15	39.5%
	5 to 25	7	18.4%
Overall		38	100.0%
Excluded		18416	
Total		18454	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Over 100	.866	.994	.129	16.2%
75 to 100	.912	1.071	.193	27.2%
50 to 75	.894	1.018	.108	15.8%
25 to 50	.969	1.052	.136	16.3%
5 to 25	1.064	1.014	.133	28.1%
Overall	.979	1.031	.145	20.4%



# Improved Area

# **Case Processing Summary**

		Count	Percent
ImpSFRec	500 to 1,000 sf	6	15.8%
	1,000 to 1,500 sf	7	18.4%
	1,500 to 2,000 sf	5	13.2%
	2,000 to 3,000 sf	4	10.5%
	3,000 sf or Higher	16	42.1%
Overall		38	100.0%
Excluded		18416	
Total		18454	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
500 to 1,000 sf	.839	1.004	.097	13.7%
1,000 to 1,500 sf	.988	1.047	.079	14.1%
1,500 to 2,000 sf	.903	1.012	.087	12.1%
2,000 to 3,000 sf	.866	1.011	.143	16.6%
3,000 sf or Higher	1.071	1.099	.164	24.1%
Overall	.979	1.031	.145	20.4%



# Improvement Quality

# **Case Processing Summary**

	Count	Percent
QUALITY 2	11	28.9%
3	27	71.1%
Overall	38	100.0%
Excluded	18416	
Total	18454	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
2	1.038	1.078	.196	28.1%
3	.976	1.006	.118	15.2%
Overall	.979	1.031	.145	20.4%



# **Vacant Land Median Ratio Stratification**

### **Case Processing Summary**

		Count	Percent
abstrind	100	18	34.0%
	200	1	1.9%
	510	1	1.9%
	540	2	3.8%
	550	6	11.3%
	1112	18	34.0%
	1135	6	11.3%
	2130	1	1.9%
Overall		53	100.0%
Excluded		0	
Total		53	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
100	.983	1.040	.080	14.9%
200	1.250	1.000	.000	.%
510	1.111	1.000	.000	.%
540	.886	1.113	.129	18.2%
550	1.026	1.294	.261	37.2%
1112	1.000	1.095	.118	23.4%
1135	1.000	1.002	.007	1.5%
2130	.645	1.000	.000	.%
Overall	1.000	1.083	.116	21.1%