



2010  
WELD COUNTY  
PROPERTY ASSESSMENT  
STUDY

---



WILDROSE  
APPRAISAL, INCORPORATED  
Audit Division



September 15, 2010

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

**RE: Final Report for the 2010 Colorado Property Assessment Study**

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2010 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.

A handwritten signature in black ink that reads "Harry J. Fuller". The signature is written in a cursive style.

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

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# INTRODUCTION

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## Colorado

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 2010 and is pleased to report its findings for Weld County in the following report.

# REGIONAL/HISTORICAL SKETCH OF WELD COUNTY

## Regional Information

Weld County is located in the Front Range region of Colorado. The Colorado Front Range is a colloquial geographic term for the populated areas of the State that are just east of the foothills of the Front Range. It includes

Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties.



## Historical Information

Weld County has a population of approximately 254,759 people with 45.3 people per square mile, according to the U.S. Census Bureau's 2009 estimated population data.

Weld County covers an area of 4,004 square miles in north central Colorado. It is bordered on the north by Wyoming and Nebraska and on the south by the Denver metropolitan area. The third largest county in Colorado, Weld County has an area greater than that of Rhode Island, Delaware and the District of Columbia combined.

Major Stephen H. Long made an expedition to the area now known as Weld County in 1821. In 1835 a government expedition came through the general area; the next year a member of that party, Lt. Lancaster Lupton, returned to establish a trading post located just north of the present town of Fort Lupton. In 1837 Colonel Ceran St. Vrain established Fort St. Vrain; Fort Vasquez was built south of Platteville about 1840. The latter was rebuilt in the 1930's by the State Historical Society.

The county seat is Greeley which began as the Union Colony, which was founded in 1869 as

an experimental utopian community of "high moral standards" by Nathan C. Meeker, a newspaper reporter from New York City. Meeker purchased a site at the confluence of the Cache la Poudre and South Platte Rivers (that included the area of Latham, an Overland Trail station), halfway between Cheyenne and Denver along the tracks of the Denver Pacific Railroad formerly known as the "Island Grove Ranch." The name Union Colony was later changed to Greeley in honor of Horace Greeley, who was Meeker's editor at the New York Tribune, and popularized the phrase "Go West, young man."

Weld County's cultural assets include Centennial Village, an authentic recreation of pioneer life on the Colorado plains. The Meeker Museum in Greeley is a national historic site. Fort Vasquez in southern Weld County has an exciting history as an early Colorado trading post. The Greeley Philharmonic Orchestra is one of the oldest symphony orchestra west of the Mississippi. The University of Northern Colorado's Little Theatre of the Rockies is one of America's premier college dramatic organizations.  
([www.co.weld.co.us](http://www.co.weld.co.us), [www.wikipedia.org](http://www.wikipedia.org))

# RATIO ANALYSIS

## Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 2007 and June 2008. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2008 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these

latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either “Q” or “C.” The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were “lost” because of trimming. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

## Conclusions

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

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

The results for Weld County are:

<b>Weld County Ratio Grid</b>					
<b>Property Class</b>	<b>Number of Qualified Sales</b>	<b>Unweighted Median Ratio</b>	<b>Price Related Differential</b>	<b>Coefficient of Dispersion</b>	<b>Time Trend Analysis</b>
Commercial/Industrial	198	0.977	1.020	7.7	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	7,055	0.980	1.022	10.6	Compliant
Vacant Land	314	0.972	1.036	14.6	Compliant

**Ratio Statistics for currtot / tasp**

<b>Group</b>	<b>Median</b>	<b>Price Related Differential</b>	<b>Coefficient of Dispersion</b>
0	.981	1.014	.102
2	.982	1.017	.092
3	.976	1.014	.081
4	.981	1.033	.129
5	.973	1.021	.145
6	.983	1.034	.149
7	.981	1.019	.129
8	.981	1.026	.152
9	.974	1.021	.107
Overall	.980	1.022	.106

After applying the above described methodologies, it is concluded from the sales ratios that Weld County is in compliance with

SBOE, DPT, and Colorado State Statute valuation guidelines.

**Recommendations**

None

**Random Deed Analysis**

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

**Conclusions**

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

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

Weld 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 2009 and 2010 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.

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

### **Conclusions**

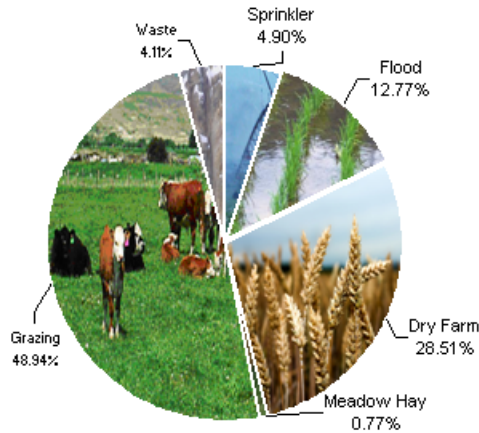
After applying the above described methodologies, it is concluded that Weld County is reasonably treating its sold and unsold properties in the same manner.

### **Recommendations**

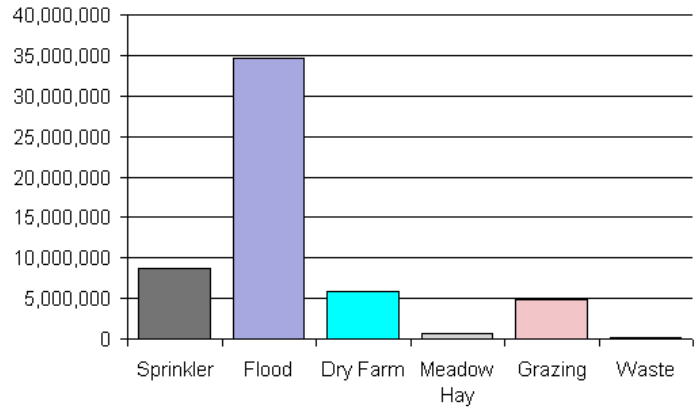
None

# AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



## Agricultural Land

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

(See Assessor Reference Library Volume 3 Chapter 5.)

### Conclusions

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

<b>Weld County Agricultural Land Ratio Grid</b>						
<b>Abstract Code</b>	<b>Land Class</b>	<b>Number Of Acres</b>	<b>County Value Per Acre</b>	<b>County Assessed Total Value</b>	<b>WRA Total Value</b>	<b>Ratio</b>
4107	Sprinkler	96,558	89.85	8,675,848	8,834,098	0.98
4117	Flood	251,735	137.65	34,650,507	34,550,108	1.00
4127	Dry Farm	562,036	10.47	5,882,016	6,322,951	0.93
4137	Meadow Hay	15,193	42.38	643,829	643,829	1.00
4147	Grazing	964,769	5.03	4,856,811	4,856,811	1.00
4167	Waste	80,948	1.62	130,737	130,737	1.00
<b>Total/Avg</b>		<b>1,971,239</b>	<b>27.82</b>	<b>54,839,749</b>	<b>55,338,535</b>	<b>0.99</b>

### **Recommendations**

None



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## Agricultural Outbuildings

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### **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**

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

### **Recommendations**

None

## SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2010 for Weld County. This study was conducted by checking selected sales from the master sales list for the Jan 1, 2007 - June 30, 2008 valuation period. Specifically WRA selected 45 sales listed as unqualified.

All but two of the sales selected in the sample gave reasons that were clear and supportable. Two sales had insufficient documentation.

### **Conclusions**

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

### **Recommendations**

None

# ECONOMIC AREA REVIEW AND EVALUATION

## **Methodology**

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

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## Earth and Stone Products

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### Methodology

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

### Conclusions

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

### Recommendations

None

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## Producing Oil and Gas Procedures

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### 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

None

## VACANT LAND

### **Subdivision Discounting**

Subdivisions were reviewed in 2010 in Weld 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**

Weld 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.

Weld 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

Weld 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

Weld 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.

Weld 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:

- 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.

Weld County submitted their personal property written audit plan and was current for the 2010 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 \$4,000 actual value exemption status
- Accounts protested with substantial disagreement

Weld County's median ratio is 1.00. This is in compliance with the State Board of Equalization (SBOE) compliance requirements

which range from .90 to 1.10 with no COD requirements.

### **Conclusions**

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

### **Recommendations**

None

## WILDROSE AUDITOR STAFF

**Harry J. Fuller**, *Audit Project Manager*

**Suzanne Howard**, *Audit Administrative Manager*

**Steve Kane**, *Audit Statistician / Field Analyst*

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

**J. Andrew Rodriguez**, *Field Analyst*

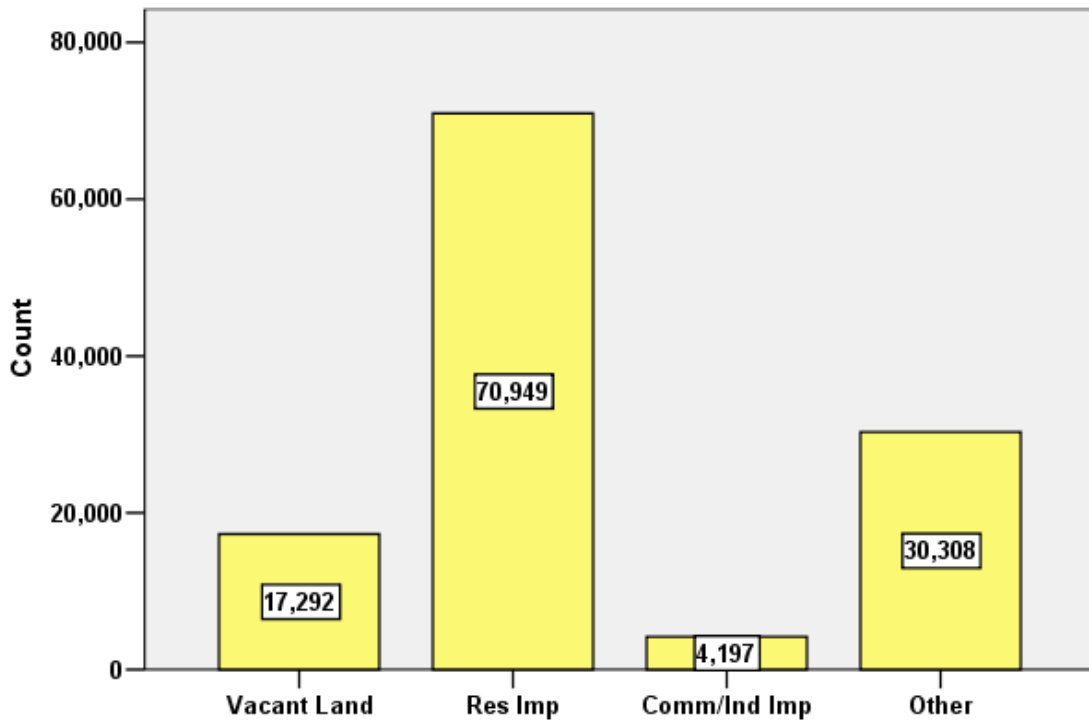
# APPENDICES

**STATISTICAL COMPLIANCE REPORT**  
**FOR WELD COUNTY**  
**2010**

**I. OVERVIEW**

Weld County is an urban county located along Colorado’s Front Range. The county has a total of 122,746 real property parcels, according to data submitted by the county assessor’s office in 2010. The following provides a breakdown of property classes for this county:

**Real Property Class Distribution**



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 84% of all vacant land parcels.

For residential improved properties, single family properties accounted for 92% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3% of all such properties in this county.



**II. DATA FILES**

The following sales analyses were based on the requirements of the 2010 Colorado Property Assessment Study. Information was provided by the Weld Assessor’s Office in May 2010. The data included all 5 property record files as specified by the Auditor.

**III. RESIDENTIAL SALES RESULTS**

The following steps were taken to analyze the residential sales:

- |                                  |        |
|----------------------------------|--------|
| 1. All sales                     | 12,072 |
| 2. Qualified sales               | 7,788  |
| 3. Improved sales                | 7,265  |
| 4. Select residential sales only | 7,055  |

The sales ratio analysis results were as follows:

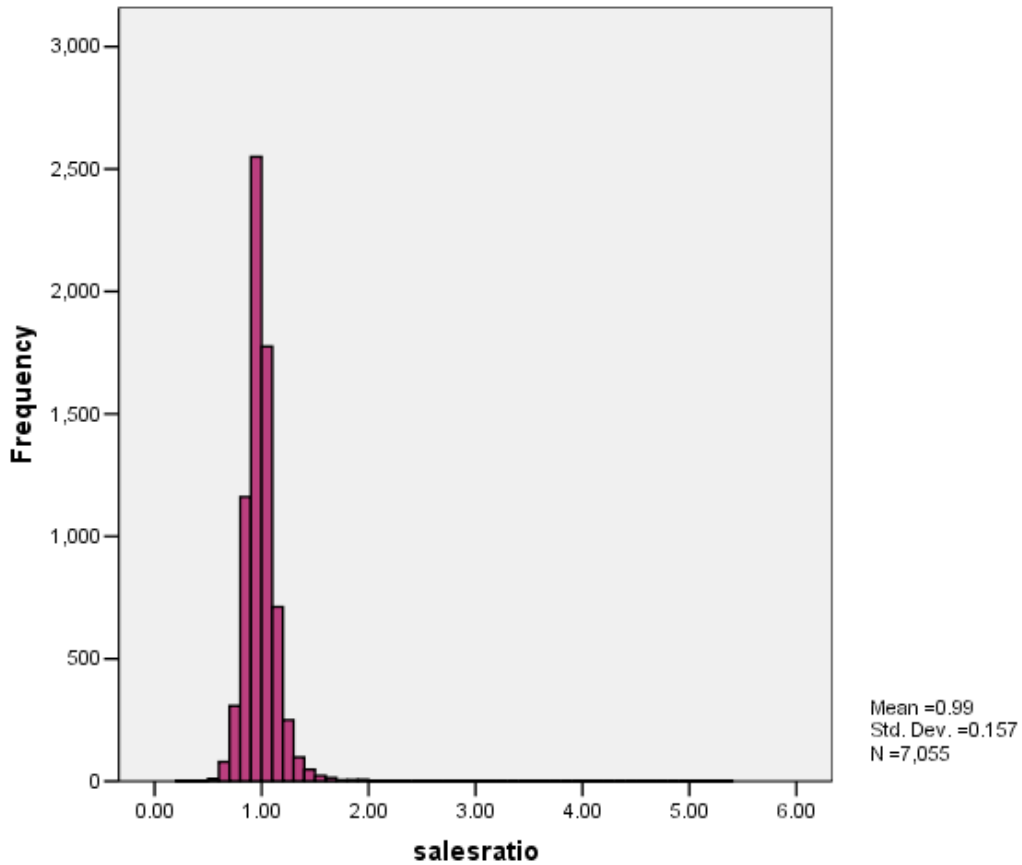
**Case Processing Summary**

	Count	Percent
econarea 0	685	10.3%
2	1877	28.1%
3	1858	27.9%
4	564	8.5%
5	80	1.2%
6	1368	20.5%
7	32	.5%
8	28	.4%
9	176	2.6%
Overall	6668	100.0%
Excluded	387	
Total	7055	

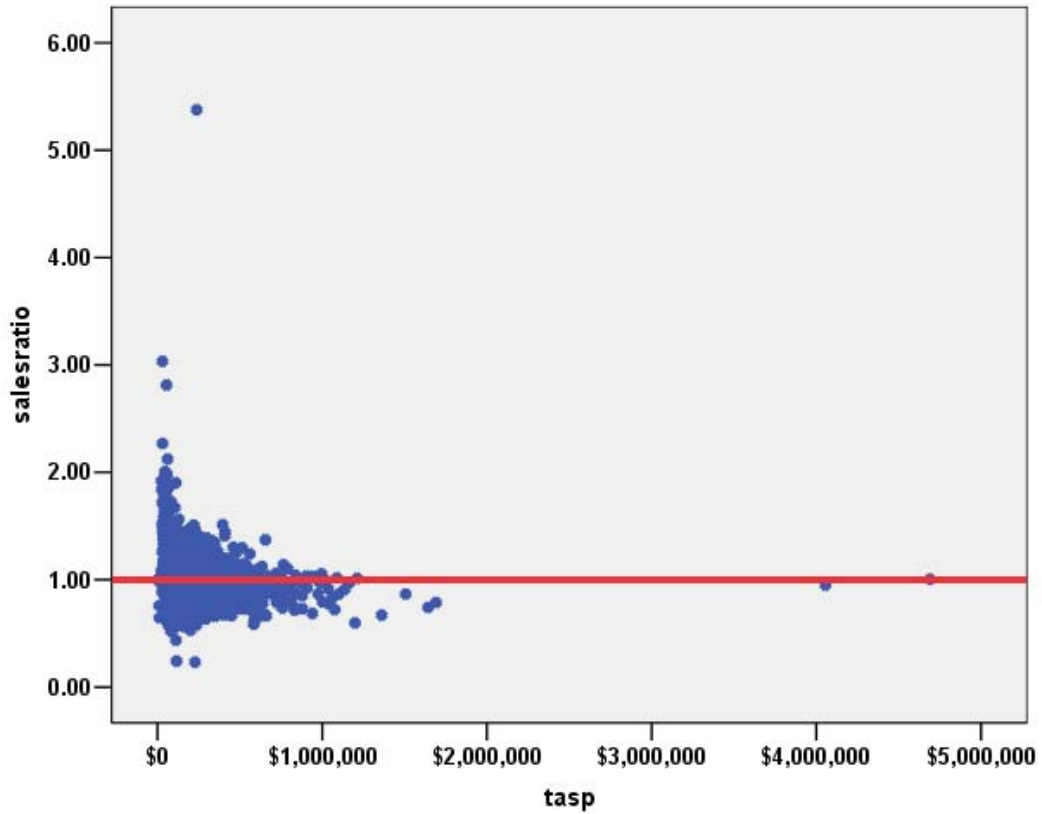
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Group	Median	Price Related Differential	Coefficient of Dispersion
0	.981	1.014	.102
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4	.981	1.033	.129
5	.973	1.021	.145
6	.983	1.034	.149
7	.981	1.019	.129
8	.981	1.026	.152
9	.974	1.021	.107
Overall	.980	1.022	.106

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 Sale Price by Sales Ratio



The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

### Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending and broken down by economic area, as follows:

**Coefficients<sup>a</sup>**

econarea	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
.	1	(Constant)	1.005	.011		93.113	.000
		SalePeriod	-.003	.001	-.154	-3.051	.002
0	1	(Constant)	1.023	.015		68.272	.000
		SalePeriod	-.003	.002	-.073	-1.920	.055
2	1	(Constant)	1.007	.006		180.545	.000
		SalePeriod	-.002	.001	-.081	-3.498	.000
3	1	(Constant)	.980	.005		203.675	.000
		SalePeriod	.000	.000	-.007	-.293	.769
4	1	(Constant)	1.031	.016		63.449	.000
		SalePeriod	-.003	.002	-.085	-2.020	.044
5	1	(Constant)	1.038	.041		25.615	.000
		SalePeriod	-.007	.004	-.198	-1.781	.079
6	1	(Constant)	1.028	.011		92.297	.000
		SalePeriod	-.001	.001	-.034	-1.240	.215
7	1	(Constant)	1.013	.075		13.429	.000
		SalePeriod	.000	.007	-.006	-.035	.973
8	1	(Constant)	.889	.110		8.042	.000
		SalePeriod	.009	.011	.171	.883	.385
9	1	(Constant)	1.022	.021		47.908	.000
		SalePeriod	-.004	.002	-.138	-1.837	.068

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for any of the economic areas. While three economic areas had statistically significant results, the magnitude of each trend was not significant and we therefore concluded 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 2010 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

Group	N	Median	Mean
Unsold	63,645	\$108	\$109
Sold	7,053	\$113	\$117

ECONAREA	Group	N	Median	Mean
0	Unsold	4,675	\$114	\$116
	Sold	685	\$110	\$113
2	Unsold	17,117	\$124	\$127
	Sold	1,876	\$130	\$135
3	Unsold	11,659	\$115	\$120
	Sold	1,858	\$118	\$125
4	Unsold	5,219	\$86	\$90
	Sold	564	\$93	\$95
5	Unsold	1,203	\$85	\$92
	Sold	80	\$88	\$92
6	Unsold	16,911	\$95	\$93
	Sold	1,368	\$99	\$96
7	Unsold	713	\$58	\$64
	Sold	32	\$69	\$68
8	Unsold	586	\$74	\$75
	Sold	28	\$93	\$86
9	Unsold	2,135	\$115	\$112
	Sold	175	\$124	\$121

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

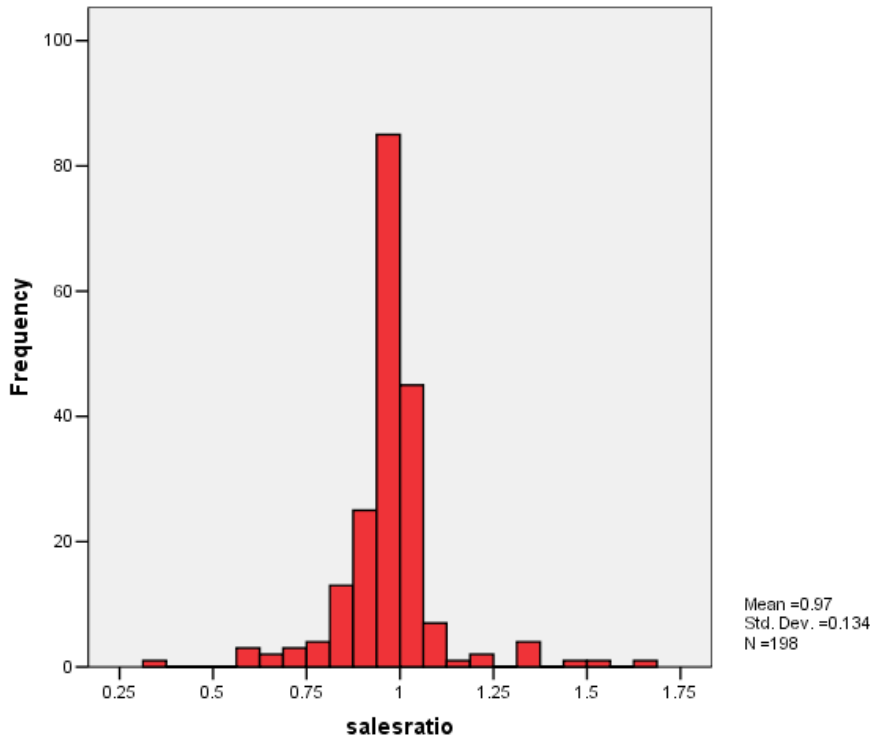
#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

1. All sales	12,072
2. Qualified sales	7,788
3. Improved sales	7,265
4. Select commercial/industrial sales only	198

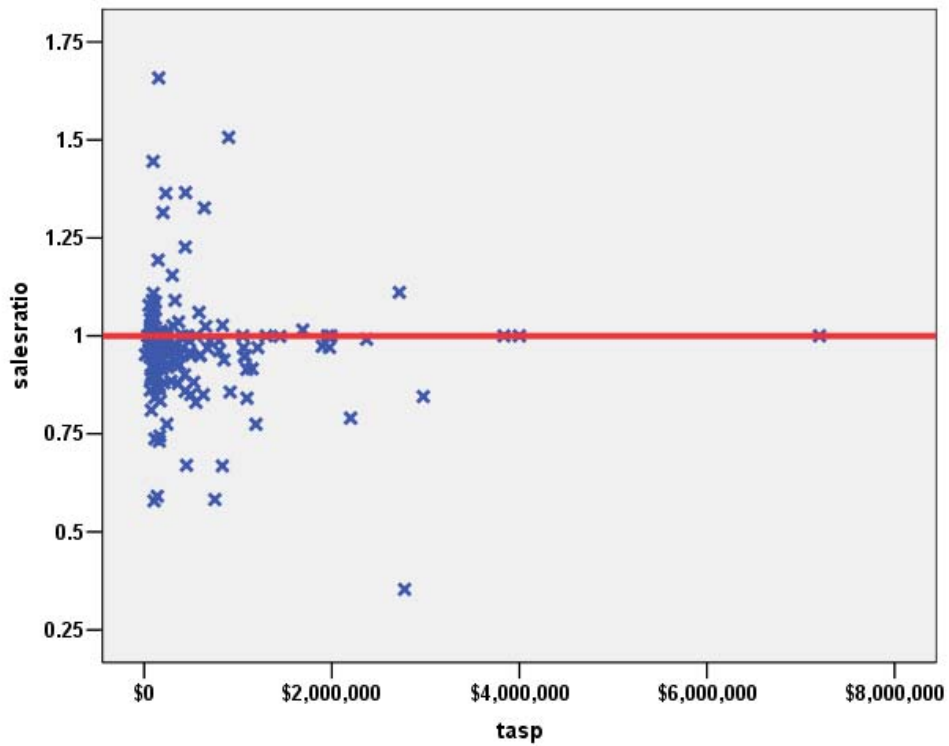
The sales ratio analysis was analyzed as follows:

Median	<b>0.977</b>
Price Related Differential	<b>1.020</b>
Coefficient of Dispersion	<b>.077</b>

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



**Commercial Sale Price by Sales Ratio**



### Commercial/Industrial Market Trend Analysis

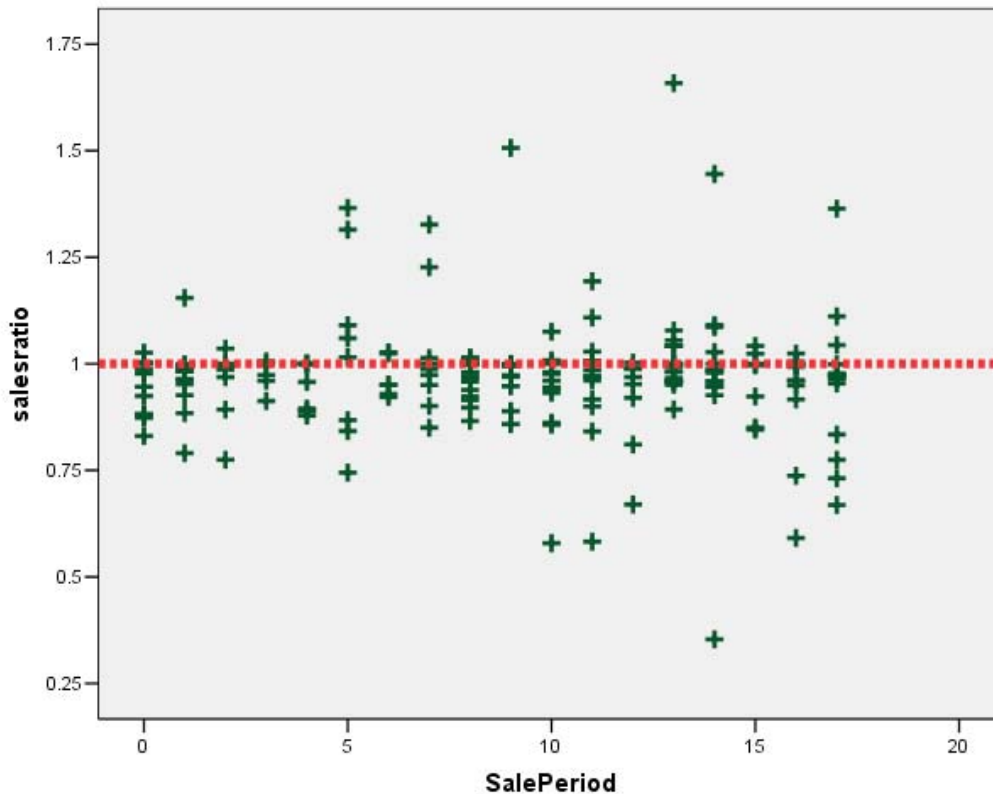
The assessor did apply market trend adjustments to the commercial/industrial dataset. The 198 commercial/industrial sales were analyzed, examining the sale ratios across the 18 month sale period with the following results:

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.972	.020		49.492	.000
	SalePeriod	.000	.002	-.008	-.112	.911

a. Dependent Variable: salesratio

**Commercial Market Trend Analysis**



There was no residual market trending present in the commercial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the commercial/industrial valuation.

### Sold/Unsold Analysis

We compared the median change in actual value between 2008 and 2010 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean
Unsold	3,603	\$47	\$64
Sold	192	\$38	\$56

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

### V. VACANT LAND SALE RESULTS

The following steps were taken to analyze the vacant land sales:

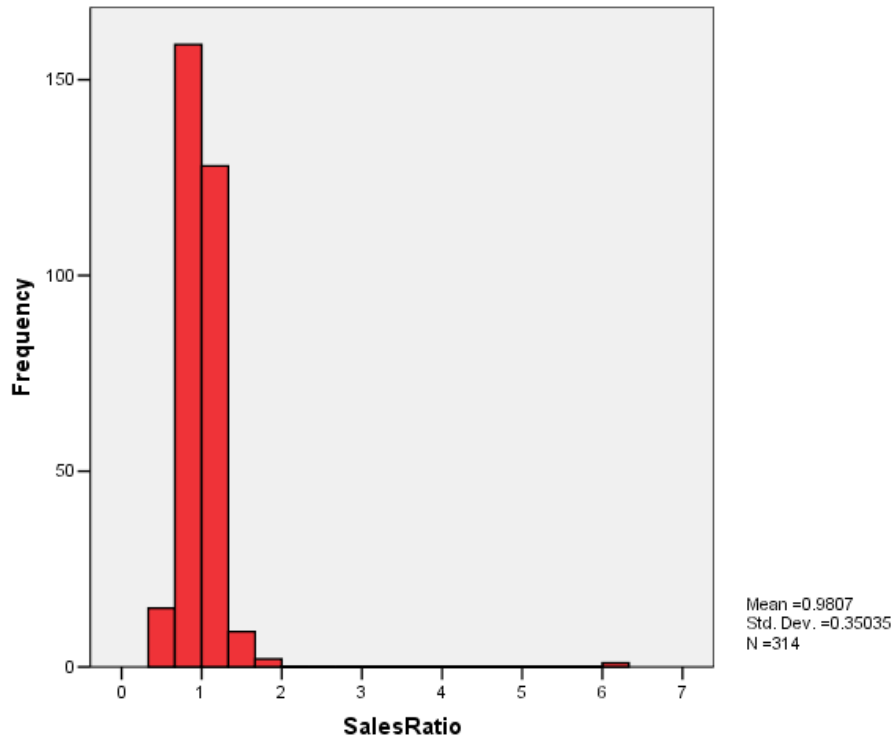
- |   |        |
|---|--------|
| 1. All sales                                      | 12,072 |
| 2. Qualified sales                                | 7,788  |
| 3. Vacant land sales                              | 327    |
| 4. Residential & commercial/ind vacant land sales | 314    |

The sales ratio analysis was analyzed as follows:

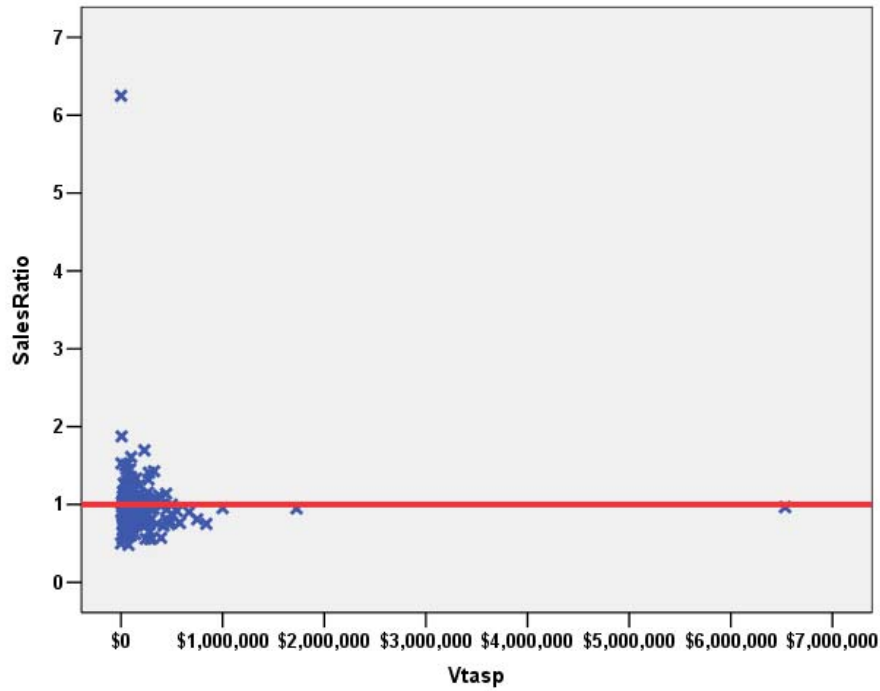
<b>Median</b>	<b>0.972</b>
<b>Price Related Differential</b>	<b>1.036</b>
<b>Coefficient of Dispersion</b>	<b>.146</b>

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





Vacant Land Sale Price by Sales Ratio



The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

### Vacant Land Market Trend Analysis

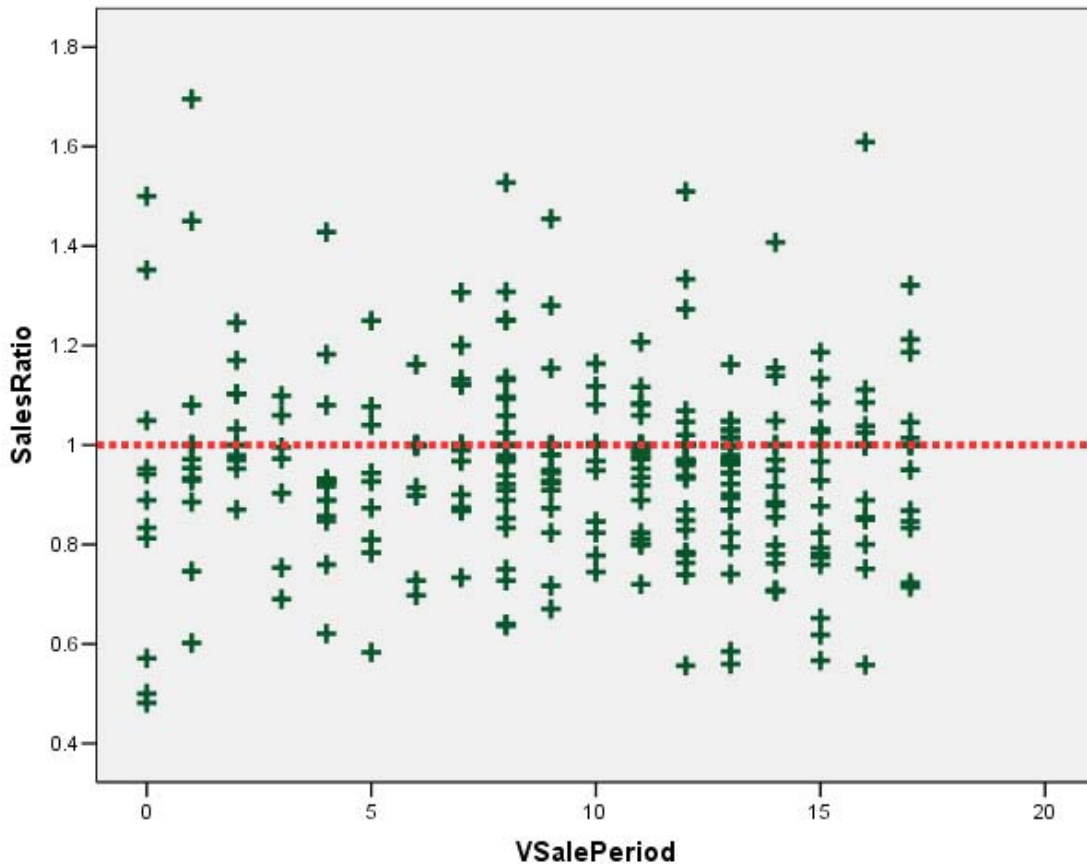
We next analyzed the vacant land dataset using the 18-month sale period, with the following results:

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.951	.045		21.116	.000
	VSalePeriod	.003	.004	.042	.747	.456

a. Dependent Variable: SalesRatio

### Vacant Land Sales Market Trend Analysis



The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in value for 2008 and 2010 between each group. We stratified the vacant land properties by subdivision and found overall consistency. The following results present the overall comparison results:

Subdivno	Group	No.	Median	Mean
TOTAL	<b>Unsold</b>	15,110	1.00	0.95
	<b>Sold</b>	297	1.00	1.06

Overall, we concluded that the county assessor valued sold and unsold vacant properties consistently.

### V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the 2010 median improved value per square foot for this group and compared it to the 2010 median improved value per square foot for residential single family improvements in Weld County.

The following indicates that both groups were valued in essentially the same manner:

**Descriptives**

abstrimp				Statistic	Std. Error
ImpValSF	1212	Mean		\$204.24	\$15.009
		95% Confidence Interval for Mean	Lower Bound	\$174.82	
			Upper Bound	\$233.65	
		5% Trimmed Mean		\$82.23	
		Median		\$82.44	
		Variance		14697634.7	
		Std. Deviation		\$3,833.749	
		Minimum		\$0	
		Maximum		\$275,000	
		Range		\$275,000	
		Interquartile Range		\$34	
		Skewness		36.790	.010
		Kurtosis		1543.892	.019
			4277	Mean	
95% Confidence Interval for Mean	Lower Bound			\$144.09	
	Upper Bound			\$819.27	
5% Trimmed Mean				\$90.19	
Median				\$87.53	
Variance				38317526.8	
Std. Deviation				\$6,190.115	
Minimum				\$0	
Maximum				\$135,507	
Range				\$135,507	
Interquartile Range				\$55	
Skewness				17.571	.068
Kurtosis				325.869	.136

**VI. Conclusions**

Based on this 2010 audit statistical analysis, residential, commercial/industrial and vacant land properties were found to be in compliance with state guidelines.

**STATISTICAL ABSTRACT**

**Residential**

**Ratio Statistics for currtot / tasp**

Mean		.993
95% Confidence Interval for Mean	Lower Bound	.989
	Upper Bound	.997
Median		.979
95% Confidence Interval for Median	Lower Bound	.976
	Upper Bound	.981
	Actual Coverage	95.2%
Weighted Mean		.972
95% Confidence Interval for Weighted Mean	Lower Bound	.969
	Upper Bound	.976
Price Related Differential		1.021
Coefficient of Dispersion		.104
Coefficient of Variation	Mean Centered	15.8%

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 Land**

**Ratio Statistics for currtot / tasp**

Mean		.970
95% Confidence Interval for Mean	Lower Bound	.952
	Upper Bound	.989
Median		.977
95% Confidence Interval for Median	Lower Bound	.967
	Upper Bound	.987
	Actual Coverage	96.1%
Weighted Mean		.952
95% Confidence Interval for Weighted Mean	Lower Bound	.907
	Upper Bound	.996
Price Related Differential		1.020
Coefficient of Dispersion		.077
Coefficient of Variation	Mean Centered	13.8%

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 currInd / VtasP**

Mean		.981
95% Confidence Interval for Mean	Lower Bound	.942
	Upper Bound	1.020
Median		.972
95% Confidence Interval for Median	Lower Bound	.964
	Upper Bound	1.000
	Actual Coverage	95.2%
Weighted Mean		.947
95% Confidence Interval for Weighted Mean	Lower Bound	.923
	Upper Bound	.970
Price Related Differential		1.036
Coefficient of Dispersion		.146
Coefficient of Variation	Mean Centered	35.7%

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.

**Residential Median Ratio Stratification**

**Sale Price**

**Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	14	.2%
	\$25K to \$50K	91	1.3%
	\$50K to \$100K	691	9.8%
	\$100K to \$150K	1615	22.9%
	\$150K to \$200K	1696	24.0%
	\$200K to \$300K	1801	25.5%
	\$300K to \$500K	933	13.2%
	\$500K to \$750K	171	2.4%
	\$750K to \$1,000K	25	.4%
	Over \$1,000K	18	.3%
Overall		7055	100.0%
Excluded		0	
Total		7055	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LT \$25K	.999	.882	.114	28.3%
\$25K to \$50K	1.234	1.007	.242	32.3%
\$50K to \$100K	1.099	1.011	.146	20.1%
\$100K to \$150K	.980	1.001	.106	14.2%
\$150K to \$200K	.978	1.000	.084	11.3%
\$200K to \$300K	.975	1.001	.079	14.9%
\$300K to \$500K	.951	1.000	.086	11.2%
\$500K to \$750K	.910	1.000	.105	13.6%
\$750K to \$1,000K	.925	.999	.112	13.9%
Over \$1,000K	.867	.974	.119	14.5%
Overall	.979	1.021	.104	16.1%

**Subclass**

**Case Processing Summary**

	Count	Percent
PredUse 1212	6548	92.8%
1215	89	1.3%
1220	31	.4%
1225	6	.1%
1230	381	5.4%
Overall	7055	100.0%
Excluded	0	
Total	7055	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1212	.979	1.021	.104	15.7%
1215	1.048	1.059	.206	35.3%
1220	.998	1.055	.163	27.2%
1225	.998	1.006	.031	4.8%
1230	.969	1.006	.057	9.9%
Overall	.979	1.021	.104	16.1%

Age

**Case Processing Summary**

		Count	Percent
AgeRec	0	1	.0%
	Over 100	124	1.8%
	75 to 100	231	3.3%
	50 to 75	315	4.5%
	25 to 50	929	13.2%
	5 to 25	2643	37.5%
	5 or Newer	2812	39.9%
Overall		7055	100.0%
Excluded		0	
Total		7055	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
0	.243	1.000	.000	.
Over 100	.978	1.047	.224	33.3%
75 to 100	.962	1.052	.197	30.3%
50 to 75	.993	1.047	.173	24.4%
25 to 50	.981	1.025	.136	18.3%
5 to 25	.982	1.016	.098	15.9%
5 or Newer	.974	1.014	.077	10.4%
Overall	.979	1.021	.104	16.1%

Improved Area

**Case Processing Summary**

		Count	Percent
ImpSFRec	0	1	.0%
	LE 500 sf	16	.2%
	500 to 1,000 sf	642	9.1%
	1,000 to 1,500 sf	2571	36.4%
	1,500 to 2,000 sf	1950	27.6%
	2,000 to 3,000 sf	1425	20.2%
	3,000 sf or Higher	450	6.4%
Overall		7055	100.0%
Excluded		0	
Total		7055	



**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
0	.243	1.000	.000	.
LE 500 sf	.999	.983	.121	21.4%
500 to 1,000 sf	.974	1.045	.169	24.2%
1,000 to 1,500 sf	.979	1.018	.104	15.0%
1,500 to 2,000 sf	.980	1.016	.091	13.6%
2,000 to 3,000 sf	.976	1.015	.088	12.1%
3,000 sf or Higher	.975	1.027	.113	26.1%
Overall	.979	1.021	.104	16.1%

**Quality**

**Case Processing Summary**

		Count	Percent
qual	1	181	2.6%
	2	2125	30.1%
	3	4076	57.8%
	4	583	8.3%
	5	76	1.1%
	6	13	.2%
Overall		7054	100.0%
Excluded		1	
Total		7055	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1	.974	1.055	.200	30.6%
2	.979	1.031	.141	20.2%
3	.979	1.011	.082	12.9%
4	.978	1.019	.093	12.7%
5	.976	1.030	.102	14.3%
6	.969	1.000	.082	12.2%
Overall	.979	1.021	.104	16.1%

**Commercial Median Ratio Stratification**

**Sale Price**

**Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	1	.5%
	\$25K to \$50K	4	2.0%
	\$50K to \$100K	54	27.3%
	\$100K to \$150K	31	15.7%
	\$150K to \$200K	23	11.6%
	\$200K to \$300K	19	9.6%
	\$300K to \$500K	23	11.6%
	\$500K to \$750K	11	5.6%
	\$750K to \$1,000K	8	4.0%
	Over \$1,000K	24	12.1%
Overall		198	100.0%
Excluded		0	
Total		198	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LT \$25K	.952	1.000	.000	.
\$25K to \$50K	1.000	.999	.028	5.0%
\$50K to \$100K	.990	.996	.046	8.4%
\$100K to \$150K	.960	.996	.076	12.9%
\$150K to \$200K	.969	.998	.101	19.2%
\$200K to \$300K	.990	.999	.067	11.9%
\$300K to \$500K	.960	1.002	.083	13.8%
\$500K to \$750K	.969	.996	.088	13.9%
\$750K to \$1,000K	.950	.991	.189	29.2%
Over \$1,000K	.972	.996	.079	15.5%
Overall	.977	1.020	.077	13.7%

**Subclass**

**Case Processing Summary**

		Count	Percent
PredUse	2212	23	11.6%
	2215	4	2.0%
	2220	33	16.7%
	2230	26	13.1%
	2235	92	46.5%
	3212	13	6.6%
	3215	7	3.5%
Overall		198	100.0%
Excluded		0	
Total		198	

**Ratio Statistics for currtot / tasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
2212	.923	1.135	.117	17.6%
2215	1.000	1.004	.008	1.5%
2220	.979	.981	.090	14.4%
2230	.977	1.005	.117	20.3%
2235	.983	1.001	.047	7.3%
3212	.982	1.005	.092	20.7%
3215	1.000	.959	.090	19.1%
Overall	.977	1.020	.077	13.7%

**Vacant Land Median Ratio Stratification**

**Case Processing Summary**

	Count	Percent
VPredUse 100	218	69.4%
200	39	12.4%
300	15	4.8%
400	11	3.5%
550	2	.6%
600	1	.3%
1112	22	7.0%
1135	3	1.0%
2112	1	.3%
2130	1	.3%
3115	1	.3%
Overall	314	100.0%
Excluded	0	
Total	314	

**Ratio Statistics for currInd / Vtasp**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
100	.979	1.033	.156	41.6%
200	.944	1.015	.097	12.9%
300	1.000	1.122	.182	22.3%
400	1.000	.972	.060	9.4%
550	1.109	1.144	.128	18.2%
600	.781	1.000	.000	.
1112	1.000	.994	.110	15.4%
1135	.714	.965	.206	32.3%
2112	.746	1.000	.000	.
2130	.971	1.000	.000	.
3115	.968	1.000	.000	.
Overall	.972	1.036	.146	36.1%