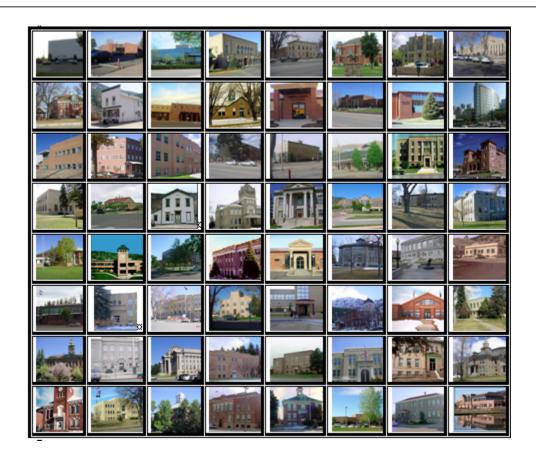


# 2009 MONTROSE COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2009

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

RE: Final Report for the 2009 Colorado Property Assessment Study

Dear Mr. Mauer:

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

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

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

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

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

Harry J. Fuller Project Manager

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 2009 and is pleased to report its findings for Montrose County in the following report.



# REGIONAL/HISTORICAL SKETCH OF MONTROSE COUNTY

## **Regional Information**

Montrose 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**

Montrose County has a population of approximately 38,559 people with 14.9 people per square mile, according to the U.S. Census Bureau's 2006 estimated population data.

Montrose County, formed from a part of Gunnison County, was established in 1883 with an area of 2,238 square miles. It was named for the town of Montrose, which is the county seat and which was named by its founder, Joe Selig, for the Duchess of Montrose in Scott's Legend of Montrose (1819).

The Denver & Rio Grande railroad reached the city of Montrose in 1882 and Montrose became an important regional shipping center with a branch railroad line serving the mineral rich San Juan Mountains to the south.

In 1909 the Gunnison Tunnel opened providing irrigation water from the Gunnison River in the Black Canyon to the Uncompandere Valley helping turn Montrose into an agricultural hub as well.

Today Montrose serves as the gateway to the Black Canyon of the Gunnison National Park to the east of town and winter transportation hub to ski areas of the San Juan Mountains to the south. The majority of the County is made up of National Forest, Bureau of Land Management or National Park lands. The main cities include Montrose, Maher, Naturita, Nucla, Olathe and Paradox.

(www.Wikipedia.org, www.co.montrose.co.us, William Bright, Colorado Place Names, 3rd Edition, Johnson Books, 2004, p.120)



## 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 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 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:

ALLOWABL	RID	
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 Montrose County are:

Montrose County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis	
Commercial/Industrial	34	1.000	0.973	14.5	Compliant	
Condominium	N/A	N/A	N/A	N/A	N/A	
Single Family	1,077	0.999	1.007	7.7	Compliant	
Vacant Land	285	0.975	1.031	13.1	Compliant	

After applying the above described methodologies, it is concluded from the sales ratios that Montrose 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, Montrose 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 Montrose County has complied with the statutory requirements to analyze the effects of time on value in their county. Montrose 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

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

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

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

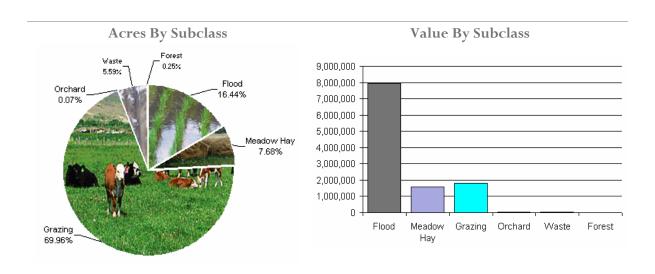
## Conclusions

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

## Recommendations



## AGRICULTURAL LAND STUDY



## **Agricultural Land**

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

(See Assessor Reference Library Volume 3 Chapter 5.)

## Conclusions

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



	Montrose County Agricultural Land Ratio Grid						
Abstract		Number Of	County Value	County Assessed	WRA Total		
Code	Land Class	Acres	Per Acre	Total Value	Value	Ratio	
4117	Flood	63,338	125.19	7,928,970	7,462,284	1.06	
4137	Meadow Hay	29,609	53.87	1,595,081	1,595,081	1.00	
4147	Grazing	269,598	6.68	1,800,952	1,800,952	1.00	
4157	Orchard	272	160.76	43,726	43,726	1.00	
4177	Forest	981	8.95	8,784	8,784	1.00	
4167	Waste	21,550	1.62	34,805	34,805	1.00	
Total/Avg		385,348	29.62	11,412,318	10,945,632	1.04	

## Recommendations



## **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**

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

## 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 2009 for Montrose 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 30 sales listed as unqualified.

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

#### Conclusions

Montrose 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



# EVALUATION EVALUATION

## Methodology

Montrose County has submitted a written narrative describing the economic areas that make up the county's market areas. Montrose 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 Montrose 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 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 2009 in Montrose County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was developed using the summation method.

Subdivision land with structures was appraised at full market value.

#### Conclusions

Montrose 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 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Section 7: 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 agreement.

Montrose 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

Montrose 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

Montrose 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.

Montrose 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.

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

- 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 protested with substantial disagreement

## **Conclusions**

Montrose 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/Field Analyst

Carl W. Ross, Agricultural/Natural Resource Analyst

Andy Rodriguez, Field Analyst



## APPENDICES

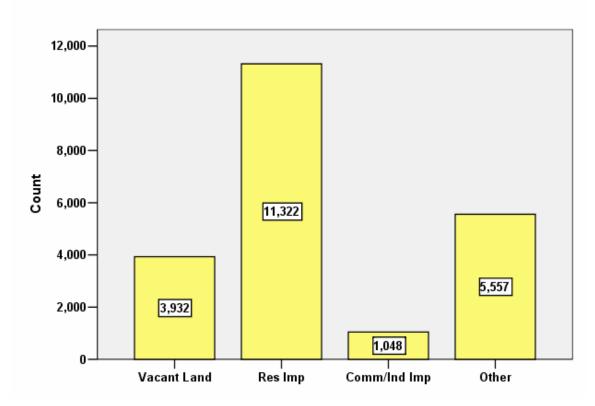


## STATISTICAL COMPLIANCE RESULTS FOR MONTROSE COUNTY 2009

#### I. OVERVIEW

Montrose County is located in western Colorado. The county has a total of 21,859 real property parcels, according to data submitted by the county assessor's office in 2009. The following provides a breakdown of property classes for this county:

## Real Property Class Distribution



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 59% of all vacant land parcels.

For residential improved properties, single family properties accounted for 96% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 5% of all such properties in this county.



#### II. DATA FILES

The following sales analyses were based on the requirements of the 2009 Colorado Property Assessment Study. Information was provided by the Montrose Assessor's Office on April 21, 2009. The data included all 5 property record files as specified by the Auditor.

#### III. RESIDENTIAL SALES RESULTS

The following steps were taken to analyze the residential sales:

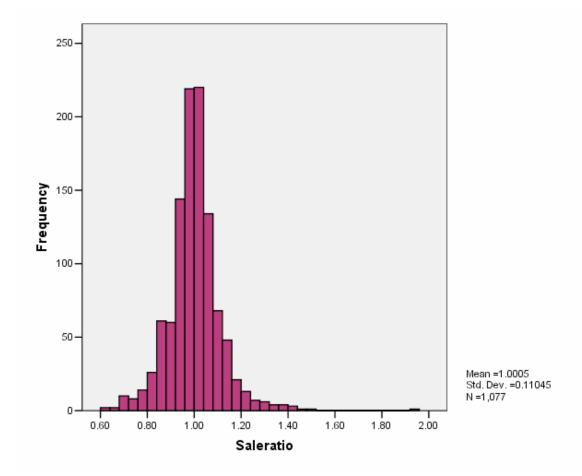
1. Total sales	2,088
2. Selected qualified sales	1,426
3. Select improved sales	1,138
4. Non duplicate sales	1,114
5. Select residential sales only	1,077
6. Sales between January 1, 2007 and June 30, 2008	1,077
7. Select non 1235 sales	1,077

The sales ratio analysis was analyzed as follows:

Median	0.999
Price Related Differential	1.007
Coefficient of Dispersion	.077

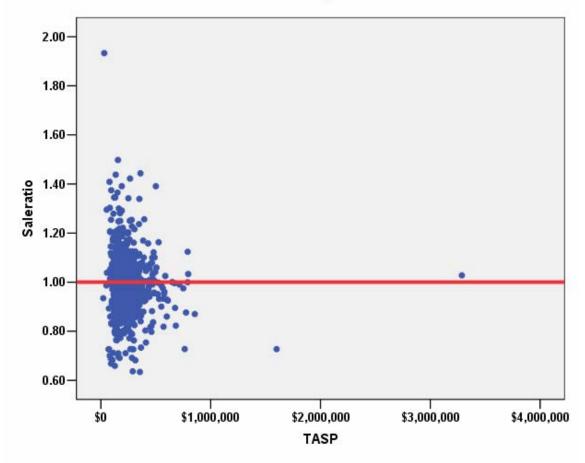
The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The following graphs describe further the sales ratio distribution for these properties:











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:

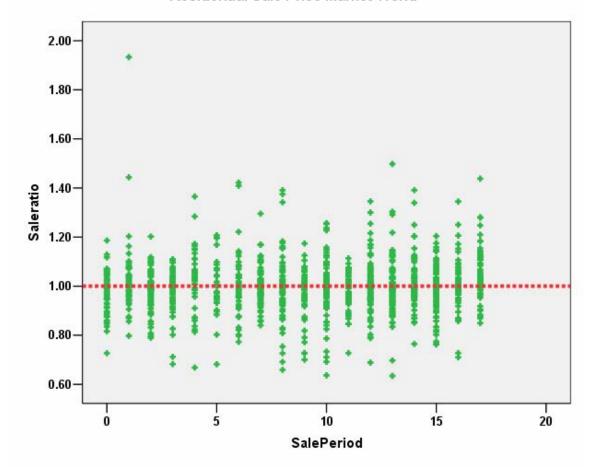
#### Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.990	.007		142.538	.000
	SalePeriod	.001	.001	.051	1.685	.092

a. Dependent Variable: Saleratio







The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties. While there was a marginally significant trend statistically, the magnitude of the trend (at 0.1% per month) was not significant.

## Sold/Unsold Analysis

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

Group	No.	Median	Mean
Unsold	10,229	\$134	\$141
Sold	1,044	\$133	\$137

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



## IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

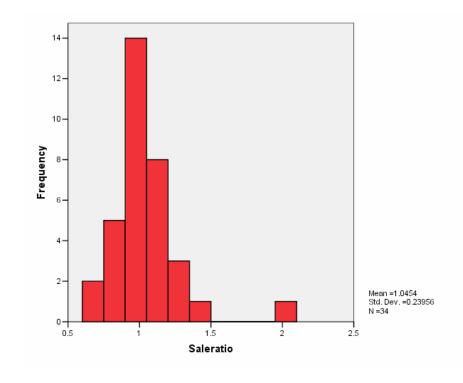
The following steps were taken to analyze the commercial sales:

1. Total sales	2,088
2. Selected qualified sales	1,426
3. Select improved sales	1,138
4. Non duplicate sales	1,114
5. Select commercial/industrial sales only	34

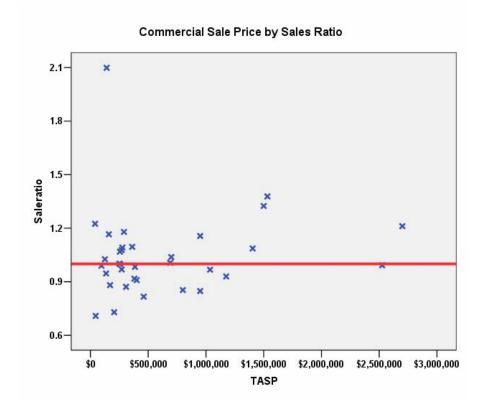
The sales ratio analysis was analyzed as follows:

Median	1.000
Price Related Differential	0.973
Coefficient of Dispersion	.145

The above tables indicate that the Montrose 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 assessor did not apply any market trend adjustment to the commercial dataset. The 34 commercial/industrial sales were analyzed, examining the sale ratios across an 18-month sale period with the following results:

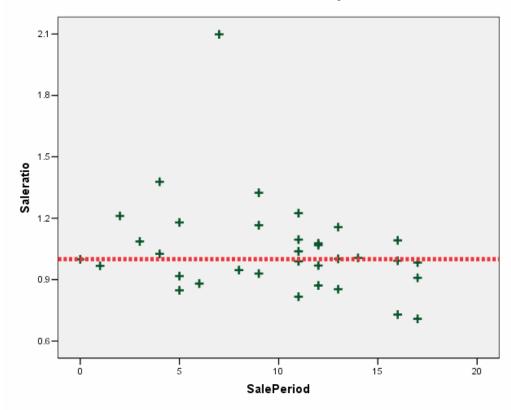
Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.177	.091		12.985	.000
	SalePeriod	013	.008	275	-1.616	.116

a. Dependent Variable: Saleratio







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

## **Sold/Unsold Analysis**

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

Subclass	Group	No.	Median	Mean
2212	Unsold	176	\$83	\$120
	Sold	10	\$110	\$119
2215	Unsold	10	\$117	\$162
	Sold	3	\$94	\$95
2220	Unsold	139	\$133	\$139
	Sold	8	\$106	\$123
2225	Unsold	10	\$67	\$134
	Sold	1	\$201	\$201
2230	Unsold	311	\$86	\$113
	Sold	3	\$57	\$75



2245	Unsold	129	\$153	\$169
	Sold	2	\$156	\$156
3215	Unsold	42	\$57	\$62
	Sold	3	\$67	\$102
3230	Unsold	24	\$100	\$107
	Sold	1	\$100	\$100
Total	Unsold	1014	\$90	\$117
	Sold	33	\$100	\$112

## V. VACANT LAND SALE RESULTS

The following steps were taken to analyze vacant land sales:

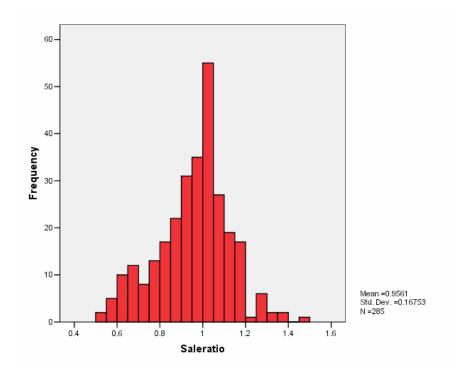
1. Total sales	2,088
2. Selected qualified sales	1,426
3. Select vacant land sales	285
4. Select non-agricultural sales	285
5. Sales between July 1, 2006 and June 30, 2008	285

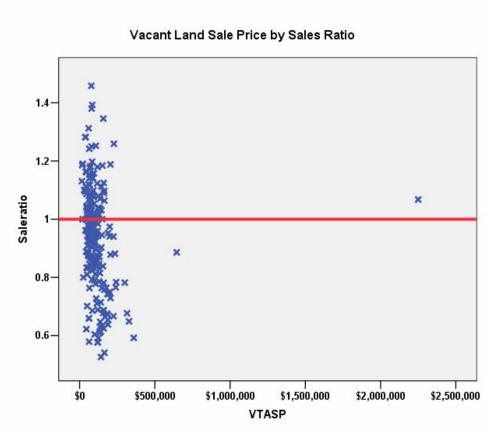
The sales ratio analysis was analyzed as follows:

Median	0.975
Price Related Differential	1.031
Coefficient of Dispersion	.131

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



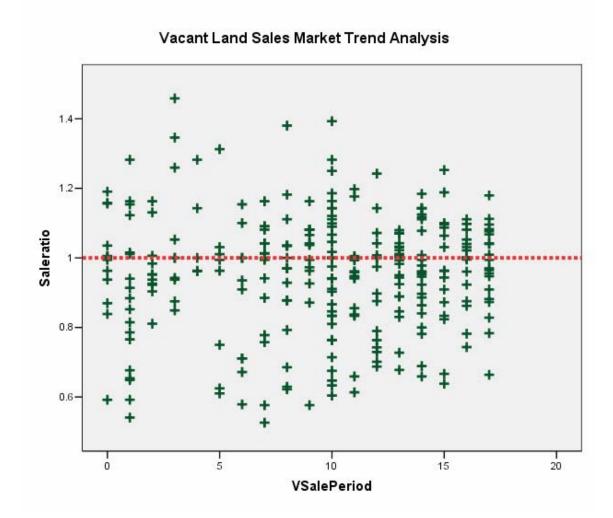






## **Vacant Land Market Trend Analysis**

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



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

## **Sold/Unsold Analysis**

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

Group	N	Median	Mean
Unsold	3,563	1.07	1.06
Sold	277	1.08	1.10



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 Montrose County.

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

Descriptives					
	Abstrlmp			Statistic	Std. Error
ImpValSF	1212	Mean		\$99.09	\$.267
		95% Confidence	Lower Bound	\$98.57	
		Interval for Mean	Upper Bound	\$99.61	
		5% Trimmed Mean		\$97.49	
		Median		\$94.76	
		Variance		775.006	
		Std. Deviation		\$27.839	
		Minimum		\$4	
		Maximum		\$307	
		Range		\$302	
		Interquartile Range		\$32	
		Skewness		1.239	.023
		Kurtosis		3.981	.047
	4277	Mean		\$99.62	\$1.107
		95% Confidence	Lower Bound	\$97.45	
		Interval for Mean	Upper Bound	\$101.79	
		5% Trimmed Mean		\$96.36	
		Median		\$92.16	
		Variance		1934.428	
		Std. Deviation		\$43.982	
		Minimum		\$6	
		Maximum		\$389	
		Range		\$383	
		Interquartile Range		\$47	
		Skewness		1.902	.062
		Kurtosis		7.792	.123

#### VI. CONCLUSIONS

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



#### **STATISTICAL ABSTRACT**

## **Residential**

#### **Ratio Statistics for CURRTOT / TASP**

Mean		1.001
95% Confidence Interval	Lower Bound	.994
for Mean	Upper Bound	1.007
Median		.999
95% Confidence Interval	Lower Bound	.993
for Median	Upper Bound	1.004
	Actual Coverage	95.6%
Weighted Mean		.994
95% Confidence Interval	Lower Bound	.986
for Weighted Mean	Upper Bound	1.002
Price Related Differential		1.007
Coefficient of Dispersion		.077
Coefficient of Variation	Mean Centered	11.0%

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

## Commercial/Industrial

#### **Ratio Statistics for CURRTOT / TASP**

Mean		1.045
95% Confidence Interval	Lower Bound	.962
for Mean	Upper Bound	1.129
Median		1.000
95% Confidence Interval	Lower Bound	.947
for Median	Upper Bound	1.087
	Actual Coverage	97.6%
Weighted Mean		1.074
95% Confidence Interval	Lower Bound	.992
for Weighted Mean	Upper Bound	1.157
Price Related Differential		.973
Coefficient of Dispersion		.145
Coefficient of Variation	Mean Centered	22.9%

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.



## **Vacant Land**

## **Ratio Statistics for CURRLND / VTASP**

Mean		.956
95% Confidence Interval	Lower Bound	.937
for Mean	Upper Bound	.976
Median		.975
95% Confidence Interval	Lower Bound	.959
for Median	Upper Bound	1.000
	Actual Coverage	95.6%
Weighted Mean		.927
95% Confidence Interval	Lower Bound	.896
for Weighted Mean	Upper Bound	.959
Price Related Differential		1.031
Coefficient of Dispersion		.131
Coefficient of Variation	Mean Centered	17.5%

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

## Residential Median Ratio Stratification

## Sale Price

## **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	1	.1%
	\$25K to \$50K	2	.2%
	\$50K to \$100K	34	3.2%
	\$100K to \$150K	155	14.4%
	\$150K to \$200K	365	33.9%
	\$200K to \$300K	353	32.8%
	\$300K to \$500K	136	12.6%
	\$500K to \$750K	23	2.1%
	\$750K to \$1,000K	6	.6%
	Over \$1,000K	2	.2%
Overall		1077	100.0%
Excluded		0	
Total		1077	



## **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
LT \$25K	.935	1.000	.000	
\$25K to \$50K	1.460	1.087	.324	45.8%
\$50K to \$100K	1.020	1.003	.144	19.1%
\$100K to \$150K	1.011	1.000	.087	12.0%
\$150K to \$200K	.999	.999	.066	9.5%
\$200K to \$300K	.996	1.001	.070	9.6%
\$300K to \$500K	.989	.998	.083	11.8%
\$500K to \$750K	.961	1.002	.056	7.8%
\$750K to \$1,000K	.938	.999	.121	15.1%
Over \$1,000K	.878	.944	.171	24.2%
Overall	.999	1.007	.077	11.1%

## **Subclass**

## **Case Processing Summary**

		Count	Percent
PredUse	1212	1050	97.5%
	1215	6	.6%
	1225	1	.1%
	1230	20	1.9%
Overall		1077	100.0%
Excluded		0	
Total		1077	

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
1212	.998	1.007	.076	10.9%
1215	1.269	1.055	.155	19.9%
1225	1.028	1.000	.000	
1230	.993	.994	.041	5.5%
Overall	.999	1.007	.077	11.1%



## Age

## **Case Processing Summary**

		Count	Percent
AgeRec	0	32	3.0%
	Over 100	28	2.6%
	75 to 100	44	4.1%
	50 to 75	67	6.2%
	25 to 50	201	18.7%
	5 to 25	306	28.4%
	5 or Newer	399	37.0%
Overall		1077	100.0%
Excluded		0	
Total		1077	

## Ratio Statistics for CURRTOT / TASP

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	.842	1.010	.128	17.4%
Over 100	.970	1.019	.128	17.0%
75 to 100	.988	1.015	.093	12.8%
50 to 75	1.002	1.028	.131	18.7%
25 to 50	1.001	1.008	.085	12.2%
5 to 25	1.004	1.013	.072	10.0%
5 or Newer	1.000	1.004	.053	7.2%
Overall	.999	1.007	.077	11.1%

## Improved Area

## **Case Processing Summary**

		Count	Percent
ImpSFRec	0	32	3.0%
	LE 500 sf	3	.3%
	500 to 1,000 sf	65	6.0%
	1,000 to 1,500 sf	400	37.1%
	1,500 to 2,000 sf	381	35.4%
	2,000 to 3,000 sf	170	15.8%
	3,000 sf or Higher	26	2.4%
Overall		1077	100.0%
Excluded		0	
Total		1077	



## **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	.842	1.010	.128	17.4%
LE 500 sf	.935	.899	.091	14.1%
500 to 1,000 sf	.952	1.024	.119	18.4%
1,000 to 1,500 sf	.993	1.011	.065	9.4%
1,500 to 2,000 sf	1.003	1.010	.068	9.5%
2,000 to 3,000 sf	1.010	1.015	.081	11.2%
3,000 sf or Higher	1.029	1.042	.111	15.7%
Overall	.999	1.007	.077	11.1%

## Improvement Quality

## **Case Processing Summary**

	Count	Percent
QUAL 1	2	.2%
2	105	10.1%
3	1	.1%
3	715	68.5%
4	168	16.1%
5	47	4.5%
6	6	.6%
Overall	1044	100.0%
Excluded	33	
Total	1077	

				Coefficient
		Drice Deleted	Coefficient of	Variation
Croun	Madian	Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
1	.974	.976	.041	5.8%
2	1.004	1.014	.133	18.5%
3	1.109	1.000	.000	
3	1.000	1.007	.066	9.2%
4	1.000	1.002	.064	8.9%
5	.998	1.017	.090	13.2%
6	.998	1.043	.069	13.4%
Overall	1.000	1.009	.074	10.7%



## **Commercial Median Ratio Stratification**

## Sale Price

## **Case Processing Summary**

		Count	Percent
SPRec	\$25K to \$50K	2	5.9%
	\$50K to \$100K	1	2.9%
	\$100K to \$150K	3	8.8%
	\$150K to \$200K	2	5.9%
	\$200K to \$300K	8	23.5%
	\$300K to \$500K	6	17.6%
	\$500K to \$750K	2	5.9%
	\$750K to \$1,000K	3	8.8%
	Over \$1,000K	7	20.6%
Overall		34	100.0%
Excluded		0	
Total		34	

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
\$25K to \$50K	.967	1.016	.267	37.7%
\$50K to \$100K	.990	1.000	.000	
\$100K to \$150K	1.026	.987	.374	74.1%
\$150K to \$200K	1.023	1.005	.139	19.7%
\$200K to \$300K	1.035	.990	.087	13.0%
\$300K to \$500K	.913	1.004	.073	10.9%
\$500K to \$750K	1.022	1.000	.016	2.2%
\$750K to \$1,000K	.854	.994	.121	25.1%
Over \$1,000K	1.087	.992	.135	17.0%
Overall	1.000	.973	.145	24.4%



## **Subclass**

## **Case Processing Summary**

		Count	Percent
PredUse	2212	10	29.4%
	2215	3	8.8%
	2220	8	23.5%
	2225	1	2.9%
	2230	3	8.8%
	2235	3	8.8%
	2245	2	5.9%
	3215	3	8.8%
	3230	1	2.9%
Overall		34	100.0%
Excluded		0	
Total		34	

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
2212	.949	1.013	.105	14.4%
2215	1.211	1.000	.080	12.1%
2220	1.073	1.133	.189	37.7%
2225	.969	1.000	.000	-
2230	1.001	.942	.056	11.0%
2235	.992	.915	.111	20.5%
2245	.908	1.030	.101	14.2%
3215	1.179	.962	.133	21.4%
3230	.947	1.000	.000	
Overall	1.000	.973	.145	24.4%



## **Vacant Land Median Ratio Stratification**

## **Case Processing Summary**

		Count	Percent
VPredUse	100	86	30.2%
	200	7	2.5%
	300	2	.7%
	510	1	.4%
	520	4	1.4%
	530	3	1.1%
	540	6	2.1%
	550	11	3.9%
	600	7	2.5%
	1112	1	.4%
	1135	2	.7%
	1212	151	53.0%
	2212	1	.4%
	2220	1	.4%
	2230	2	.7%
Overall		285	100.0%
Excluded		0	
Total		285	

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
100	.900	1.057	.166	20.3%
200	1.188	1.053	.166	21.4%
300	.814	.954	.088	12.4%
510	1.100	1.000	.000	-
520	.953	1.063	.184	24.2%
530	.837	1.006	.135	22.6%
540	1.106	1.030	.097	16.8%
550	1.078	1.007	.060	9.0%
600	.871	1.045	.091	12.0%
1112	1.000	1.000	.000	
1135	.737	.952	.156	22.1%
1212	1.000	1.024	.096	13.1%
2212	1.068	1.000	.000	
2220	.959	1.000	.000	
2230	1.068	1.142	.365	51.7%
Overall	.975	1.031	.131	17.3%