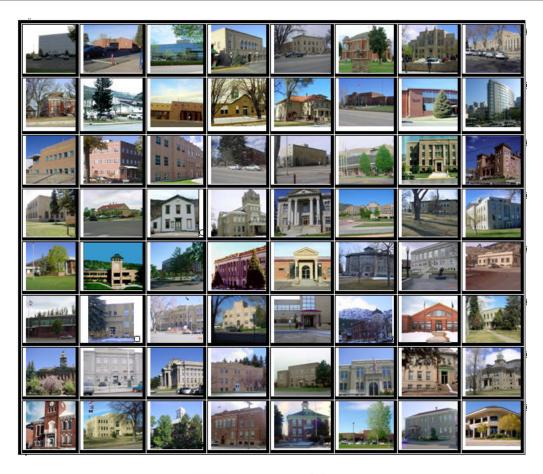


# 2013 MESA COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2013

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

RE: Final Report for the 2013 Colorado Property Assessment Study

Dear Mr. Mauer:

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

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

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

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

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

Harry J. Fuller Project Manager

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



# REGIONAL/HISTORICAL SKETCH OF MESA COUNTY

## **Regional Information**

Mesa 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**

Mesa County has a population of approximately 146,723 people with 44.09 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 26.21 percent change from the 2000 Census.

The County, formed from a portion of Gunnison County, was established in 1883 with an area of 3,301 square miles. Its name is Spanish for 'table' and refers to the tablelands and plateaus prevalent in the county. county seat is Grand Junction, so named for its location at the junction of the Gunnison and Grand (later Colorado) rivers. Mesa National Forest encompasses the Grand Mesa, which is one of the world's largest flattop mountains and has an average elevation of 10,000 feet, dotted with over 300 alpine lakes and reservoirs. The Uncompangre National Forest includes the Uncompangre Plateau, portions of the San Juan Mountains and three wilderness areas.

Grand Junction which sits near the mid-point of a 30-mile arcing valley, known as the Grand Valley, is a major fruit-growing region, historically home to the Ute people and settled by white farmers in the 1880s. In recent years,

several wineries have been established in the area as well. The Colorado National Monument, a series of canyons and mesas similar to the Grand Canyon, overlooks the city, while most of the area is surrounded by public lands managed by the Bureau of Land Management.

Grand Junction has a strong history that dates back more than 100 years. In the 1880s, the area was part of the Northern Ute Reservation, although the Native Americans were later moved west into Utah. In September 1881, the area experienced a land rush settlement and a town site was staked. This town, located in the Grand Valley, was first called Ute, then West Denver and finally came to be known as Grand Junction.

By 1883, Mesa County was created from neighboring counties and Grand Junction was named the county seat. Grand Junction began to thrive when the main line of the Denver and Rio Grande Railroad came into the area in 1887. Soon after, major irrigation turned the Grand Valley into a fertile agricultural area.

(www.rootsweb.com,www.gjchamber.org, Wikipedia.org)



## RATIO ANALYSIS

## Methodology

All significant classes of properties were Sales were collected for each analyzed. property class over the appropriate sale period, which was typically defined as the 18-month period between January 2011 and June 2012. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2012 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and pricerelated differential for each class of property. Counties were not passed or failed by these

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

#### **Conclusions**

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

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



## The results for Mesa County are:

	Mesa County Ratio Grid								
Property Class	Coefficient of Dispersion	Time Trend Analysis							
Commercial/Industrial	104	0.982	1.013	12.8	Compliant				
Condominium	N/A	N/A	N/A	N/A	N/A				
Single Family	2,967	0.985	1.031	11.5	Compliant				
Vacant Land	216	1.000	1.085	16.5	Compliant				

#### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	
1	.975	1.025	.125	
10	.994	1.039	.157	
12	.979	1.024	.132	
15	.984	1.053	.103	
19	.985	1.036	.132	
22	.989 1.024	.119		
25	.980	1.012	.086	
27	.983	1.044	.130	
29	.984	1.016	.109	
30 .989		1.011	.084	
31	.997	1.044	.131	
Overall	.985	1.031	.115	

NOTE: ECONOMIC AREA 1 = CONDOMINIUMS

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

SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations



## TIME TRENDING VERIFICATION

## Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market

trending adequately, and a further examination is warranted. This validation 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 Mesa County has complied with the statutory requirements to analyze the effects of time on value in their county. Mesa 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

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

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

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2012 and 2013 actual values for each qualified class of property. All qualified vacant land classes were tested using this method. The sale property ratios were arrayed using a range of 0.8 to 1.5, which theoretically excluded changes between years that were due to other unrelated changes in the property. These ratios were also stratified at the appropriate level of analysis. 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 Results					
Property Class	Results				
Commercial/Industrial	Compliant				
Condominium	N/A				
Single Family	Compliant				
Vacant Land	Compliant				

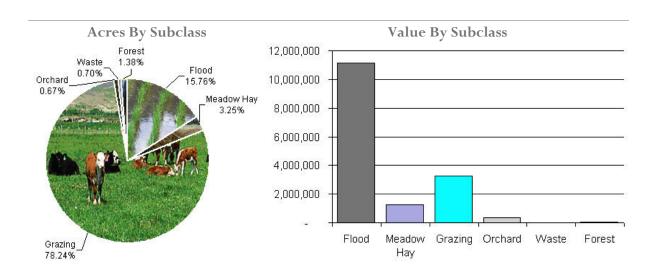
#### Conclusions

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

#### Recommendations



## AGRICULTURAL LAND STUDY



## **Agricultural Land**

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

(See Assessor Reference Library Volume 3 Chapter 5.)

#### **Conclusions**

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. 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:



	Mesa County Agricultural Land Ratio Grid								
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Fotal Value	WRA Total Value	Ratio			
4117	Flood	67,897	164.00	11,140,309	11,428,853	0.97			
4137	Meadow Hay	14,018	88.00	1,232,782	1,228,009	1.00			
4147	Grazing	337,180	10.00	3,266,108	3,266,108	1.00			
4157	Orchard	2,882	128.00	367,643	367,643	1.00			
4177	Forest	5,944	8.00	47,150	47,150	1.00			
4167	Waste	3,011	2.00	5,256	5,256	1.00			
Total/Avg		430,932	37.00	16,059,249	16,343,020	0.98			

## 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

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

#### Recommendations

None

## **Agricultural Land Under Improvements**

## Methodology

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

Mesa County utilized the following discovery method(s):

- Questionnaires
- Phone Interviews
- In-Person Interviews

 Personal Knowledge of Owners and Tenants

#### Conclusions

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

#### Recommendations



## SALES VERIFICATION

#### According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2013 for Mesa County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 59 sales listed as unqualified.

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

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

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

When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number of properties or by value, from the prior year. The contractor has



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

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

Mesa County did not qualify for indepth subclass analysis.

#### **Conclusions**

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

#### Recommendations



# ECONOMIC AREA REVIEW AND EVALUATION

## Methodology

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

identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

#### Recommendations



## NATURAL RESOURCES

#### **Earth and Stone Products**

## Methodology

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

#### **Conclusions**

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

#### Recommendations

None

## **Producing Oil and Gas**

## Methodology

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

#### STATUTORY REFERENCES

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

#### Actual value determined - when.

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

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

#### Valuation:

#### Valuation for assessment.

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

#### § 39-7-102, C.R.S.

#### Conclusions

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

#### Recommendations



## VACANT LAND

## **Subdivision Discounting**

Subdivisions were reviewed in 2013 in Mesa 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**

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

#### Recommendations



## POSSESSORY INTEREST PROPERTIES

#### **Possessory Interest**

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of C.R.S. Chapter 39-1-103 (17)(a)(II)Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been under lease, permit, license, concession, contract, or other agreement.

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

and ski area possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

#### **Conclusions**

Mesa 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

Mesa 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.

Mesa 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
- 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.

Mesa County submitted their personal property written audit plan and was current for the 2013 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

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



• Accounts close to the \$7,000 actual value exemption status

Mesa 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**

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

#### Recommendations



## WILDROSE AUDITOR STAFF

Harry J. Fuller, Audit Project Manager

Suzanne Howard, Audit Administrative Manager

Steve Kane, Audit Statistician

Carl W. Ross, Agricultural/Natural Resource Analyst

J. Andrew Rodriguez, Field Analyst



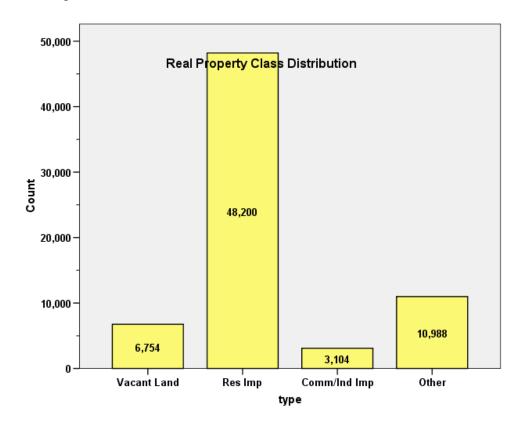
## APPENDICES



#### STATISTICAL COMPLIANCE REPORT FOR MESA COUNTY 2013

#### I. OVERVIEW

Mesa County is an urban county located along Colorado's western slope. The county has a total of 69,046 real property parcels, according to data submitted by the county assessor's office in 2013. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential and commercial lots. These land subclasses (coded 100 and 200) accounted for 50.5% of all vacant land parcels.

For residential improved properties, single family properties accounted for 92.5% of all residential properties.

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



#### II. DATA FILES

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

#### III. RESIDENTIAL SALES RESULTS

There were 2,967 qualified residential sales over the 18 month sale period ending June 30, 2012. The sales ratio analysis results were as follows:

**Case Processing Summary** 

		Count	Percent
ECONAREA	1	120	4.0%
	10	70	2.4%
	12	117	3.9%
	15	436	14.7%
	19	399	13.4%
	22	439	14.8%
	25	58	2.0%
	27	451	15.2%
	29	362	12.2%
	30	464	15.6%
	31	51	1.7%
Overall		2967	100.0%
Excluded		0	
Total		2967	

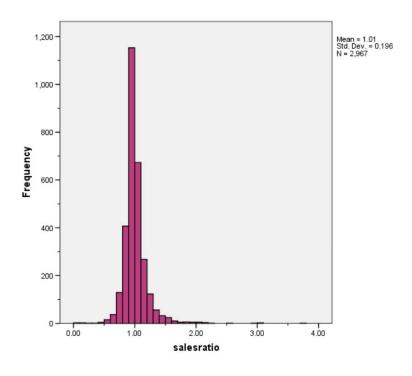
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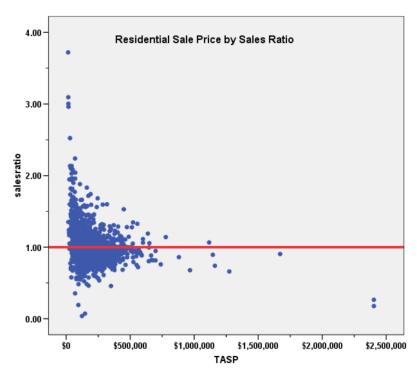
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22	.989	1.024	.119
25	.980	1.012	.086
27	.983	1.044	.130
29	.984	1.016	.109
30	.989	1.011	.084
31	.997	1.044	.131
Overall	.985	1.031	.115

NOTE: ECONOMIC AREA 1 = CONDOMINIUMS



All of the residential sales in economic areas were within the median sales ratio compliance range of 0.95 to 1.05. 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.



#### **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		Unstandardize	d Coefficients	Standardized Coefficients		
			В	Std. Error	Beta	t	Sig.
1	1	(Constant)	1.031	.016		65.574	.000
		SalePeriod	007	.002	389	-4.050	.000
10	1	(Constant)	.998	.026		37.831	.000
		SalePeriod	002	.003	132	884	.382
12	1	(Constant)	.980	.016		60.885	.000
		SalePeriod	.000	.002	021	195	.846
15	1	(Constant)	.979	.008		127.389	.000
		SalePeriod	.000	.001	.018	.348	.728
19	1	(Constant)	.980	.009		110.924	.000
		SalePeriod	.000	.001	.024	.428	.669
22	1	(Constant)	.981	.009		107.874	.000
		SalePeriod	.001	.001	.060	1.144	.254
25	1	(Constant)	.970	.016		61.140	.000
		SalePeriod	.000	.002	.020	.143	.886
27	1	(Constant)	.970	.008		122.206	.000
		SalePeriod	.001	.001	.089	1.778	.076
29	1	(Constant)	.967	.009		110.731	.000
		SalePeriod	.002	.001	.108	1.890	.060
30	1	(Constant)	.970	.006		152.775	.000
		SalePeriod	.002	.001	.168	3.449	.001
31	1	(Constant)	1.007	.022		45.587	.000
		SalePeriod	002	.003	147	876	.387

a. Dependent Variable: salesratio

The sales ratios in all economic areas either had insignificant trends statistically, or had trends with insignificant monthly rates; residential condominium sales had a market trend of less than 1% per month, but we concluded that this was adequate based on the number of condominium projects and the results from the ratio analysis. We therefore concluded that the assessor has adequately considered market trending in the residential valuation of Mesa County.

#### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2013 between each group, as follows:

Group	N	Median	Mean
Unsold	45,234	\$100	\$100
Sold	2,966	\$103	\$102



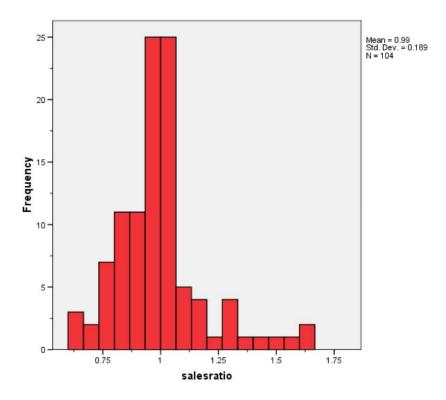
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

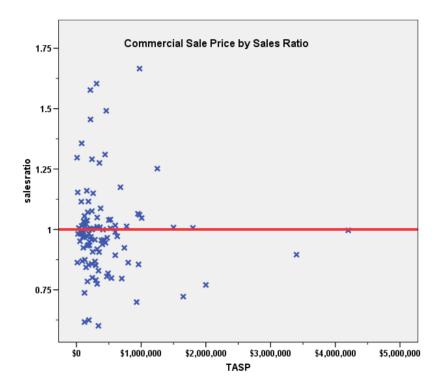
There were 104 qualified commercial sales over the 18 month sale period ending June 30, 2012. The sales ratio analysis results were as follows:

Median	0.982
Price Related Differential	1.013
Coefficient of Dispersion	.128

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







## Commercial/Industrial Market Trend Analysis

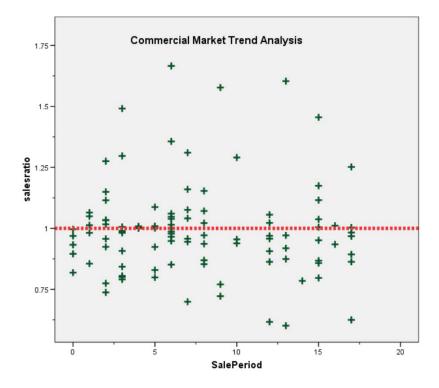
The 104 commercial/industrial sales were next analyzed for residual market trending. We examined the sales ratios across the 18-month sale period with the following results:

Coefficients<sup>a</sup>

Γ	Model	Unstandardize	Unstandardized Coefficients			
L		В	B Std. Error		t	Sig.
Γ	1 (Constant)	1.003	.033		30.300	.000
L	SalePerio	001	.004	033	333	.740

a. Dependent Variable: salesratio





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 actual value per square foot between sold and unsold commercial properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean	
Unsold	2,997	\$78	\$93	
Sold	104	\$78	\$90	

The above results indicated that sold and unsold commercial/industrial properties were valued consistently.

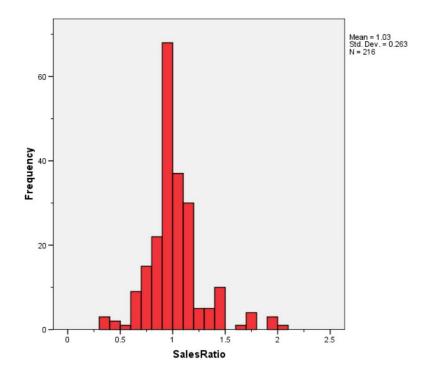


#### V. VACANT LAND SALE RESULTS

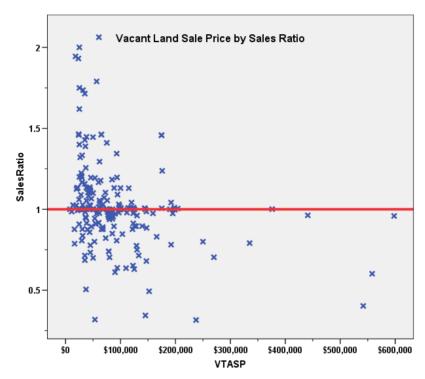
There were 216 qualified vacant land sales over the 18 month sale period ending June 30, 2012. The sales ratio analysis results were as follows:

Median	1.000
Price Related Differential	1.085
Coefficient of Dispersion	.165

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:







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**

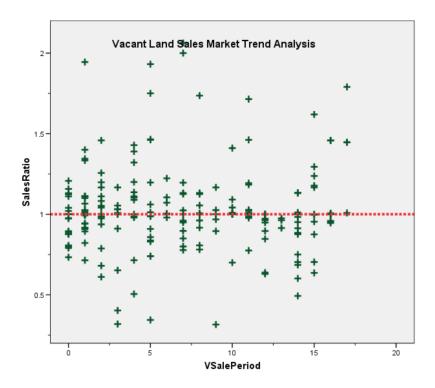
We next analyzed the vacant land dataset using the 18-month sale period, with the following results:

Coefficients<sup>a</sup>

Mo	odel	Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.014	.029		34.584	.000
	VSalePeriod	.002	.003	.033	.487	.627

a. Dependent Variable: SalesRatio





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 between 2012 and 2013 values, as follows:

Group	N	Median	Mean		
Unsold	6,408	0.7778	0.7873		
Sold	213	0.8000	0.8299		

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

#### V. AGRICULTURAL IMPROVEMENTS ANALYSIS

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

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



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	abstrim	<u>p</u>		Statistic	Std. Error
lmp	SFR	Mean		\$73.43	\$.107
ValSF		95% Confidence Interval for	Lower Bound	\$73.22	
		Mean	Upper Bound	\$73.64	
		5% Trimmed Mean		\$73.41	
		Median		\$74.18	
		Variance		507.778	
		Std. Deviation		\$22.534	
		Minimum		\$0	
		Maximum		\$279	
		Range		\$279	
		Interquartile Range		\$28	
		Skewness		.125	.012
		Kurtosis		1.616	.023
	Ag	Mean		\$81.48	\$.523
	Res	95% Confidence Interval for	Lower Bound	\$80.46	
		Mean	Upper Bound	\$82.51	
		5% Trimmed Mean		\$80.94	
		Median		\$81.60	
		Variance		1003.364	
		Std. Deviation		\$31.676	
		Minimum		\$0	
		Maximum		\$394	
		Range		\$394	
		Interquartile Range		\$40	
		Skewness		.650	.040
		Kurtosis		4.443	.081

## VI. CONCLUSIONS

Based on this 2013 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

	95% Confider Me	ice Interval for an		95% Confidence Interval for Median				95% Confiden Weighte	ce Interval for d Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.006	.999	1.013	.985	.982	.988	95.3%	.976	.966	.987	1.031	.115	19.5%

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.

#### **Commercial Land**

#### Ratio Statistics for CURRTOT / TASP

Γ		95% Confidence Interval for Mean			95% Confidence Interval for Median			95% Confidence Interval for Weighted Mean				Coefficient of Variation	
	Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
	.994	.957	1.030	.982	.957	1.005	96.1%	.980	.930	1.030	1.013	.128	19.0%

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.

#### **Vacant Land**

#### Ratio Statistics for CURRLND / VTASP

	95% Confidence Interval for Mean 95% Confidence Interval for Median			95% Confidence Interval for Weighted Mean				Coefficient of Variation				
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.025	.990	1.060	1.000	.997	1.002	95.2%	.945	.894	.996	1.085	.165	25.6%

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



## **Residential Median Ratio Stratification**

### Sale Price

### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	9	.3%
	\$25K to \$50K	66	2.2%
	\$50K to \$100K	330	11.1%
	\$100K to \$150K	811	27.3%
	\$150K to \$200K	786	26.5%
	\$200K to \$300K	686	23.1%
	\$300K to \$500K	235	7.9%
	\$500K to \$750K	34	1.1%
	\$750K to \$1,000K	3	.1%
	Over \$1,000K	7	.2%
Overall		2967	100.0%
Excluded	I	0	
Total		2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.946	1.055	.446	53.4%
\$25K to \$50K	1.276	1.006	.261	33.3%
\$50K to \$100K	1.038	1.010	.177	25.5%
\$100K to \$150K	.990	1.003	.103	15.5%
\$150K to \$200K	.987	1.000	.087	13.3%
\$200K to \$300K	.969	1.001	.084	12.3%
\$300K to \$500K	.962	.999	.092	13.4%
\$500K to \$750K	.941	1.005	.119	16.5%
\$750K to \$1,000K	.861	1.019	.179	27.4%
Over \$1,000K	.741	1.158	.340	46.3%
Overall	.985	1.031	.115	20.0%



## Subclass

## **Case Processing Summary**

		Count	Percent
abstrimp	0	1	.0%
	1212	2814	94.8%
	1215	18	.6%
	1220	13	.4%
	1225	2	.1%
	1230	119	4.0%
Overall		2967	100.0%
Excluded		0	
Total		2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
0	.039	1.000	.000	.%
1212	.986	1.025	.113	19.8%
1215	.869	1.063	.224	30.2%
1220	.868	1.614	.271	41.1%
1225	.690	1.585	.615	86.9%
1230	.977	1.024	.118	16.9%
Overall	.985	1.031	.115	20.0%



# Age

## **Case Processing Summary**

		Count	Percent
AgeRec	.00	1	.0%
	Over 100	72	2.4%
	75 to 100	61	2.1%
	50 to 75	251	8.5%
	25 to 50	769	25.9%
	5 to 25	1336	45.0%
	5 or Newer	477	16.1%
Overall		2967	100.0%
Excluded		0	
Total		2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
.00	.039	1.000	.000	.%
Over 100	.998	1.095	.242	37.1%
75 to 100	.992	1.037	.173	24.2%
50 to 75	.986	1.041	.152	23.7%
25 to 50	.983	1.020	.128	19.1%
5 to 25	.986	1.031	.106	20.7%
5 or Newer	.981	1.025	.069	10.2%
Overall	.985	1.031	.115	20.0%



# Improved Area

### **Case Processing Summary**

		Count	Percent
ImpSFRec	.00	1	.0%
	500 to 1,000 sf	197	6.6%
	1,000 to 1,500 sf	999	33.7%
	1,500 to 2,000 sf	974	32.8%
	2,000 to 3,000 sf	639	21.5%
	3,000 sf or Higher	157	5.3%
Overall		2967	100.0%
Excluded		0	
Total		2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
.00	.039	1.000	.000	.%
500 to 1,000 sf	.989	1.049	.177	26.4%
1,000 to 1,500 sf	.983	1.029	.122	23.3%
1,500 to 2,000 sf	.985	1.019	.099	16.6%
2,000 to 3,000 sf	.986	1.020	.099	15.5%
3,000 sf or Higher	.990	1.076	.151	22.4%
Overall	.985	1.031	.115	20.0%



# Improvement Quality

## **Case Processing Summary**

	Count	Percent
QUALITY 1	2	.1%
2	46	1.6%
3	2518	84.9%
4	343	11.6%
5	53	1.8%
6	4	.1%
Overall	2966	100.0%
Excluded	1	
Total	2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	1.238	.914	.191	27.0%
2	.994	1.075	.288	38.8%
3	.984	1.033	.114	19.9%
4	.990	1.021	.096	16.7%
5	.986	1.021	.118	17.2%
6	1.104	1.061	.117	16.6%
Overall	.985	1.031	.115	19.9%



# **Improvement Condition**

## **Case Processing Summary**

		Count	Percent
CONDITIOn	0	2288	80.9%
	1	1	.0%
	2	8	.3%
	3	525	18.6%
	4	7	.2%
Overall		2829	100.0%
Excluded		138	
Total		2967	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
0	.986	1.018	.105	15.9%
1	.564	1.000	.000	.%
2	.792	.895	.278	40.3%
3	.983	1.082	.165	33.1%
4	.911	2.594	.201	34.7%
Overall	.986	1.032	.117	20.3%



## **Commercial Median Ratio Stratification**

### **Sale Price**

### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	4	3.8%
	\$25K to \$50K	1	1.0%
	\$50K to \$100K	8	7.7%
	\$100K to \$150K	12	11.5%
	\$150K to \$200K	15	14.4%
	\$200K to \$300K	17	16.3%
	\$300K to \$500K	22	21.2%
	\$500K to \$750K	10	9.6%
	\$750K to \$1,000K	7	6.7%
	Over \$1,000K	8	7.7%
Overall		104	100.0%
Excluded	I	0	
Total		104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.068	1.018	.142	17.9%
\$25K to \$50K	1.006	1.000	.000	.%
\$50K to \$100K	.984	1.000	.089	15.9%
\$100K to \$150K	.973	1.006	.098	14.8%
\$150K to \$200K	.971	1.004	.095	13.7%
\$200K to \$300K	.969	1.013	.156	23.9%
\$300K to \$500K	.961	1.000	.160	24.7%
\$500K to \$750K	.981	1.001	.086	11.8%
\$750K to \$1,000K	1.013	.992	.194	30.6%
Over \$1,000K	1.001	1.017	.116	17.2%
Overall	.982	1.013	.128	19.3%



## Subclass

# **Case Processing Summary**

		Count	Percent
abstrimp	1721	1	1.0%
	2212	8	7.7%
	2220	8	7.7%
	2225	1	1.0%
	2230	17	16.3%
	2235	7	6.7%
	2240	1	1.0%
	2245	36	34.6%
	3212	13	12.5%
	3215	6	5.8%
	3230	6	5.8%
Overall		104	100.0%
Excluded		0	
Total		104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1721	.843	1.000	.000	.%
2212	1.011	.887	.130	25.5%
2220	1.060	1.102	.180	28.5%
2225	.818	1.000	.000	.%
2230	.969	1.043	.126	18.9%
2235	.939	1.012	.091	11.3%
2240	.971	1.000	.000	.%
2245	.980	1.027	.120	17.5%
3212	.999	1.013	.160	22.9%
3215	.982	1.005	.070	9.9%
3230	.984	1.073	.078	11.8%
Overall	.982	1.013	.128	19.3%



# Age

### **Case Processing Summary**

		Count	Percent
AgeRec	Over 100	5	4.8%
	75 to 100	2	1.9%
	50 to 75	13	12.5%
	25 to 50	32	30.8%
	5 to 25	43	41.3%
	5 or Newer	9	8.7%
Overall		104	100.0%
Excluded		0	
Total		104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Over 100	.968	1.024	.060	9.2%
75 to 100	.909	.984	.044	6.2%
50 to 75	1.011	.999	.091	12.7%
25 to 50	.989	1.028	.165	24.4%
5 to 25	.969	1.009	.110	17.5%
5 or Newer	.983	1.018	.167	23.4%
Overall	.982	1.013	.128	19.3%



# Improved Area

## **Case Processing Summary**

		Count	Percent
ImpSFRec	500 to 1,000 sf	11	10.6%
	1,000 to 1,500 sf	15	14.4%
	1,500 to 2,000 sf	8	7.7%
	2,000 to 3,000 sf	18	17.3%
	3,000 sf or Higher	52	50.0%
Overall		104	100.0%
Excluded		0	
Total		104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
500 to 1,000 sf	1.003	1.028	.090	15.1%
1,000 to 1,500 sf	.983	.943	.108	18.6%
1,500 to 2,000 sf	.979	1.019	.119	16.3%
2,000 to 3,000 sf	.961	.998	.109	15.1%
3,000 sf or Higher	.981	1.016	.149	22.4%
Overall	.982	1.013	.128	19.3%



# Improvement Quality

# Case Processing Summary

	Count	Percent
QUALITY 2	5	4.8%
3	98	94.2%
4	1	1.0%
Overall	104	100.0%
Excluded	0	
Total	104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
2	.968	.980	.141	18.2%
3	.982	1.015	.125	19.3%
4	1.310	1.000	.000	.%
Overall	.982	1.013	.128	19.3%



# **Improvement Condition**

# Case Processing Summary

		Count	Percent
CONDITIOn	1	2	1.9%
	2	9	8.7%
	3	92	88.5%
	4	1	1.0%
Overall		104	100.0%
Excluded		0	
Total		104	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	.890	.994	.053	7.4%
2	1.006	1.036	.132	20.4%
3	.982	1.007	.126	19.2%
4	.699	1.000	.000	.%
Overall	.982	1.013	.128	19.3%



# **Vacant Land Median Ratio Stratification**

### **Sale Price**

### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	26	12.0%
	\$25K to \$50K	66	30.6%
	\$50K to \$100K	71	32.9%
	\$100K to \$150K	30	13.9%
	\$150K to \$200K	13	6.0%
	\$200K to \$300K	4	1.9%
	\$300K to \$500K	3	1.4%
	\$500K to \$750K	3	1.4%
Overall		216	100.0%
Excluded	I	0	
Total		216	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.043	.982	.244	38.4%
\$25K to \$50K	1.040	1.007	.147	20.9%
\$50K to \$100K	.987	1.005	.143	24.4%
\$100K to \$150K	.937	1.005	.132	18.9%
\$150K to \$200K	1.000	.996	.166	26.0%
\$200K to \$300K	.752	1.013	.261	39.1%
\$300K to \$500K	.963	.992	.073	12.9%
\$500K to \$750K	.602	.986	.308	48.0%
Overall	1.000	1.085	.165	26.4%



## Subclass

### **Case Processing Summary**

		Count	Percent
abstrind	100	69	31.9%
	200	22	10.2%
	300	8	3.7%
	520	2	.9%
	530	1	.5%
	540	9	4.2%
	550	4	1.9%
	1112	88	40.7%
	1120	1	.5%
	1135	5	2.3%
	2112	1	.5%
	2130	5	2.3%
	3112	1	.5%
Overall		216	100.0%
Excluded		0	
Total		216	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
100	1.000	1.123	.175	29.2%
200	.902	.995	.116	16.2%
300	1.007	.935	.161	25.5%
520	.684	1.611	.497	70.3%
530	1.410	1.000	.000	.%
540	1.089	1.154	.232	32.7%
550	1.131	1.016	.037	6.7%
1112	1.000	1.050	.159	25.6%
1120	1.022	1.000	.000	.%
1135	1.000	1.012	.084	13.3%
2112	.714	1.000	.000	.%
2130	.963	1.097	.144	29.3%
3112	1.004	1.000	.000	.%
Overall	1.000	1.085	.165	26.4%