

GA 4.14/L82/1986
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FINAL REPORT

1986 COMPLIANCE AUDIT

LOGAN COUNTY



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August 15, 1986

Mr. Dave Morrissey
Director, Colorado Legislative
Council Staff
State Capitol Building, Room 46
Denver, CO 80202

RE: Logan County

Dear Mr. Morrissey:

This year's one percent audit consisted of the: 1) 1986 agricultural formula input analysis; 2) the audit of those counties found in non-compliance in 1985; 3) abstract analysis; and, 4) statistical sales analysis where possible. In addition, we will be preparing a projection report on the change from the 1977 level of value to the 1985 level of value.

Agricultural compliance. The only major change in the valuation procedures of property that occurred in 1986 was in agricultural land, due to the change in the capitalization rate from 11 1/2% to 13%. In order to determine compliance in valuing agricultural land in all counties during 1986, we compiled each county's formula input data. The purpose of collecting this data was primarily to determine if each county was using the new 13% cap rate, and following the guidelines required by the Division in valuing agricultural land. In addition, our analysis has raised some questions regarding agriculture valuation problems that should be addressed.

Counties in non-compliance. In 1985, all but three counties had achieved and maintained compliance in valuing property as required by the constitution, statutes and administrative procedures. These counties were: Cheyenne, Sedgwick and Weld. These three counties were found out of compliance with regard to the following subclasses of agricultural land.

Cheyenne: Irrigated farm land and dry farm land
Sedgwick: Dry farm land
Weld: Dry farm land

Mr. Dave Morrissey
Page 2

August 15, 1986

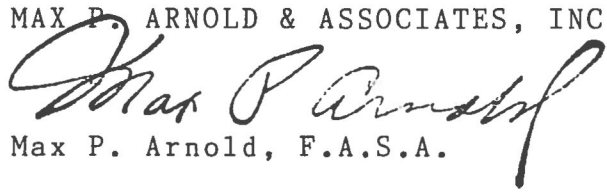
Compliance Audit. In the 1986 audit, the primary tool for determining whether a county had maintained compliance was the abstract analysis. In those counties that were found in compliance during 1985 there should be no decrease in the overall value of any class or subclass of overall value of any class of property except for agricultural land due to the change in the overall capitalization rate from 11 1/2% to 13%. In all other classes and subclasses, the value should be at least the same as last year's values with a slight increase due to new construction. The abstract analysis will be a supplement to this report as the data will not be available until later in August.

1% Sales analysis. As requested by the State Board of Equalization, we have also included a statistical analysis of the sales data in each county where such data was available. Where sufficient sales data was available none of the counties in compliance have made any significant change in values subsequent to the 1985 audit.

Our analysis finds, pending the abstract analysis, that Logan County has maintained compliance with the constitutional statutory and administrative requirements and the Assessor and her staff should be commended for their efforts.

Sincerely,

MAX P. ARNOLD & ASSOCIATES, INC.


Max P. Arnold, F.A.S.A.

AGRICULTURAL AUDIT

The only major change in assessment procedures in 1986 occurred in the valuation of agricultural lands. This year, all counties were to have used a capitalization rate of 13% in arriving at a value for agricultural land rather than the previous 11 1/2% capitalization rate. This higher rate alone has resulted in a lowering of agricultural land values statewide by 11 1/2%.

In order to determine whether the Assessors were in fact applying the 13% capitalization rate, we requested each assessing office to provide the formula input data for each class and subclass of agricultural land. In addition to determining whether the Assessor was using the proper capitalization rate, the formula was also analyzed to determine whether the Assessors were following the directives mandated for this year by the Division of Property Taxation. We also analyzed the data in terms of questionable agricultural practices.

For reporting the results of this analysis we prepared a two part series of questions.

Part I - Compliance with Statutory or Division of Property Taxation Directives. This part of the analysis was based on whether the formula as submitted by the Assessor complied with the statutory 13% cap rate change and this year's directives from the Division. A negative response indicates non-compliance and is followed by a specific comment as to what was actually used by the Assessor in valuing agricultural land.

Part II - Auditor's Evaluation. This analysis was also based on the formula data submitted by the Assessor. Although we are not recommending orders for reappraisal based on negative responses to these questions, it is our opinion that this analysis has raised some serious questions that should be resolved if equalization is to occur.

STATE OF COLORADO
COUNTY OF LOGAN

1986
AGRICULTURAL ANALYSIS

Part #1
Compliance With Statutory Requirements and Division of
Property Taxation Directives

- 1) Was the 13% capitalization rate
correctly applied? YES X NO

Comments:

- 2) Did the assessor use only those
crops permitted by the Division? YES X NO

Comments:

- 3) Were the correct commodity prices
used? YES X NO

Comments:

- 4) Was the Air Dry Matter formula
used to calculate the values for
Meadow Hay Land? YES X NO

Comments:

- 5) Was the AUM rental rate used
equal to \$7.70 per acre? YES X NO

Comments:

- 6) Was the fence and water expense
used for Dry Native Range equal
to \$0.32 per acre? YES X NO

Comments:

STATE OF COLORADO
COUNTY OF LOGAN

7) Was the fence expense for Dry
Farm Land equal to \$0.16 per
acre? YES X NO

Comments:

8) Was the Alfalfa Seed expense
used for Irrigated Land equal
to \$6.03 per acre? YES X NO

Comments:

9) Was the landlord's share of the
Baling expense for Irrigated
Land equal to \$5.15 per ton per
acre? YES X NO

Comments:

10) Was the Fence expense used
for Irrigated Land equal to
\$0.54 per acre? YES X NO

Comments:

11) Was the Water expense used for
Meadow Hay Land equal to \$6.00
per acre? YES X NO

Comments:

12) Was the Fence expense used for
Meadow Hay Land equal to \$0.54
per acre? YES X NO

Comments:

13) Was the Fence expense used for
Orchard Land equal to \$0.54 per
acre? YES * NO

Comments:

STATE OF COLORADO
COUNTY OF LOGAN

Part #2
Auditor's Evaluation

- 1) Were the formulas free of
major mathematical errors? YES X NO

Comments:

- 2) Were all adverse rotations
explained to the satisfaction
of the auditor? YES NO X

Comments:

A clerical error was found in
connection with 6 pump irrigated
sprinkler subclasses. The assessor
has assured the auditor that the
problem will be corrected for the
1987 assessment year.

- 3) Did expenses compare favorably
with those used in the 1985
assessment year? YES X NO

Comments:

- 4) Did yields compare favorably with
those used in the 1985 assessment
year? YES X NO

Comments:

- 5) Did landlord's share of income and
expenses compare favorably with
those used in the 1985 assessment
year? YES X NO

Comments:

STATE OF COLORADO
COUNTY OF LOGAN

- 6) Did landlord's share of income and expense compare favorably with other counties in the region? YES X NO

Comments:

The auditor notes that in connection with pump irrigated sprinkler subclasses roughly 50% use a 1/3 landlord share while the other 50% use a 1/2 landlord share. The auditor recommends that the D.P.T. review this phenomenon.

- 7) Did each crop in the rotation have a positive net income? YES NO X

Comments:

Surface and pump flood irrigated subclasses IV-A-3 and IV-B-3 contain negative incomes in the alfalfa rotation.

- 8) Did county average crop yields agree with yields used in the formulas? YES X NO

Comments:

- 9) Do ten year averages appear to be in order? YES X NO

Comments:

- 10) Were all miscellaneous expenses allowable under current law or regulation? YES X NO

Comments:

ABSTRACT ANALYSIS

The abstract analysis is an integral part of the 1986 Colorado Assessment Study. The primary objective for this analysis was to determine if each county previously found in compliance maintained compliance with the 1977 levels of value by analyzing significant differences between each county's aggregate 1985 and 1986 values.

In performing this analysis, the assumption was made that the abstracts for 1985 and 1986 were compiled from complete tax rolls and in an accurate fashion. Some latitude had to be accorded to the changing reporting procedures relating to the abstract itself. Based on the results on the 1985 audit, Max P. Arnold & Associates also made assumptions with respect to the level and quality of assessment of each county. That assumption was that if a county was in compliance in 1985, there should be no significant change between the 1985 and 1986 aggregate valuation for that county except for growth due to new construction.

A review of the 1% sales data sampling was used to augment the analysis of the data found in county abstracts with regard to the types and degree of valuation changes made in 1986.

Changes in aggregate assessed value within any county are dependent upon such items as new growth, land reclassifications due to changes in use, new resource production and legal rulings.

The last of the 1986 abstracts of assessment should be received before September 1st. Once the data is entered, summary reports for locally assessed property in each county will be prepared which display land and improvements and total values by class for both 1985 and 1986 abstracts. Also included will be the dollar value differences and percent change figures by class and in total. County Board of Equalization changes and their impact were displayed at the end of the report. To avoid confusion, personal property will be treated separately.

From these reports, the data will be evaluated on the basis of whether there was a 5% or greater aggregate change from 1985. In each case where a change of that magnitude occurred the interviews and new growth figures will be reviewed. In situations where questions remained, the Assessor will be contacted to assist in resolving the problem.

SALES RATIO ANALYSIS

1974-1975 Sales Data

At the request of the State Board of Equalization, we have included a statistical analysis of the 1974 and 1975 sales data in those counties where a sufficient number of sales are available for analysis. As in the past, properties which changed significantly due to physical changes in the property because of additions or significant remodeling, etc. were deleted from the samples. Since the sales used in the study are now 11 to 12 years old many of the smaller counties simply do not have a sufficient sample size for a valid statistical analysis.

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Statistical Summary :

County: LOGAN Class: Residential Improved
Reviewed : 28-Jul-86

Sum of Assessed Values =	\$7,435,180
Sum of Sales Prices =	\$7,601,100
Aggregate Sales Ratio =	97.817
Mean Sales Ratio =	98.912
Median Sales Ratio =	100.136
Sample Size =	255
Mean Absolute Deviation (Median Ratio) =	11.473
Standard Deviation (Mean Ratio) =	14.075
Coefficient of Dispersion (Median) =	11.458
Coefficient of Variation (Mean) =	14.229
Minimum Ratio =	49.511
Maximum Ratio =	136.500

Statistical Guidelines
For Colorado Sales Ratio Studies

- 1) A reappraisal will be ordered whenever the audit results indicate the "quality" of assessments fall outside the range of "0" through "15.99" for residential properties, and "0" through "20.99" for commercial and industrial properties. (The coefficient of dispersion has been the statistic used for this purpose.)
- 2) A reappraisal will be ordered whenever the "level" of assessments fall outside of the "95.00" to "105.00" range. (The median has been the statistic used for this purpose.)
- 3) The mean, coefficient of variation, and confidence intervals will be used as additional measures of assessment level and uniformity.

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Statistical Summary :

County: LOGAN Class: Commercial Improved
Reviewed : 28-Jul-86

Sum of Assessed Values =	\$312,570
Sum of Sales Prices =	\$318,900
Aggregate Sales Ratio =	98.015
Mean Sales Ratio =	96.559
Median Sales Ratio =	98.125
Sample Size =	15
Mean Absolute Deviation (Median Ratio) =	4.479
Standard Deviation (Mean Ratio) =	5.315
Coefficient of Dispersion (Median) =	4.565
Coefficient of Variation (Mean) =	5.505
Minimum Ratio =	87.435
Maximum Ratio =	105.103

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8

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