

**Appendix H:
Fiscal Year Ending 2015
Water System Audit**

*using
American Water Works Association (AWWA)
Free Water Audit Software (v5.0)*



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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? Click to access definition
+ Click to add a comment

Water Audit Report for: **Monte Vista Water District (3610029)**
Reporting Year: **2015** / **7/2014 - 6/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

WATER SUPPLIED

Volume from own sources:	+	?	8	8,408.094	acre-ft/yr
Water imported:	+	?	4	7,635.200	acre-ft/yr
Water exported:	+	?	5	6,932.977	acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	acre-ft/yr		
+	?	8	<input type="radio"/> <input checked="" type="radio"/> 0.000	acre-ft/yr
+	?	8	<input type="radio"/> <input checked="" type="radio"/> 0.000	acre-ft/yr
+	?	8	<input type="radio"/> <input checked="" type="radio"/> 0.000	acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: **9,110.317** acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	6	8,531.701	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	10	74.043	acre-ft/yr
Unbilled unmetered:	+	?	8	7.488	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt: Value: 7.488 acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: **8,613.232** acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

497.085 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? **22.776** acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	3	175.627	acre-ft/yr
Systematic data handling errors:	+	?	8	0.250	acre-ft/yr

Pcnt: Value: 0.25% Value: acre-ft/yr

2.00% Value: 0.250 Value: acre-ft/yr

Apparent Losses: **198.653** acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **298.432** acre-ft/yr

WATER LOSSES: **497.085** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? **578.617** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	9	198.0	miles
Number of active AND inactive service connections:	+	?	6	12,280	
Service connection density:	?			62	conn./mile main

Are customer meters typically located at the curbstop or property line? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: + ? Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 7 85.0 psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$12,957,128	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	10	\$2.13	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	7	\$720.00	\$/acre-ft <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 69 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Water imported
- 2: Customer metering inaccuracies
- 3: Water exported



AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0

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Water Audit Report for: Monte Vista Water District (3610029)
 Reporting Year: 2015 7/2014 - 6/2015

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 69 out of 100 ***

System Attributes:

	Apparent Losses:	198.653	acre-ft/yr
+	Real Losses:	298.432	acre-ft/yr
=	Water Losses:	497.085	acre-ft/yr

? Unavoidable Annual Real Losses (UARL): 277.37 acre-ft/yr

Annual cost of Apparent Losses: \$184,143

Annual cost of Real Losses: \$214,871

Valued at **Variable Production Cost**
Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	{	Non-revenue water as percent by volume of Water Supplied:	6.4%	
		Non-revenue water as percent by cost of operating system:	3.5%	Real Losses valued at Variable Production Cost

Operational Efficiency:	{	Apparent Losses per service connection per day:	14.44	gallons/connection/day
		Real Losses per service connection per day:	21.70	gallons/connection/day
		Real Losses per length of main per day*:	N/A	
		Real Losses per service connection per day per psi pressure:	0.26	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL): 298.43 acre-feet/year

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 1.08

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline