

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 60 out of 100 ***

System Attributes:

Apparent Losses:	15.100	MG/Yr
+ Real Losses:	93.737	MG/Yr
= Water Losses:	108.837	MG/Yr

? Unavoidable Annual Real Losses (UARL): 15.26 MG/Yr

Annual cost of Apparent Losses: \$47,869

Annual cost of Real Losses: \$297,145 Valu
Return to

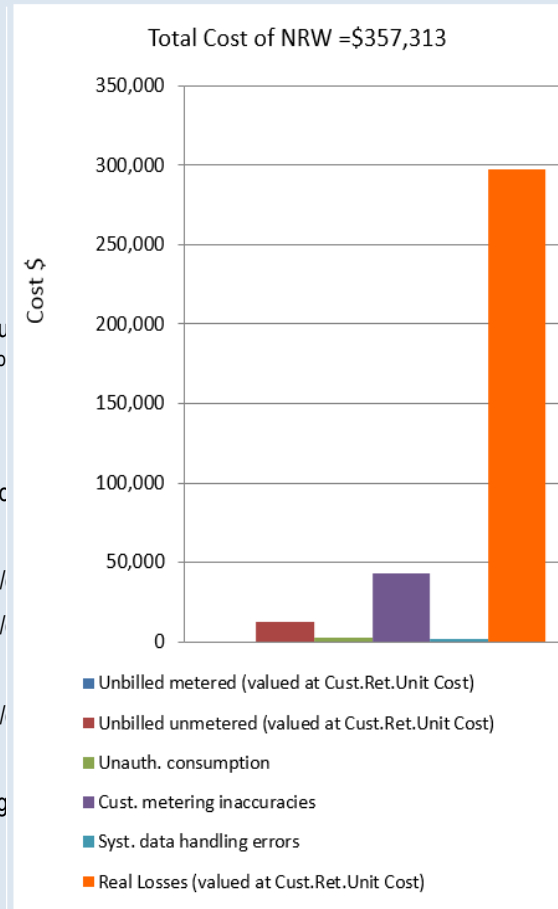
Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 30.5%
 Non-revenue water as percent by cost of operating system: 43.3% Real Lc

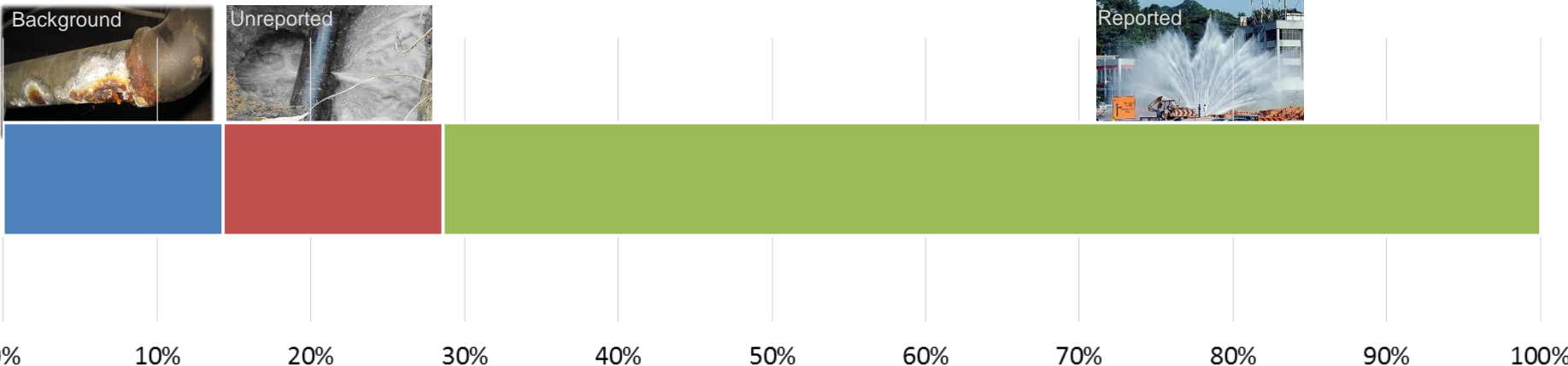
Operational Efficiency: { Apparent Losses per service connection per day: 17.24 gallons/
 Real Losses per service connection per day: 107.01 gallons/
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 1.95 gallons/

From Above, Real Losses = Current Annual Real Losses (CARL): 93.74 million g

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 6.14



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



Water Audit Report for: #2 - City of Cave Spring (GA 150000)

Reporting Year: 2014 1/2014 - 12/2014

- Show me the VOLUME of Non-Revenue Water
- Show me the COST of Non-Revenue Water

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 52 out of 100 ***

System Attributes:

Apparent Losses: 4.041 MG/Yr
 + Real Losses: 29.998 MG/Yr
 = **Water Losses: 34.039 MG/Yr**

? Unavoidable Annual Real Losses (UARL): 28.55 MG/Yr

Annual cost of Apparent Losses: \$30,992

Annual cost of Real Losses: \$6,476 Val

Return t

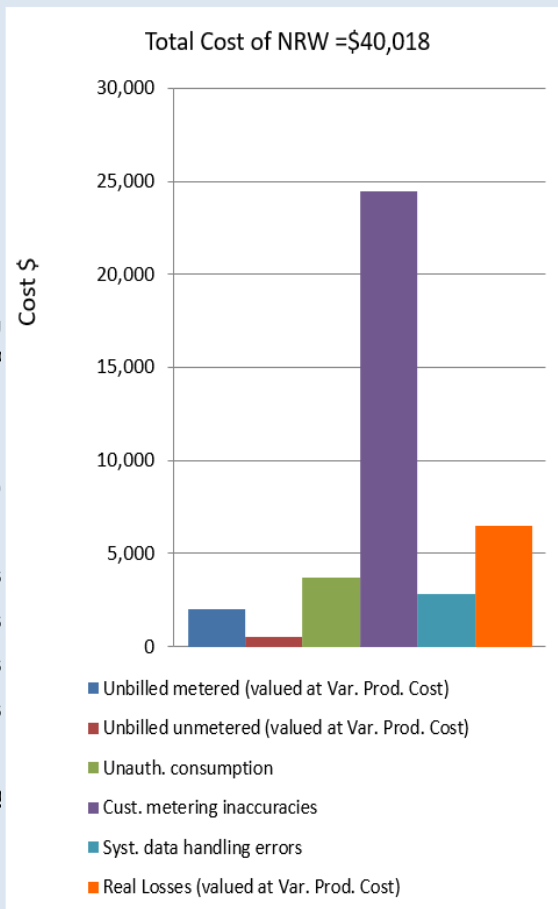
Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 23.8%
 Non-revenue water as percent by cost of operating system: 4.8% Real L

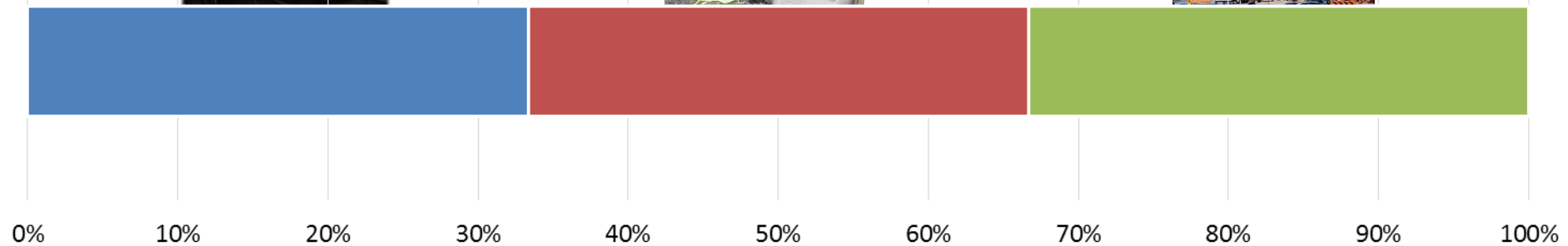
Operational Efficiency: { Apparent Losses per service connection per day: 6.91 gallons
 Real Losses per service connection per day: N/A gallons
 Real Losses per length of main per day*: 944.67 gallons
 Real Losses per service connection per day per psi pressure: N/A gallons

From Above, Real Losses = Current Annual Real Losses (CARL): 30.00 million g

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 1.05



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



*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 64 out of 100 ***

System Attributes:

Apparent Losses: 3.857 MG/Yr
 + Real Losses: 27.485 MG/Yr
 = **Water Losses: 31.341 MG/Yr**

? Unavoidable Annual Real Losses (UARL): 22.64 MG/Yr

Annual cost of Apparent Losses: \$44,043

Annual cost of Real Losses: \$102,317 Val
 Return t

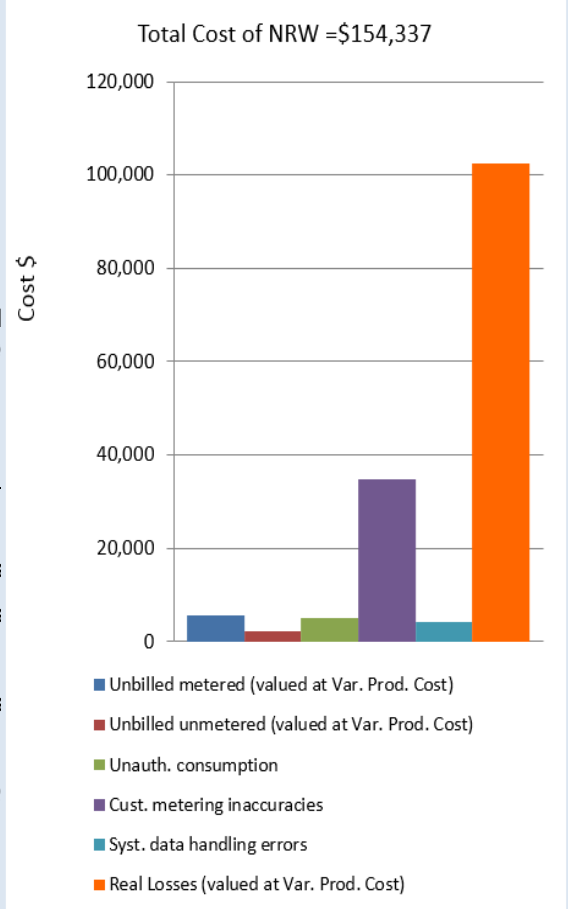
Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 18.5%
 Non-revenue water as percent by cost of operating system: 8.8% Real L

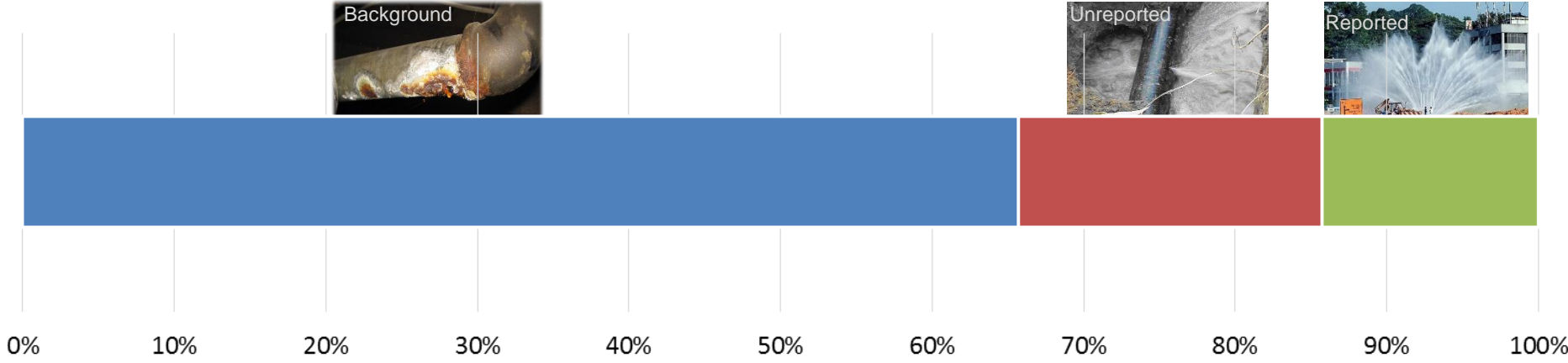
Operational Efficiency: { Apparent Losses per service connection per day: 3.23 gallons
 Real Losses per service connection per day: 22.99 gallons
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 0.26 gallons

From Above, Real Losses = Current Annual Real Losses (CARL): 27.48 million

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 1.21



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



Water Audit Report for: #4 - Harlem

Reporting Year: 2014 1/2014 - 12/2014

- Show me the VOLUME of Non-Revenue Water
- Show me the COST of Non-Revenue Water

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 55 out of 100 ***

System Attributes:

Apparent Losses: 3.704 MG/Yr
 + Real Losses: 11.315 MG/Yr
 = **Water Losses: 15.019 MG/Yr**

? Unavoidable Annual Real Losses (UARL): 16.52 MG/Yr

Annual cost of Apparent Losses: \$25,187

Annual cost of Real Losses: \$20,890 Value Return to R

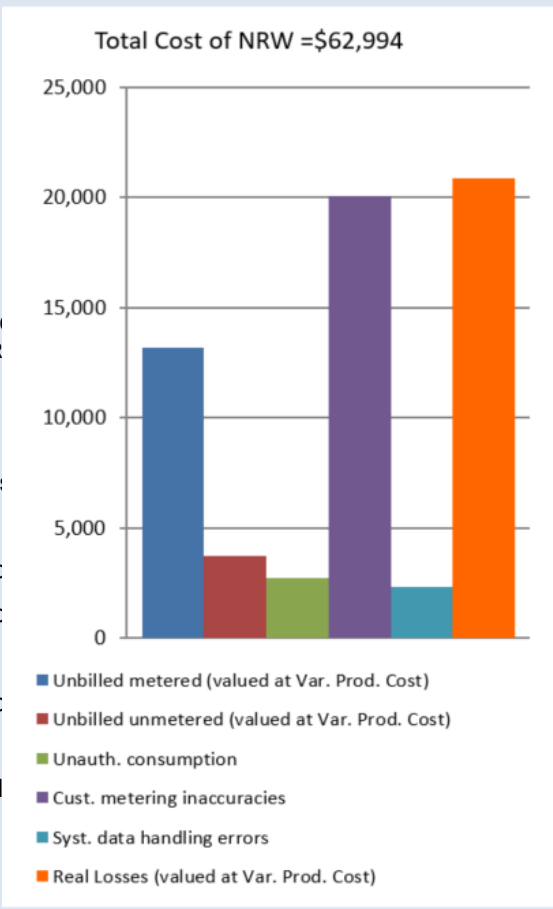
Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 14.9%
 Non-revenue water as percent by cost of operating system: 7.9% Real Los:

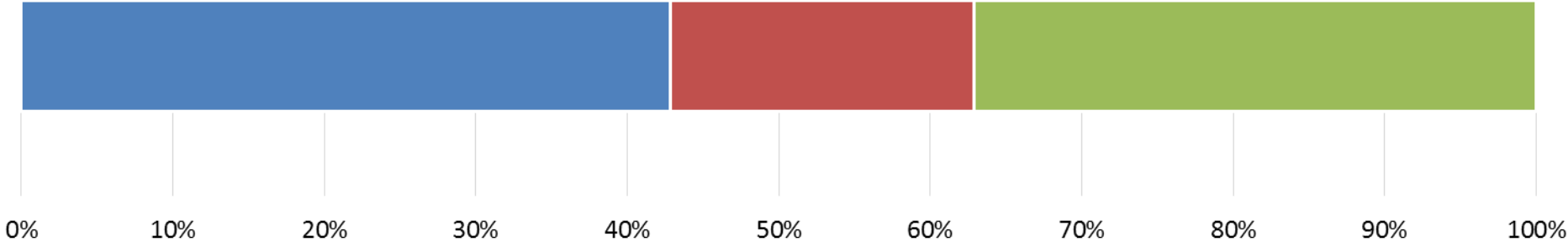
Operational Efficiency: { Apparent Losses per service connection per day: 4.43 gallons/cc
 Real Losses per service connection per day: 13.53 gallons/cc
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 0.19 gallons/cc

From Above, Real Losses = Current Annual Real Losses (CARL): 11.31 million gal

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 0.68



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





#1 – Adel



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

Data Validity Score (scale of 100)

Apparent Losses per service connection per day (typical 4-40)

Real Losses per service connection per day (typical 20-200)

Real Losses per mile of main per day (typical 400-4000)

The top 1 to 3 focus areas should be:

- 1.
- 2.
- 3.

The best tools to address those focus areas:

- 1.
- 2.
- 3.



#2 – Cave Spring



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

Data Validity Score (scale of 100)

Apparent Losses per service connection per day (typical 4-40)

Real Losses per service connection per day (typical 20-200)

Real Losses per mile of main per day (typical 400-4000)

The top 1 to 3 focus areas should be:

- 1.
- 2.
- 3.

The best tools to address those focus areas:

- 1.
- 2.
- 3.



#3 – Dallas



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

<p>Data Validity Score (scale of 100)</p> <p>Apparent Losses per service connection per day (typical 4-40)</p> <p>Real Losses per service connection per day (typical 20-200)</p> <p>Real Losses per mile of main per day (typical 400-4000)</p>
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<p>The top 1 to 3 focus areas should be:</p> <ol style="list-style-type: none"> 1. 2. 3.

<p>The best tools to address those focus areas:</p> <ol style="list-style-type: none"> 1. 2. 3.
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#4 - Harlem



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

<p>Data Validity Score (scale of 100)</p> <p>Apparent Losses per service connection per day (typical 4-40)</p> <p>Real Losses per service connection per day (typical 20-200)</p> <p>Real Losses per mile of main per day (typical 400-4000)</p>
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<p>The top 1 to 3 focus areas should be:</p> <ol style="list-style-type: none"> 1. 2. 3.

<p>The best tools to address those focus areas:</p> <ol style="list-style-type: none"> 1. 2. 3.
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*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 54 out of 100 ***

System Attributes:

Apparent Losses:	40.186	MG/Yr
+ Real Losses:	139.535	MG/Yr
= Water Losses:	179.721	MG/Yr

? Unavoidable Annual Real Losses (UARL): 32.73 MG/Yr

Annual cost of Apparent Losses: \$127,391

Annual cost of Real Losses: \$33,837 Valu
Return to

Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 35.2%
Non-revenue water as percent by cost of operating system: 18.4% Real Lo

Operational Efficiency: { Apparent Losses per service connection per day: 20.08 gallons/c
Real Losses per service connection per day: 69.73 gallons/c
Real Losses per length of main per day*: N/A
Real Losses per service connection per day per psi pressure: 1.20 gallons/c

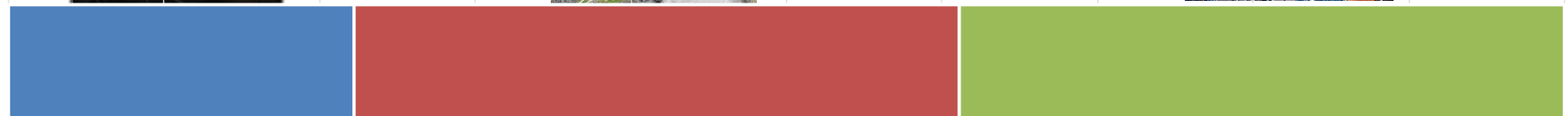
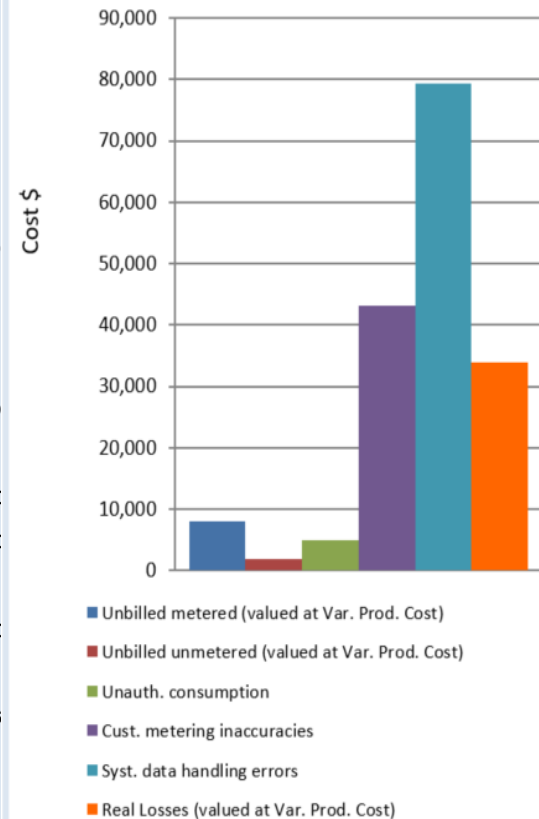
From Above, Real Losses = Current Annual Real Losses (CARL): 139.53 million g

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 4.26

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

- Show me the VOLUME of Non-Revenue Water
- Show me the COST of Non-Revenue Water

Total Cost of NRW = \$171,207



*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 52 out of 100 ***

System Attributes:

Apparent Losses: 17.758 MG/Yr
 + Real Losses: 23.799 MG/Yr
 = **Water Losses: 41.557 MG/Yr**

? Unavoidable Annual Real Losses (UARL): 9.37 MG/Yr

Annual cost of Apparent Losses: \$47,769

Annual cost of Real Losses: \$4,831 Value
 Return to R

Performance Indicators:

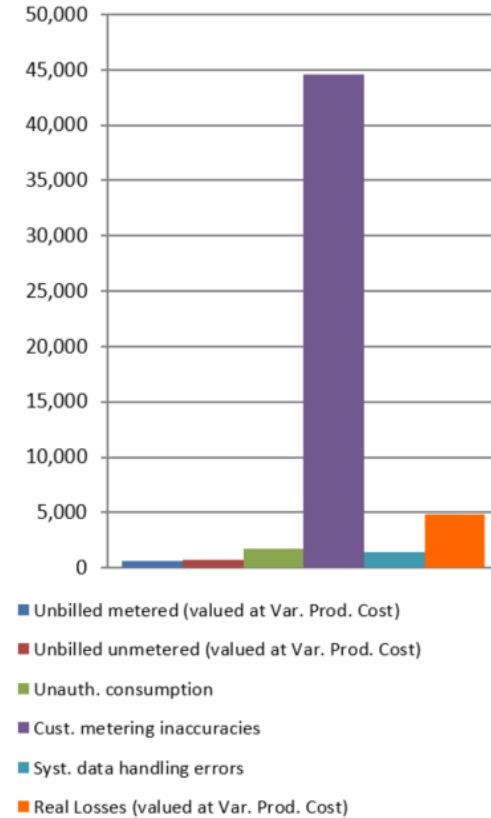
Financial: { Non-revenue water as percent by volume of Water Supplied: 18.8%
 Non-revenue water as percent by cost of operating system: 9.6% Real Loss

Operational Efficiency: { Apparent Losses per service connection per day: 27.03 gallons/cc
 Real Losses per service connection per day: 36.22 gallons/cc
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 0.72 gallons/cc

From Above, Real Losses = Current Annual Real Losses (CARL): 23.80 million gal

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 2.54

Total Cost of NRW = \$54,013



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



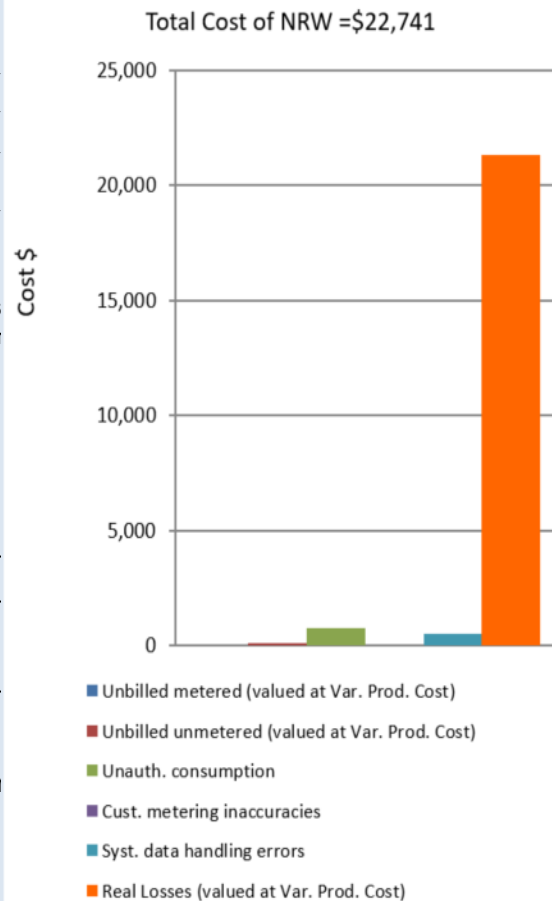
*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 47 out of 100 ***

System Attributes:

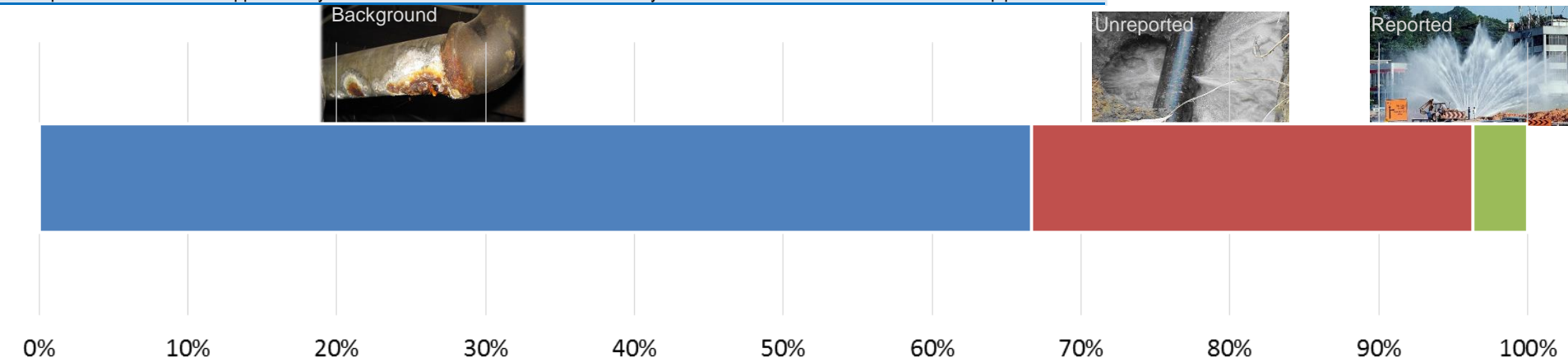
Apparent Losses:	1.045	MG/Y
+ Real Losses:	89.385	MG/Y
= Water Losses:	90.430	MG/Y
? Unavoidable Annual Real Losses (UARL):	16.17	MG/Y
Annual cost of Apparent Losses:	\$1,285	
Annual cost of Real Losses:	\$21,334	V. Return

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	35.7%
	Non-revenue water as percent by cost of operating system:	3.5% Real
Operational Efficiency:	Apparent Losses per service connection per day:	1.04 gallon
	Real Losses per service connection per day:	89.34 gallon
	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.37 gallon
From Above, Real Losses = Current Annual Real Losses (CARL):		89.39 million
? Infrastructure Leakage Index (ILI) [CARL/UARL]:		5.53



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



*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 38 out of 100 ***

System Attributes:

Apparent Losses: 0.954 MG/Yr
 + Real Losses: 11.018 MG/Yr
 = **Water Losses: 11.972 MG/Yr**

? Unavoidable Annual Real Losses (UARL): See limits in definition MG/Yr

Annual cost of Apparent Losses: \$6,594

Annual cost of Real Losses: \$7,530

Value
Return to l

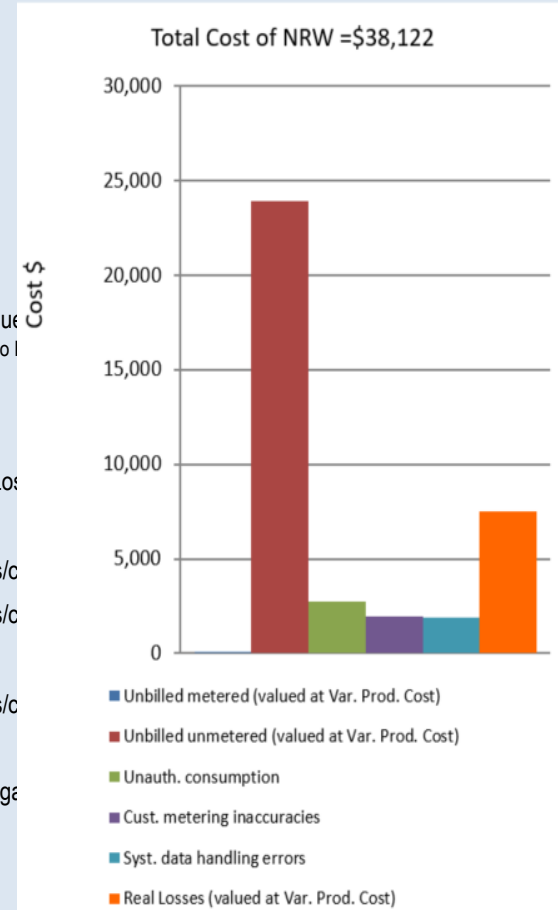
Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 29.7%
 Non-revenue water as percent by cost of operating system: 0.0% Real Los

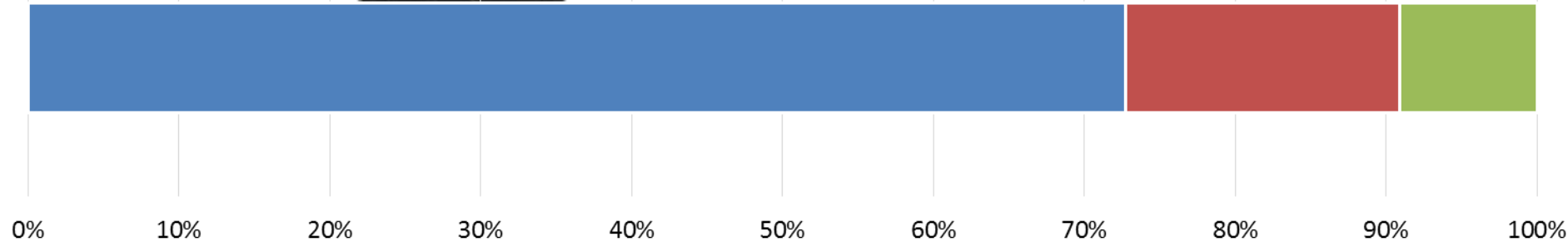
Operational Efficiency: { Apparent Losses per service connection per day: 1.54 gallons/c
 Real Losses per service connection per day: 17.76 gallons/c
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 0.25 gallons/c

From Above, Real Losses = Current Annual Real Losses (CARL): 11.02 million ga

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



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





#5 - Jesup



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

<p>Data Validity Score (scale of 100)</p> <p>Apparent Losses per service connection per day (typical 4-40)</p> <p>Real Losses per service connection per day (typical 20-200)</p> <p>Real Losses per mile of main per day (typical 400-4000)</p>
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<p>The top 1 to 3 focus areas should be:</p> <p>1.</p> <p>2.</p> <p>3.</p>
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<p>The best tools to address those focus areas:</p> <p>1.</p> <p>2.</p> <p>3.</p>



#6 - McRae



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

<p>Data Validity Score (scale of 100)</p> <p>Apparent Losses per service connection per day (typical 4-40)</p> <p>Real Losses per service connection per day (typical 20-200)</p> <p>Real Losses per mile of main per day (typical 400-4000)</p>
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<p>The top 1 to 3 focus areas should be:</p> <p>1.</p> <p>2.</p> <p>3.</p>
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<p>The best tools to address those focus areas:</p> <p>1.</p> <p>2.</p> <p>3.</p>



#7 - Quitman



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

Data Validity Score (scale of 100)

Apparent Losses per service connection per day (typical 4-40)

Real Losses per service connection per day (typical 20-200)

Real Losses per mile of main per day (typical 400-4000)

The top 1 to 3 focus areas should be:

- 1.
- 2.
- 3.

The best tools to address those focus areas:

- 1.
- 2.
- 3.



#8 - Senoia



Annual cost of Non-Revenue Water: \$ _____

Data Validity Score: _____

Your observations – are the metrics high, low, or in the middle? What else stands out?

Data Validity Score (scale of 100)

Apparent Losses per service connection per day (typical 4-40)

Real Losses per service connection per day (typical 20-200)

Real Losses per mile of main per day (typical 400-4000)

The top 1 to 3 focus areas should be:

- 1.
- 2.
- 3.

The best tools to address those focus areas:

- 1.
- 2.
- 3.

The Toolbox (Basic)



Helps to Address

Level of Cost

1 - Validation of supply & consumption volumes

Low Data Validity Score, Gremlins

Low-Mid

2 - Estimating and tracking unmetered use

Validity, Unmetered Use

None-Low

3 - Installing meters on unmetered connections

Unmetered Use

Mid

4 - Billing system audit

Systematic Data Handling Errors

Low-Mid

5 - Meter testing & replacement

Customer metering inaccuracy

Mid-High

6 - Unidirectional flushing program

Unbilled unmetered

Low

7 - Acoustic leak survey

Unreported leakage

Mid

8 - Improve speed/quality of repairs

Unreported, Reported leakage

Low

9 - Locate & eliminate pressure transients (surges, hammers)

All 3 types of leakage

Low-Mid

10 - Reduce peak and overall pressure

All 3 types of leakage

Mid-High