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April 27, 2015

Pennsylvania Public Utility Commission Rosemary Chiavetta, Secretary P O Box 3265 Harrisburg, PA 17105-3265

M-2015-2464293

Dear Secretary Chiavetta:

Pursuant to the Commission's Order, at Docket No. <del>M-2008-2062697</del>, initiating the IWA/AWWA water audit pilot study, Pennsylvania American Water Company is filing herewith the annual water audit summaries for the year ended December 31, 2014. Attached is a disk containing the audits in electronic format.

Sincerely,

Robert Harpster Project Manger

Enclosure

SECRETARY'S BUREAU



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The following contents of this report are the printable version accompanied by the CD version which includes all individual PAW District Water Audits for the operating year 2014. The format is the AWWA Water Audit Software v5.0. Below is an index for District operations:

Dist.	Location
110	Pittsburgh Division
210	McMurray District
220	Mon Valley District
230	Uniontown/Connellsville Dist.
250	Brownsville District
310	New Castle& Ellwood Dist.
330	Butler District
410	Indiana District
420	Punxsutawney District
430	Clarion District
440	Kittanning District
450	Warren District
460	Kane
510	Norristown District
520	Yardley District
530	Abington District
540	Susquehanna District
550	Bangor District
560	Blue Mountain/Nazareth Dist.
570	Pocono District
610	Mechanicsburg Dist.
620	Hershey/Palmyra Dst
630	Wyomissing/Penn Dst
633	Glen Alsace District
640	Royersford District
650	Coatesville District
660	Lake Heritage District
680	Lehman Pike District
710	Milton District
720	Philipsburg
730	Berwick District
740	Frackville District
780	Centre Cnty (Nittany-Boggs) Dist
010	Million Barro/Carantan Dist

Wlkes-Barre/Scranton Dist.

Pennsylvania
American Water

## Pennsylvania American Water AWWA / IWA ver. 5.0 Water Audits by District For Pa-PUC

	AV	WWA Fre	e Water Audit S	oftware:			NAS v5.0
		Rep	orting Workshee	e <u>t</u>		American Water W Copyright © 2014, All	
Click to access definition  Click to add a comment	Water Audit Report for: Reporting Year:	Pennslyvani 2014	a American Water Con 1/2014 - 12/2014	solidated Water Audit	(Commbined PAW	Corporat	
Please enter data in the white cells below input data by grading each component (n/	Where available, metered values shoul a or 1-10) using the drop-down list to the	ld be used; if n e left of the inp	netered values are unavail out cell. Hover the mouse o	able please estimate a valuer the cell to obtain a des	ue. Indicate your confide cription of the grades	nce in the accuracy of the	
	All volum	nes to be ent	ered as: MILLION GAL	LONS (US) PER YEAR	t		
	correct data grading for each input, utility meets or exceeds all criteria for					10	
	utility meets or exceeds <u>all</u> criteria id	-		in column 'E' and 'J'		nd Supply Error Adjustm Value:	ients
WATER SUPPLIED	Volume from own sources:	+ 7 9	70,523.819		9 -0.34%	• O	MG/Y
	Water imported:	+ 7 9	904.528	MG/Yr	9 1.33%	• 0	MG/Y
	Water exported:	+ 7 9	821.977	MG/Yr		or value for under-reg	MG/Y
	WATER SUPPLIED:		70,835.097	MG/Yr		or value for over-regist	and the second second
AUTHORIZED CONSUMPTION						Click here:	_
AUTHORIZED CONSUMPTION	Billed metered:	+ 7 10	46,983.008	MG/Yr		for help using option	n
	Billed unmetered:	? n/a	0.000			buttons below	
	Unbilled metered:	+ ? 10 + ?	395.047 885.439		1.25%	Value:	MG/Y
Default	Unbilled unmetered: option selected for Unbilled unm	otorod - a nu			1.2376	<b>A</b>	ING/T
Delaut	AUTHORIZED CONSUMPTION:	?	48,263.494			Use buttons to sele- percentage of water sup OR	
WATER LOSSES (Water Supplied -	Authorized Consumption)		22,571.603	MG/Yr		value	
Apparent Losses	Unauthorized consumption:	+ 2	177.088	MGN	Pcnt: 0.25%	Value:	MG/Yr
Default entic	n selected for unauthorized cons		The second secon		0.2376		MOVII
Default Optio	_		966.899		2.00%	• 0	MG/Yr
	Customer metering inaccuracies: Systematic data handling errors:		704.745		2.00%	0 • 704.745	MG/Y
	by claim and a state of the sta						
Real Losses (Current Annual Real L	Apparent Losses:	7	1,848.732	MG/Yr			
	ater Losses - Apparent Losses:	7	20,722.871	MG/Yr			
	WATER LOSSES:		22,571.603	MG/Yr			
NON-REVENUE WATER	NON-REVENUE WATER:	7	23,852.089	MG/Yr			
= Water Losses + Unbilled Metered + Unbi	lled Unmetered						_
SYSTEM DATA							
	Length of mains:		10,122.8	miles			
Number of active A	AND inactive service connections:  Service connection density:	7 9	728,805 72	conn./mile main			
Are customer meters typically located	d at the curbstop or property line?		No	(length of service	e line, beyond the prope	rty boundary.	
	e length of customer service line:	+ ? 7	45.0	ft that is the respo	insibility of the utility)	,,	
	Average operating pressure:	+ 7 8	74.9	psi			
COST DATA							_
Total annu	al cost of operating water system:	+ 7 g	\$194,285,807	\$/Year			
Customer retail unit of	ost (applied to Apparent Losses):	+ ? g		\$/1000 gallons (US)			
Variable product	ion cost (applied to Real Losses):	+ 7 9	\$363.38	\$/Million gallons	Use Customer Retail Unit C	ost to value real losses	
WATER AUDIT DATA VALIDITY SCORE	<u> </u>						
	***	YOUR SCO	RE IS: 86 out of 100 ***				
A weighte	ed scale for the components of consump	ption and wate	r loss is included in the ca	lculation of the Water Audi	t Data Validity Score		
PRIORITY AREAS FOR ATTENTION:							
Based on the information provided, audit	accuracy can be improved by addressin	ng the following	components:				
1: Volume from own sources	accessory was no improved by desiredain	a i i i i i i					
2: Unauthorized consumption							
3: Customer metering inaccuracies							

	AWWA Free Water Audit Soft System Attributes and Performance	
	Water Audit Report for: Pennslyvania American Water Consol	lidated Water Audit (Commbined PAW Corporate)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS:	86 out of 100 ***
System Attributes:		
	Apparent Losses:	1,848.732 MG/Yr
	+ Real Losses:	20,722.871 MG/Yr
	= Water Losses:	22,571.603 MG/Yr
	Unavoidable Annual Real Losses (UARL):	5,757.88 MG/Yr
	Annual cost of Apparent Losses:	\$18,882,948
	Annual cost of Real Losses:	\$211,663,405 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	33.7%
r manda.	Non-revenue water as percent by cost of operating system:	125.4% Real Losses valued at Customer Retail Unit Cos
	Apparent Losses per service connection per day:	6.95 gallons/connection/day
	Real Losses per service connection per day:	77.90 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.04 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	20,722.87 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	3.60

	AWWA									
		Report	ing Workshe	<u>et</u>					American \ Copyright © 2	Vater Works Associa 114, All Rights Rese
Click to access definition Water Audit Report f Click to add a comment Reporting Ye			Division (Districts 1/2014 - 12/2014	s 110;210;220) (50	20039;50	20039-1	MC;502	0039)		
Please enter data in the white cells below. Where available, metered values input data by grading each component (n/a or 1-10) using the drop-down list								ence in t	he accuracy	of the
		12.00	d as: MILLION GAL		The second	on or the	grades			
To select the correct data grading for each in										
the utility meets or exceeds all criter						Master	Meter a	ind Sup	ply Error A	djustments
WATER SUPPLIED		<	Enter grading	in column 'E' and '	J'	> P	cnt:		Value:	
Volume from own source		9	23,635.242		+ ?	-	0.20%	0 0		MG/Yr
Water importe Water exporte		9	21.315 570.580		+ ?		0.00%	<ul><li>O</li></ul>	)	MG/Yr
water exports	Ju. Mai Mai	3	370.300	MOTI	-				due for und	er-registration
WATER SUPPLIE	D:		23,038.801	MG/Yr						registration
AUTHORIZED CONSUMPTION								-	Web hours	2
Billed metere	ed: • ?	10	13,925.755	MG/Yr					Click here: or help using	
Billed unmetere		n/a	0.000	MG/Yr					outtons below	
Unbilled metere	The second second	10	134.076			posses.	ent:	0 0	Value:	
Unbilled unmetere			287.985	- Carrier I			1.25%	• 0		MG/Yr
Default option selected for Unbilled	unmetered	a gradi	ng of 5 is applied b	out not displayed				1 ,	Jse buttons t	o coloct
AUTHORIZED CONSUMPTIO	N: 7		14,347.816	MG/Yr					entage of wa OR value	ter supplied
WATER LOSSES (Water Supplied - Authorized Consumption)			8,690.985	MG/Yr				-I"	value	
Apparent Losses						D/	ent:		Value:	
Unauthorized consumption	n: + 7		57.597	MG/Yr		general party	0.25%	. 0	value.	MG/Yr
Default option selected for unauthorized co		- a grad			1		J.E.O 70			MONT
Customer metering inaccuracie	THE REAL PROPERTY.		286.935				2.00%	• 0		MG/Yr
Systematic data handling error			208.886				2.00 %	0 0	208.886	MG/Yr
Apparent Losse	s: ?		553.419	MG/Yr						
	s: ?		553.419	MG/Yr						
Apparent Losses  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses			553.419 8,137.566							
Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losse	s: ?		8,137.566	MG/Yr						
Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losse  WATER LOSSE	s: ?			MG/Yr						
Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER	s: ?		8,137.566	MG/Yr MG/Yr						_
Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses WATER LOSSES NON-REVENUE WATER  WATER LOSSES NON-REVENUE WATER WATER LOSSES + Unbilled Metered + Unbilled Unmetered	s: ?		8,137.566 8,690.985	MG/Yr MG/Yr						
Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses WATER LOSSES NON-REVENUE WATER  WATER LOSSES NON-REVENUE WATER WATER LOSSES + Unbilled Metered + Unbilled Unmetered SYSTEM DATA	s: 7 S:		8,137.566 8,690.985 9,113.046	MG/Yr MG/Yr MG/Yr						_
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Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses  NON-REVENUE WATER  WATER LOSSES  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of main Number of active AND inactive service connection Service connection densit Are customer meters typically located at the curbstop or property line Average length of customer service line Average operating pressure  COST DATA  Total annual cost of operating water system Customer retail unit cost (applied to Apparent Losses Variable production cost (applied to Real Losses  WATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consideration of the information provided, audit accuracy can be improved by address	s: 7 S: 7 S: + 7	9 9 9 9 9 SCORE I	8,137.566 8,690.985 9,113.046 3,024.9 235,130 78 No 50.0 110.0 \$62,760,115 \$10.21 \$338.05	MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi  \$/Year \$/1000 gallons (US) \$/Million gallons	S) Use Cu	y of the u	etail Unit (			

	Water Audit Report for: PAW-Pittsburgh Division (Districts 110;2	10·220\ (5020039·5020039-MC·5020039\
	Reporting Year: 2014   1/2014 - 12/2014	10,220) (3020035,3020035-MO,3020035)
System Attributes:	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 86	out of 100
,	Apparent Losses:	553.419 MG/Yr
	+ Real Losses:	8,137.566 MG/Yr
	= Water Losses:	8,690.985 MG/Yr
	2 Unavoidable Annual Real Losses (UARL):	2,743.59 MG/Yr
	Annual cost of Apparent Losses:	\$5,652,618
	Annual cost of Real Losses:	\$83,117,101 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial: -	Non-revenue water as percent by volume of Water Supplied:	39.6%
	Non-revenue water as percent by cost of operating system:	148.3% Real Losses valued at Customer Retail Unit Cos
Γ	Apparent Losses per service connection per day:	6.45 gallons/connection/day
	Real Losses per service connection per day:	94.82 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.86 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	8,137.57 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.97

		THE TIES THE	iter Audit Sc	ontware:					WAS v5.0
		Reportin	g Workshee						r Works Associat All Rights Resen
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:		Connellsville Dist 2014 - 12/2014	trict 230 (5260022;526	0020)				
Please enter data in the white cells below. Winput data by grading each component (n/a c	where available, metered values shoor 1-10) using the drop-down list to to	uld be used; if metered he left of the input cell.	values are unavaila Hover the mouse ov	able please estimate a valu ver the cell to obtain a des	e. Indicate you	ur confide grades	nce in th	ne accuracy of t	he
	All volum	mes to be entered a	s: MILLION GAL	LONS (US) PER YEAR					
	orrect data grading for each inpu lity meets or exceeds <u>all</u> criteria f	for that grade and all	grades below it.			Meter a	nd Supp	ply Error Adjus	stments
WATER SUPPLIED		<	Enter grading	in column 'E' and 'J'	> P	ent:		Value:	
	Volume from own sources:		603.676			0.90%	• 0		MG/Yr MG/Yr
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	Trailor disported.		7.25		Enter n	egative '	% or va	lue for under-	
	WATER SUPPLIED:		1,224.116	MG/Yr	Enter p	ositive %	or valu	ue for over-reg	gistration
AUTHORIZED CONSUMPTION								lick here:	
	Billed metered: Billed unmetered:		963.858	MG/Yr				or help using op uttons below	tion
	Unbilled metered:		1.786		Po	ent:		Value:	
	Unbilled unmetered:		15.301		pine	1.25%	• ()		MG/Yr
Default of	ption selected for Unbilled unr		of 5 is applied b	ut not displayed			1		
	UTHORIZED CONSUMPTION:	7	980.945					ise buttons to sentage of water	
	TOTAL CONTROL OF THE PARTY OF T						perce	OR	supplied
WATER LOSSES (Water Supplied - Au	uthorized Consumption)		243.171	MG/Yr			r	value	
	Amonzed Consumption,		240.111	1110011	D	ent:		Value:	
Apparent Losses	Unauthorized consumption:	7 2	3.060	MCN.	-		• 0	value.	MG/Yr
Default entire	selected for unauthorized con-		100000000000000000000000000000000000000			0.2070			IMO/11
						2 000	0 0	_	MON
	Systematic data handling errors:		19.707 14.458			2.00%	0 0	14.458	MG/Yr MG/Yr
	rystematic data narraing errors.		14,400	ino ii					
Real Losses (Current Annual Real Los	Apparent Losses:	7	37.225	MG/Yr					
Real Losses (Current Annual Real Los Real Losses = Water	sses or CARL) ter Losses - Apparent Losses:	7	205.946	MG/Yr					
	sses or CARL)	2		MG/Yr					
Real Losses = Wate	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	2	205.946	MG/Yr MG/Yr					
Real Losses = Water NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	2	205.946 243.171	MG/Yr MG/Yr					
Real Losses = Water NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ad Unmetered	2	205.946 243.171 260.258	MG/Yr MG/Yr MG/Yr					
Real Losses = Wate  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille SYSTEM DATA	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ad Unmetered Length of mains:		205.946 243.171 260.258	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbiller  SYSTEM DATA	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: 4D inactive service connections:		205.946 243.171 260.258	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbiller  SYSTEM DATA	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ad Unmetered Length of mains:		205.946 243.171 260.258 249.1 16,717 67	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a	water Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  AD inactive service connections:  Service connection density:  at the curbstop or property line?	+ 7 9	205.946 243.171 260.258 249.1 16,717 67 No	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service	e line, <u>beyond</u>	the prope	erty boun	dary.	
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a	water Losses:  NON-REVENUE WATER:  d Unmetered  Length of mains:  Service connections: Service connection density:	+ 7 9	205.946 243.171 260.258 249.1 16,717 67	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of service	e line, <u>beyond</u>	the prope	erty boun	dary.	
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a	water Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  AD inactive service connections:  Service connection density:  at the curbstop or property line?	+ 7 9 7	205.946 243.171 260.258 249.1 16,717 67 No	MG/Yr MG/Yr  MG/Yr  miles  conn/mile main  (length of service that is the response	e line, <u>beyond</u> subility of the	the prope	erty boun	idary.	
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Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA	WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	+ 2 9 7 + 2 7 + 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of service that is the response	e line, <u>beyond</u> sublity of the	the prope utility)	rty boun	dary.	
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual	water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains: AD inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	+ 2 9 + 2 7 + 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0 90.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the response)	e line, <u>beyond</u> subility of the	the prope utility)	rty boun	dary.	
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cost	water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: cost of operating water system: st (applied to Apparent Losses):	• 2 9 • 2 7 • 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0 90.0	MG/Yr MG/Yr  MG/Yr  miles  conn/mile main  ft (length of service that is the response)  \$/Year \$/1000 gallons (US)	e line, <u>beyond</u> sublity of the	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cost	water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains: AD inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	• 2 9 • 2 7 • 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0 90.0	MG/Yr MG/Yr  MG/Yr  miles  conn/mile main  (length of service that is the response that is the response to the response to the response that is the response to the response t	nsibility of the	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cost	water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: cost of operating water system: st (applied to Apparent Losses):	• 2 9 • 2 7 • 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0 90.0	MG/Yr MG/Yr  MG/Yr  miles  conn/mile main  ft (length of service that is the response)  \$/Year \$/1000 gallons (US)	nsibility of the	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cos Variable production	SSES OF CARL)  The Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: ad Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):	• 2 9 • 2 7 • 2 8	205.946 243.171 260.258 249.1 16,717 67 No 30.0 90.0 \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr  MG/Yr  miles  conn/mile main  ft (length of service that is the response)  \$/Year \$/1000 gallons (US) \$/Million gallons	nsibility of the	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  AD inactive service connections:  Service connection density:  at the curbstop or property line? length of customer service line:  Average operating pressure:  cost of operating water system:  st (applied to Apparent Losses):  n cost (applied to Real Losses):	• 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual  Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:	SSES OF CARL)  The Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: ad Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):	• 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual  Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted:  PRIORITY AREAS FOR ATTENTION:	water Losses:  Water Losses:  Water Losses:  Water Losses:  Water Losses:  Non-Revenue Water:  Length of mains:  Length of mains: Service connections: Service connection density:  at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):  scale for the components of consum	+ 2 7 + 7 8 + 2 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual  Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:	water Losses:  Water Losses:  Water Losses:  Water Losses:  Water Losses:  Non-Revenue Water:  Length of mains:  Length of mains: Service connections: Service connection density:  at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):  scale for the components of consum	+ 2 7 + 7 8 + 2 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual  Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted:  PRIORITY AREAS FOR ATTENTION:	water Losses:  Water Losses:  Water Losses:  Water Losses:  Water Losses:  Non-Revenue Water:  Length of mains:  Length of mains: Service connections: Service connection density:  at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):  scale for the components of consum	+ 2 7 + 7 8 + 2 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cost Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted:  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit access	water Losses:  Water Losses:  Water Losses:  Water Losses:  Water Losses:  Non-Revenue Water:  Length of mains:  Length of mains: Service connections: Service connection density:  at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses):  scale for the components of consum	+ 2 7 + 7 8 + 2 9	205.946 243.171 260.258  249.1 16,717 67  No 30.0 90.0  \$4,087,821 \$10.21 \$3,096.39	MG/Yr MG/Yr miles conn./mile main ft (length of service that is the response) s/Year \$/1000 gallons (US) \$/Million gallons	Use Customer R	utility)			

	AWWA Free Water Audit So	ftware: WAS v5
	System Attributes and Performan	CE Indicators  American Water Works Associat Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Uniontown/Connellsville Dist	rict 230 (5260022;5260020)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	S: 86 out of 100 ***
system Attributes:	Apparent Lagger	27 225 MCN/2
	Apparent Losses: + Real Losses:	37.225 MG/Yr 205.946 MG/Yr
	= Water Losses:	243.171 MG/Yr
	Lineveidable Appual Deal League (HARI):	
	Unavoidable Annual Real Losses (UARL):	150.05 MG/Yr
	Annual cost of Apparent Losses:	\$380,218
	Annual cost of Real Losses:	\$2,103,530 Valued at Customer Retail Unit Cost  Return to Reporting Worksheet to change this assumption
Performance Indicators:		
	Non-revenue water as percent by volume of Water Supplied:	21.3%
Financial:	Non-revenue water as percent by cost of operating system:	65.0% Real Losses valued at Customer Retail Unit Cost
Г	Apparent Losses per service connection per day:	6.10 gallons/connection/day
	Real Losses per service connection per day:	33.75 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.38 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	205.95 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.37
	ems with a low service connection density of less than 32 service of	

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e unavailable please estimate a value. Indicate your confidence in the accuracy of the mouse over the cell to obtain a description of the grades.  ON GALLONS (US) PER YEAR  e where lelow it.  Grading in column 'E' and 'J'
mouse over the cell to obtain a description of the grades  ON GALLONS (US) PER YEAR  where selow it.  Master Meter and Supply Error Adjustments grading in column 'E' and 'J'
where elow it.
## Master Meter and Supply Error Adjustments  ### grading in column 'E' and 'J'
336.526 MG/Yr
0.350 MG/Yr
0.000 MG/Yr    Particle 1
Enter negative % or value for under-registration
34.537 MG/Yr Enter positive % or value for over-registration
Click here:
280.444 MG/Yr for help using option
0.000 MG/Yr buttons below
3.878 Mg/Yr Pcnt: Value:
4.182 MG/Yr 1.25% • MG
pplied but not displayed
88.504 MG/Yr percentage of water supplied OR value
46.033 MG/Yr
Pcnt: Value:
0.836 MG/Yr 0.25% ● ○ MG
applied but not displayed
5.802 MG/Yr 2.00% • O MG
4.207 MG/Yr 0 4.207 MG
35.187 MG/Yr
16.033 MG/Yr
54.093 MG/Yr
116.4 miles
6,055
52 conn./mile main
No (length of service line, beyond the property boundary,
(length of service line, beyond the property boundary,
50.0 ft that is the responsibility of the utility)
50.0 ft that is the responsibility of the utility)
50.0 ft that is the responsibility of the utility)  90.0 psi
50.0 ft that is the responsibility of the utility)  90.0 psi  26,937 \$/Year
50.0 ft that is the responsibility of the utility)  90.0 psi  26,937 \$/Year \$10.21 \$/1000 gallons (US)
50.0 ft that is the responsibility of the utility)  90.0 psi  26,937 \$/Year  \$10.21 \$/1000 gallons (US)
50.0 ft that is the responsibility of the utility)  90.0 psi  26,937 \$/Year \$10.21 \$/1000 gallons (US)
50.0 ft that is the responsibility of the utility)  90.0 psi  26,937 \$/Year \$10.21 \$/1000 gallons (US)
90.0 psi  26,937 \$/Year \$10.21 \$/1000 gallons (US)  713.40 \$/Million gallons    Vise Customer Retail Unit Cost to value real losses
90.0 psi  26,937 S/Year  \$10.21 S/1000 gallons (US)  \$7/3.40 S/Million gallons  Use Customer Retail Unit Cost to value real losses
90.0 psi  26,937 S/Year  \$10.21 S/1000 gallons (US)  \$7/3.40 S/Million gallons  Use Customer Retail Unit Cost to value real losses
90.0 psi  26,937 S/Year  \$10.21 S/1000 gallons (US)  \$7/3.40 S/Million gallons  Use Customer Retail Unit Cost to value real losses
90.0 psi  26,937 S/Year  \$10.21 S/1000 gallons (US)  \$7/3.40 S/Million gallons  Use Customer Retail Unit Cost to value real losses
p 81 41 35 416

	AWWA Free Water Audit Sof System Attributes and Performance	
	Water Audit Report for: PAW- Brownsville District 250 (5260	
	Reporting Year: 2014 1/2014 - 12/2014	1000)
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	3: 86 out of 100 ***
ystem Attributes:		
	Apparent Losses:	10.845 MG/Yr
	+ Real Losses:	35.187 MG/Yr
	= Water Losses:	46.033 MG/Yr
	Unavoidable Annual Real Losses (UARL):	64.66 MG/Yr
	Annual cost of Apparent Losses:	\$110,776
	Annual cost of Real Losses:	\$359,405 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	16.2%
	Non-revenue water as percent by cost of operating system:	38.7% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	4.91 gallons/connection/day
0	Real Losses per service connection per day:	15.92 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.18 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	35.19 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.54
This performance in disclarate and in the second	ems with a low service connection density of less than 32 service con	

				ater Audit S							
		R	eportin	g Workshe	et						Vater Works Associ 114, All Rights Rese
Click to access definition Click to add a comment	Water Audit Report fo Reporting Yea			/ Ellwood Ditrict	310 (63700	34;6370011)					
Please enter data in the white cells below. input data by grading each component (n/a	Where available, metered values sh or 1-10) using the drop-down list to	ould be used the left of the	if metered input cell.	values are unavail Hover the mouse of	able please es ever the cell to	timate a value. obtain a descrip	Indicate otion of the	your confi ne grades	dence in t	he accuracy	of the
	All vol	umes to be	entered a	s: MILLION GAI	LONS (US)	PER YEAR			0.2		
	correct data grading for each inp tility meets or exceeds <u>all</u> criteria						Mast	ter Meter	and Sup	ply Error Ac	ljustments
WATER SUPPLIED			<	Enter grading	in column 'E	' and 'J'	>	Pont:		Value:	
	Volume from own sources		9	2,921.468		+ ?	9	-2.30%			MG/Yr
	Water imported Water exported		n/a 9	0.000 77.646	20100000	+ 7		0.00%	• C		MG/Yr MG/Yr
	vialer exported	- ma ma	9	77.040	MOZII	-	_		-	due for und	er-registration
	WATER SUPPLIED	):		2,912.598	MG/Yr			-			registration
AUTHORIZED CONSUMPTION									-	Click here:	2
	Billed metered	+ 7	10	1,798.593	MG/Yr					or help using	
	Billed unmetered		n/a		MG/Yr				t	outtons below	
	Unbilled metered		10	11.370				Pont:		Value:	
Defeut	Unbilled unmetered		41	36.407			3	1.25%	• 0		MG/Y
	option selected for Unbilled ur		a grading			ayed			Ť,	Jse buttons to	n select
	AUTHORIZED CONSUMPTION	: 7		1,846.370	MG/Yr					entage of wal	
							_			OR value	
WATER LOSSES (Water Supplied - A	authorized Consumption)			1,066.227	MG/Yr				r		
Apparent Losses								Pont:	Į.	Value:	
Apparent Cosses	Unauthorized consumption	+ 7		7 281	MG/Yr			0.25%		value.	MG/Yr
Default option	selected for unauthorized cor		- a gradin	The state of the s		played		0.2070			, morn
	Customer metering inaccuracies		7	36.938			1	2.00%	• 0	_	MG/Y
	Systematic data handling errors		7	26.979				2.0076	0	26.979	MG/Y
Real Losses (Current Annual Real Lo	Apparent Losses	2		71.198							
Real Losses (Current Annual Real Lo	Apparent Losses osses or CARL) ter Losses - Apparent Losses	7		71.198 995.029	MG/Yr						
Real Losses (Current Annual Real Lo	Apparent Losses	7		71.198	MG/Yr						
Real Losses (Current Annual Real Lo Real Losses = War MON-REVENUE WATER	Apparent Losses  OSSES OF CARL)  ter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER	: ?		71.198 995.029	MG/Yr MG/Yr MG/Yr						
Real Losses (Current Annual Real Losses = War Re	Apparent Losses  OSSES OF CARL)  ter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER	: ?		71.198 995.029 1,066.227	MG/Yr MG/Yr MG/Yr						
Real Losses (Current Annual Real Losses = War Re	Apparent Losses  OSSES OF CARL)  ter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  ed Unmetered	7		71.198 995.029 1,066.227 1,114.005	MG/Yr MG/Yr MG/Yr MG/Yr						
Real Losses (Current Annual Real Lo Real Losses = War NON-REVENUE WATER = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA	Apparent Losses  OSSES OF CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  ed Unmetered  Length of mains	7	9 9	71.198 995.029 1,066.227 1,114.005	MG/Yr MG/Yr MG/Yr						
Real Losses (Current Annual Real Lo Real Losses = War NON-REVENUE WATER = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA	Apparent Losses  OSSES OF CARL)  ter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  ed Unmetered	7	9 9 9	71.198 995.029 1,066.227 1,114.005	MG/Yr MG/Yr MG/Yr MG/Yr	in					
Real Losses (Current Annual Real Lo Real Losses = War NON-REVENUE WATER = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA	Apparent Losses  OSSES OF CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  Ed Unmetered  Length of mains  ND inactive service connections  Service connection density	7		71.198 995.029 1,066.227 1,114.005 877.2 30,737 35	MG/Yr MG/Yr MG/Yr miles	in					
Real Losses (Current Annual Real Losses = Water Losses + Unbilled Metered + Unbilled System Data  Number of active Affine Are customer meters typically located.	Apparent Losses  OSSES OF CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  ed Unmetered  Length of mains  ND inactive service connections  Service connection density  at the curbstop or property line?	7	9	71.198 995.029 1,066.227 1,114.005 877.2 30,737 35	MG/Yr MG/Yr MG/Yr MG/Yr miles conn/mile ma	th of service line			erty boun	dary.	
Real Losses (Current Annual Real Losses = Water Losses + Unbilled Metered + Unbilled System Data  Number of active Affine Are customer meters typically located.	Apparent Losses  OSSES OF CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  Ed Unmetered  Length of mains  ND inactive service connections  Service connection density	7	9	71.198 995.029 1,066.227 1,114.005 877.2 30,737 35	MG/Yr MG/Yr MG/Yr MG/Yr miles conn/mile ma				erty boun	dary.	
Real Losses (Current Annual Real Losses = Water Losses + Unbilled Metered + Unbilled System Data  Number of active Affine Are customer meters typically located.	Apparent Losses  OSSES OF CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  ed Unmetered  Length of mains  ND inactive service connections  Service connection density  at the curbstop or property line?	7	7	71.198 995.029 1,066.227 1,114.005 877.2 30,737 35	MG/Yr MG/Yr MG/Yr miles conn./mile ma	th of service line			erty boun	dary.	
Real Losses (Current Annual Real Losses = War Real Losses = War NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active African Are customer meters typically located Average	Apparent Losses  Disses or CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  and Unmetered  Length of mains  No inactive service connections  Service connection density  at the curbstop or property line?	7	7	71.198 995.029 1,066.227 1,114.005 877.2 30,737 35 No 52.5	MG/Yr MG/Yr MG/Yr miles conn./mile ma	th of service line			erty boun	dary.	
Real Losses (Current Annual Real Lo Real Losses = War Real Losses	Apparent Losses  Disses or CARL)  Iter Losses - Apparent Losses  WATER LOSSES  NON-REVENUE WATER  and Unmetered  Length of mains  No inactive service connections  Service connection density  at the curbstop or property line?	7	7 8	71.198 995.029 1,066.227 1,114.005 877.2 30,737 35 No 52.5	MG/Yr MG/Yr MG/Yr MG/Yr miles conn/mile ma ft (leng ft that)	th of service line			erty boun	dary.	
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	AWWA Free Water Audit Soft	
	System Attributes and Performance	American Water Works Associal Copyright © 2014, All Rights Reser
	Water Audit Report for: PAW- New Castle / Ellwood Ditrict 310	(6370034;6370011)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS:	86 out of 100 ***
ystem Attributes:		
	Apparent Losses:	71.198 MG/Yr
	+ Real Losses:	995.029 MG/Yr
	= Water Losses:	1,066.227 MG/Yr
	Unavoidable Annual Real Losses (UARL):	403.91 MG/Yr
	Annual cost of Apparent Losses:	\$727,221
	Annual cost of Real Losses:	\$10,163,223 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	38.2%
T marroan.	Non-revenue water as percent by cost of operating system:	152.4% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	0.25
		6.35 gallons/connection/day
Operational Efficiency:	Real Losses per service connection per day:	88.69 gallons/connection/day
	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.93 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	995.03 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.46
This performance indicator applies for such	ems with a low service connection density of less than 32 service conne	

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		R	eporti	ng Workshee	<u>t</u>					Copyright © 2	Water Works As 014, All Rights F
Click to access definition	Vater Audit Report for:	PAW- BI	utler Dist	rict 330 (5100012	1						
Click to add a comment	Reporting Year:	and the state of the second	the same of the sa	1/2014 - 12/2014							
lease enter data in the white cells below. Where ava	ilable metered values sho	uld be used	d: if metere	d values are unavail	able please e	estimate a value	Indicate	vour confi	fence in	the accuracy	of the
put data by grading each component (n/a or 1-10) us									zuriou iii	ine accuracy	or the
	All volur	nes to be	entered	as: MILLION GAL	LONS (US	PER YEAR					
	ita grading for each input										
	s or exceeds <u>all</u> criteria f	or that gra			in column "	E' and ' I'			and Sup	ply Error A	djustments
VATER SUPPLIED		-		Enter grading		and 5		Pont:		Value:	
VOIL	ume from own sources: Water imported:		9 n/a	2,577.011	MG/Yr		9	-2.50%			MC
	Water exported:				MG/Yr	E-10			• (		MC
											der-registration
	WATER SUPPLIED:			2,643.088	MG/Yr		Ente	positive	% or va	lue for over	-registration
UTHORIZED CONSUMPTION										Click here:	?
	Billed metered:	+ ?	10	1,974.869						for help using buttons below	
	Billed unmetered: Unbilled metered:		n/a 10	0.883	MG/Yr			Pont:		Value:	"
	Unbilled unmetered:			33.039				1.25%	• 0	) l	MG
Default option sel	lected for Unbilled unn		a gradin			layed			4		
	IZED CONSUMPTION:	?		2,008.791						Use buttons	
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ATER LOSSES (Water Supplied - Authorized	1 Consumption)			634.298	MG/Yr						
pparent Losses					usto ann			Pont:	*	Value:	
	uthorized consumption:			6.608				0.25%	• 0		MG
Default option selected			10			spiayed			0 0		
	metering inaccuracies: ic data handling errors:		7	40.321 29.623				2.00%	0 0	29.623	MC
Systemati	c data nanding errors.			29.023	WG/11			100000000000000000000000000000000000000	00	23.023	MG
					MG/Yr						
eal Losses (Current Annual Real Losses or C Real Losses = Water Losse		7		557.745							
		?			MG/Yr						
Real Losses = Water Losse	es - Apparent Losses:	7		557.745	MG/Yr						
Real Losses = Water Losse ON-REVENUE WATER NO	WATER LOSSES: WATER LOSSES: N-REVENUE WATER:	?		557.745	MG/Yr MG/Yr						
Real Losses = Water Losse ON-REVENUE WATER NO	WATER LOSSES: WATER LOSSES: N-REVENUE WATER:			557.745 634.298	MG/Yr MG/Yr						
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter	WATER LOSSES: WATER LOSSES: N-REVENUE WATER:			557.745 634.298	MG/Yr MG/Yr						
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA	WATER LOSSES:  WATER LOSSES:  N-REVENUE WATER: red  Length of mains:	7	9	557.745 634.298 668.219	MG/Yr MG/Yr MG/Yr						
Real Losses = Water Losse  ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive	WATER LOSSES: WATER LOSSES: W-REVENUE WATER: red  Length of mains: re service connections:	7	9 9	557.745 634.298 668.219 343.0 21,168	MG/Yr MG/Yr MG/Yr	nain					
ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive	WATER LOSSES:  WATER LOSSES:  N-REVENUE WATER: red  Length of mains:	7		557.745 634.298 668.219 343.0 21,168	MG/Yr MG/Yr MG/Yr	nain					
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi	WATER LOSSES:  WATER LOSSES:  N-REVENUE WATER: red  Length of mains: e service connections: lice connection density:	+ 7 + 7 7	9	557.745 634.298 668.219 343.0 21,168 62 No	MG/Yr MG/Yr MG/Yr miles conn./mile m	nain	e, <u>beyon</u>	<u>d</u> the prop	erty bour	ndary,	
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi	WATER LOSSES: WATER LOSSES: WATER LOSSES: WATER LOSSES: Length of mains: Length of mains: see service connections: lice connection density:	+ 7 + 7 7	9	557.745 634.298 668.219 343.0 21,168 62	MG/Yr MG/Yr MG/Yr miles conn./mile m		title f at-	attin 1	erty bour	ndary,	
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Real Losses = Water Losse  ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the cur Average length of	WATER LOSSES:  WATER LOSSES:  N-REVENUE WATER: red  Length of mains: e service connections: lice connection density:	7 7 7 7 7	7	557.745 634.298 668.219 343.0 21,168 62 No	MG/Yr MG/Yr MG/Yr miles conn./mile rr	ngth of service lin	title f at-	attin 1	erty bour	ndary,	
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Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi  Are customer meters typically located at the cur Average length of  Average  OST DATA	WATER LOSSES:  WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: reconnection density: restop or property line? recustomer service line: ge operating pressure:		7 8	557.745 634.298 668.219 343.0 21,168 62 No 65.0	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha	ngth of service lin	title f at-	attitu1	erty bour	ndary,	
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi  Are customer meters typically located at the cur Average length of  Average  OST DATA  Total annual cost of or	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: ice connection density: restop or property line? restop or property line: ge operating pressure:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 8 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha psi	ngth of service lin t is the responsib	title f at-	attitu1	erty bour	ndary,	
Real Losses = Water Losse  ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter VSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the cur Average length of Average  OST DATA	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: lice connection density: rbstop or property line? customer service line: ge operating pressure: perating water system: d to Apparent Losses):		7 8 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha	ngth of service lin t is the responsib	ility of th	e utility)		ndary,	s
Real Losses = Water Losse  ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactiv Servi Are customer meters typically located at the cur Average length of Average  OST DATA  Total annual cost of or Customer retail unit cost (applied	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: lice connection density: rbstop or property line? customer service line: ge operating pressure: perating water system: d to Apparent Losses):		7 8 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha psi \$/Year \$/1000 gall	ngth of service lin t is the responsib	ility of th	e utility)			s
ON-REVENUE WATER  NO Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the cur Average length of Average OST DATA  Total annual cost of of Customer retail unit cost (applied Variable production cost (applied	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: lice connection density: rbstop or property line? customer service line: ge operating pressure: perating water system: d to Apparent Losses):		7 8 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha psi \$/Year \$/1000 gall	ngth of service lin t is the responsib	ility of th	e utility)			s
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmeter (STEM DATA)  Number of active AND inactive Service customer meters typically located at the currence Average length of Average (STEM DATA)  Total annual cost of of Customer retail unit cost (applied Variable production cost (applied production cost (applied Customer retail unit cus	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: lice connection density: rbstop or property line? red  customer service line: ge operating pressure: perating water system: d to Apparent Losses): pplied to Real Losses):	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	9 9 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile rr ft tha psi \$/Year \$/1000 gall	ngth of service lin t is the responsib	ility of th	e utility)			s
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi  Are customer meters typically located at the cur Average length of  Average  OST DATA  Total annual cost of op Customer retail unit cost (applied Variable production cost (applied  Variable production cost (applied  VATER AUDIT DATA VALIDITY SCORE:	Length of mains: we service connections: connection density: connection property line? customer service line: ge operating pressure: perating water system: d to Apparent Losses): opplied to Real Losses):	7	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s
NOI-REVENUE WATER NOI Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the current Average length of Average OST DATA  Total annual cost of or Customer retail unit cost (applied Variable production Cost (applied Variable	WATER LOSSES:  N-REVENUE WATER: red  Length of mains: re service connections: lice connection density: rbstop or property line? red  customer service line: ge operating pressure: perating water system: d to Apparent Losses): pplied to Real Losses):	7	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s
NOI-REVENUE WATER NOI Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the current Average length of Average OST DATA  Total annual cost of or Customer retail unit cost (applied Variable production Cost (applied Variable	Length of mains: we service connections: connection density: connection property line? customer service line: ge operating pressure: perating water system: d to Apparent Losses): opplied to Real Losses):	7	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s
NOI-REVENUE WATER NOI Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the current Average length of Average OST DATA  Total annual cost of operation of Customer retail unit cost (applied Variable production Cost (applied	Length of mains: Length	+ ?	9 9 9 9 9 score is	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s
NOI-REVENUE WATER NOI Water Losses + Unbilled Metered + Unbilled Unmeter YSTEM DATA  Number of active AND inactive Servi Are customer meters typically located at the current Average length of Average OST DATA  Total annual cost of operation of Customer retail unit cost (applied Variable production Cost (applied	Length of mains: Length	+ ?	9 9 9 9 9 score is	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s
Real Losses = Water Losse  ON-REVENUE WATER  NO  Water Losses + Unbilled Metered + Unbilled Unmeter  YSTEM DATA  Number of active AND inactive Servi  Are customer meters typically located at the cural Average length of  Average  OST DATA  Total annual cost of op  Customer retail unit cost (applied Variable production Cost (applied Variable Prod	Length of mains: Length	+ ?	9 9 9 9 9 score is	557.745 634.298 668.219 343.0 21,168 62 No 65.0 79.0 \$5,559,640 \$10.21 \$454.51	MG/Yr MG/Yr MG/Yr miles conn./mile m ft tha psi \$/Year \$/1000 gall \$/Million gall	ons (US)	Custome	e utility) r Retail Unit			s

	AWWA Free Water Audit Sof	A services VAleton VAlentin A services
	System Attributes and Performance	Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Butler District 330 (5100012)	
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	5: 86 out of 100 ***
ystem Attributes:	A	70.550 40.0%
	Apparent Losses: + Real Losses:	76.552 MG/Yr 557.745 MG/Yr
	= Water Losses:	634.298 MG/Yr
	- Water Losses.	034.290 NIG/11
	Unavoidable Annual Real Losses (UARL):	201.42 MG/Yr
	Annual cost of Apparent Losses:	\$781,904
	Annual cost of Real Losses:	\$5,696,811 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
erformance Indicators:		
Financial: -	Non-revenue water as percent by volume of Water Supplied:	25.3%
	Non-revenue water as percent by cost of operating system:	122.8% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	9.91 gallons/connection/day
	Real Losses per service connection per day:	72.19 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.91 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	557.75 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.77
	ystems with a low service connection density of less than 32 service cor	

		A STATE OF THE PARTY OF THE PAR	Water Audit Se	Sitting of					
		Repor	ting Workshee	1				American Wat opyright © 2014	er Works Ass I, All Rights R
Click to access definition Click to add a comment	Water Audit Report for Reporting Year		histrict 410 (532002 1/2014 - 12/2014	.5)					
lease enter data in the white cells below. put data by grading each component (n/a	Where available, metered values sha or 1-10) using the drop-down list to	ould be used; if mete the left of the input of	red values are unavaila	able please estimate a	value. Indica description o	te your confi f the grades	dence in the	accuracy of	the
	All volt	imes to be entere	d as: MILLION GAL	LONS (US) PER Y	EAR				
	correct data grading for each inputility meets or exceeds all criteria				M	aster Meter	and Supp	ly Error Adju	stments
ATER SUPPLIED		<	Enter grading	in column 'E' and 'J	·>	Pont:		Value:	
	Volume from own sources		786.209		+ ? 9	-2.20%	• 0		MC
	Water experted			MG/Yr	+ 7	0.009/	0 0		MG
	Water exported	1: + 7 9	1.970	MG/Yr	+ 2 n/			ue for under-	Mo
	WATER SUPPLIED	:	801.917	MG/Yr		-		e for under- e for over-re	
UTHORIZED CONSUMPTION			4	SP IN A ST			Cli	ck here:	
	Billed metered		640.497	MG/Yr			for	help using op	
	Billed unmetered			MG/Yr			bu	ttons below	
	Unbilled metered	THE REAL PROPERTY AND PERSONS NAMED IN COLUMN 1	0.172			Pcnt:	- 0	Value:	
	Unbilled unmetered		10.024			1.25%	• 0		MC
Default of	option selected for Unbilled un	metered - a gradi	ng of 5 is applied b	ut not displayed			1		
	AUTHORIZED CONSUMPTION	: 7	650.693	MG/Yr				se buttons to s stage of water OR	
ATER LOSSES (Water Supplied - A	Authorized Consumption)		151.224	MG/Yr			-	value	
pparent Losses	The state of the s	_		MC. II		Pont:		Value:	
pparent Losses	Unauthorized consumption:	+ ?	2.005	MON		0.25%		Value.	мс
Default option	selected for unauthorized con		The second secon			0.2070			INIC
							2 0	-	
	Customer metering inaccuracies:		13.075			2.00%	0 0	2.007	MC
	Systematic data handling errors:		9.607	MG/Yr		The state of	0 •	9.607	MC
val Losses (Current Annual Real Lo	Apparent Losses:	7	24.687	MG/Yr					
	osses or CARL) iter Losses - Apparent Losses:	7	126.537	MG/Yr					
	osses or CARL)	7		MG/Yr					
Real Losses = Wa	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		126.537	MG/Yr					
Real Losses = Wa ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		126.537 151.224	MG/Yr					
Real Losses = Wa ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		126.537 151.224	MG/Yr					
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ed Unmetered Length of mains:	2 2 9	126.537 151.224 161.420	MG/Yr					
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA	NON-REVENUE WATER: ed Unmetered  Length of mains: ND inactive service connections:	2 2 9 9 7 9 9	126.537 151.224 161.420 120.4 8,347	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ed Unmetered Length of mains:	2 2 9 9 7 9 9	126.537 151.224 161.420 120.4 8,347	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active Al	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:	7 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69	MG/Yr MG/Yr MG/Yr miles conn./mile main					
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active Affective Affectiv	NON-REVENUE WATER:  Length of mains: ND inactive service connections. Service connection density: at the curbstop or property line?	2 9 9 2 9 2 9	126.537 151.224 161.420 120.4 8,347 69 No	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se	evice line, <u>bey</u>		erfy bounds	ury,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active After a customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:	2 9 9 2 9 2 9	126.537 151.224 161.420 120.4 8,347 69	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se	ervice line, <u>be</u> y sponsibility of		erty bounda	ıry,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  (STEM DATA  Number of active After Customer meters typically located	NON-REVENUE WATER:  Length of mains: ND inactive service connections. Service connection density: at the curbstop or property line?	7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re			erty bounda	ary,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active Afre customer meters typically located  Average	NON-REVENUE WATER: ed Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line?	7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re			erty bounda	ary,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active At  Are customer meters typically located  Average	NON-REVENUE WATER:  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re			erty bounda	ary,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active Afre customer meters typically located Average  OST DATA  Total annual	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? I length of customer service line: Average operating pressure:	2 9 9 7 9 7 4 7 8 4 7 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re	esponsibility of		erty bounda	ary.	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located Average  DST DATA  Total annual Customer retail unit cos	NON-REVENUE WATER:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: set (applied to Apparent Losses):	7 9 9 7 9 9 7 8 P 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi	esponsibility of	the utility)			
Real Losses = Wa  DN-REVENUE WATER  Nater Losses + Unbilled Metered + Unbilled  STEM DATA  Number of active AN  re customer meters typically located Average  DST DATA  Total annual Customer retail unit cost	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? I length of customer service line: Average operating pressure:	7 9 9 7 9 9 7 8 P 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0	MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US	esponsibility of				
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AP  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit cor Variable production	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ded Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line? delength of customer service line:  Average operating pressure:  I cost of operating water system:  set (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 7 9 9 7 8 P 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi	esponsibility of	the utility)			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille (*STEM DATA  Number of active After  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit con Variable production	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: cost of operating water system: set (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 7 9 9 4 7 9 9 4 7 9 9 4 7 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi	esponsibility of	the utility)			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active Affective Affecti	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: cost of operating water system: set (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0 \$2,243,484 \$10.21 \$438.94	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			
CON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  Water DATA  Number of active Affective Affe	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? I length of customer service line: Average operating pressure:  I cost of operating water system: st (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224 161.420 120.4 8,347 69 No 35.0 98.0 \$2,243,484 \$10.21 \$438.94	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active Affective	NON-REVENUE WATER:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? elength of customer service line: Average operating pressure: cost of operating water system: sit (applied to Apparent Losses): on cost (applied to Real Losses):	2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224  161.420  120.4 8,347 69  No 35.0  98.0  \$2,243,484 \$10.21 \$438.94  Si included in the calculations in the calculation in the calculation.	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille PYSTEM DATA  Number of active AP  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit convariable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Inseed on the information provided, audit according to the production of the productio	NON-REVENUE WATER:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? elength of customer service line: Average operating pressure: cost of operating water system: sit (applied to Apparent Losses): on cost (applied to Real Losses):	2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224  161.420  120.4 8,347 69  No 35.0  98.0  \$2,243,484 \$10.21 \$438.94  Si included in the calculations in the calculation in the calculation.	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active Affective	NON-REVENUE WATER:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? elength of customer service line: Average operating pressure: cost of operating water system: sit (applied to Apparent Losses): on cost (applied to Real Losses):	2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224  161.420  120.4 8,347 69  No 35.0  98.0  \$2,243,484 \$10.21 \$438.94  Si included in the calculations in the calculation in the calculation.	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Aff Are customer meters typically located Average  COST DATA  Total annual Customer retail unit control Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit active and active and active and active active active and active act	NON-REVENUE WATER:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: ed Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? elength of customer service line: Average operating pressure: cost of operating water system: sit (applied to Apparent Losses): on cost (applied to Real Losses):	2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	126.537 151.224  161.420  120.4 8,347 69  No 35.0  98.0  \$2,243,484 \$10.21 \$438.94  Si included in the calculations in the calculation in the calculation.	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the re psi \$/Year \$/1000 gallons (US \$/Million gallons	) Use Custor	the utility)			

	AWWA Free Water Audit So	American Minimum American
	System Attributes and Performan	<u>ce Indicators</u> Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Indiana District 410 (5320025	5)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE I	S: 86 out of 100 ***
system Attributes:	Apparent League I	24 697 MCM-
	Apparent Losses:  + Real Losses: [	24.687 MG/Yr 126.537 MG/Yr
	= Water Losses:	151.224 MG/Yr
	Unavoidable Annual Real Losses (UARL): [	82.92 MG/Yr
	Annual cost of Apparent Losses:	\$252,154
	Annual cost of Real Losses:	\$1,292,445 Valued at Customer Retail Unit Cost
	Affilial cost of Near Losses.	Return to Reporting Worksheet to change this assumption
Performance Indicators:		
	Non-revenue water as percent by volume of Water Supplied:	20.1%
Financial:	Non-revenue water as percent by cost of operating system:	73.5% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	8.10 gallons/connection/day
	Real Losses per service connection per day:	41.53 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.42 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	126.54 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.53
	tems with a low service connection density of less than 32 service co	

	MORNING THE PROPERTY OF THE PARTY OF THE PAR	THE	ree w	later Audit S	oftwar	re:					WAS v5.0
0.00		R	eporti	ng Workshe	et					American Water Copyright © 2014, A	Morks Asso II Rights Re
Click to access definition  Click to add a comment	later Audit Report for: Reporting Year:			vney District 420 1/2014 - 12/2014	(6330010	0)					
Please enter data in the white cells below. Where avail nput data by grading each component (n/a or 1-10) us									dence in th	he accuracy of the	,
				as: MILLION GAL	LONS (I	US) PER YEAR					
	ta grading for each input s or exceeds <u>all</u> criteria fo		ade and al	all grades below it.					and Sup	ply Error Adjustr	ments
WATER SUPPLIED				Enter grading		The second second		Pcnt:		Value:	
Volu	ume from own sources: Water imported:		9 n/a	357.447	MG/Yr MG/Yr	+ 3		4.90%	. 0		MG/
	Water exported:		n/a n/a		MG/Yr MG/Yr				0 0		MG/
	•						Ente		% or va	alue for under-re	egistration
	WATER SUPPLIED:			340.750	MG/Yr		Ente	r positive		ue for over-regis	stration
AUTHORIZED CONSUMPTION	Billed metered:	+ 2	10	216 176	MONE					Click here:	
	Billed metered:		10 n/a	216.176	MG/Yr MG/Yr					or help using option	'n
	Unbilled metered:				MG/Yr			Pont:		Value:	
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	ZED CONSUMPTION:	7		220.551						Use buttons to seld entage of water su	
										OR value	
VATER LOSSES (Water Supplied - Authorized	Consumption)			120.199	MG/Yr						
Apparent Losses								Pcnt:		Value:	
	thorized consumption:	+ ?		0.852	MG/Yr			0.25%	• 0		MG
Default option selected			- a gradi	ng of 5 is applied	but not	displayed					
Customer r	metering inaccuracies:	+ 7	7	4.414	MG/Yr			2.00%	• 0		MG
	c data handling errors:		7		MG/Yr			10122576	0 •	3.243	MG
Real Losses (Current Annual Real Losses or C	Apparent Losses:			8.509	MG/TI						
Real Losses = Water Losses		7		111.690	MG/Yr						
	WATER LOSSES:			120.199	MG/Yr						
NON-REVENUE WATER	N-REVENUE WATER:	7		124.574	MOVE						
NON  Water Losses + Unbilled Metered + Unbilled Unmeter				124.014	MG/11						
SYSTEM DATA	30										
VSTEM DATA											
STOTEM DATA		-		27.6							
	Length of mains:		9	87.5	miles						
Number of active AND inactive	e service connections:		9	4,212		- main					
Number of active AND inactive	-			4,212	miles	e main					
Number of active AND inactive	e service connections: ce connection density:			4,212	conn./mile		e bevon	of the prop	erty bound	dary	
Number of <u>active AND inactive</u> Service Are customer meters typically located at the curb	e service connections: ce connection density:	+ 7	9	4,212 48	conn./mile	le main (length of service lin that is the responsib	e, <u>beyon</u>	d the prope utility)	erty bound	dary,	
Number of <u>active AND inactive</u> Service Are customer meters typically located at the curb <u>Average</u> length of o	e service connections: ce connection density: ostop or property line? customer service line:	+ 7	7	4,212 48 No 30.0	conn./mile	(length of service lin	e, <u>beyon</u> ility of th	i <u>d</u> the prop e utility)	erty bound	dary.	
Number of <u>active AND inactive</u> Service Are customer meters typically located at the curb <u>Average</u> length of o	e service connections: ce connection density: bstop or property line?	+ 7	7	4,212 48 No	conn./mile	(length of service lin	e, <u>beyon</u> ility of th	id the prope utility)	erty bound	dary.	
Number of <u>active AND inactive</u> Servic Are customer meters typically located at the curb <u>Average</u> length of o	e service connections: ce connection density: ostop or property line? customer service line:	+ 7	7	4,212 48 No 30.0	conn./mile	(length of service lin	e, <u>beyon</u> ility of th	id the prope utility)	erty bound	dary.	
Number of <u>active AND inactive</u> Servic Are customer meters typically located at the curb <u>Average</u> length of o	e service connections: ce connection density: ostop or property line? customer service line: ge operating pressure:	• 2 • 2	7	4,212 48 No 30.0 94.0	ft psi	(length of service lin	e, <u>beyon</u> ility of th	id the prop e utility)	erty boun	dary.	
Number of <u>active AND inactive</u> Service Are customer meters typically located at the curb <u>Average</u> length of of Average  COST DATA  Total annual cost of op	e service connections: ce connection density: ostop or property line? customer service line: ge operating pressure:	• 2 • 2 • 2	7 8 9	4,212 48 No 30.0 94.0	ft psi	(length of service lin that is the responsib	e, <u>beyon</u> ility of th	i <u>d</u> the prop e utility)	erty boun	dary.	
Number of active AND inactive Service Are customer meters typically located at the curb Average length of of Average  COST DATA  Total annual cost of op Customer retail unit cost (applied	e service connections: ce connection density: ostop or property line? customer service line: ge operating pressure: errating water system: to Apparent Losses):	• 2 • 2 • 2 • 2 • 2	7 8 9 9	4,212 48 No 30.0 94.0 \$1,082,546 \$10.21	ft psi \$/Year \$/1000 g	(length of service lin that is the responsib	ility of th	e utility)			
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Number of active AND inactive Servic Are customer meters typically located at the curb Average length of a  Average COST DATA  Total annual cost of op Customer retail unit cost (applied Variable production cost (app	e service connections: ce connection density: costop or property line? customer service line: ge operating pressure: cerating water system: to Apparent Losses); plied to Real Losses);	• ? ? . ? . ? . ? . ? . ? . ? . ? ? ? ? ? ?	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4,212 48 No 30.0 94.0 \$1,082,546 \$10.21 \$330.94	ft psi S/Year S/1000 g S/Million g	(length of service linthat is the responsib	Customer	e utility) r Retail Unit			
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Number of active AND inactive Service Are customer meters typically located at the curb Average length of a  Average  COST DATA  Total annual cost of op Customer retail unit cost (applied Variable production cost (applied Variable production cost (applied Average  WATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the PRIORITY AREAS FOR ATTENTION:	e service connections: ce connection density: costop or property line? customer service line: ge operating pressure: cerating water system: de to Apparent Losses): plied to Real Losses):	+ ?	9 9 9 9 9 score is:	4,212 48 No 30.0 94.0 \$1,082,546 \$10.21 \$330.94	ft psi S/Year S/1000 g S/Million g	(length of service linthat is the responsib	Customer	e utility) r Retail Unit			
Number of active AND inactive Service Are customer meters typically located at the curb Average length of a Average COST DATA  Total annual cost of op Customer retail unit cost (applied Variable production cost (applied Variable production cost (applied) WATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy can	e service connections: ce connection density: costop or property line? customer service line: ge operating pressure: cerating water system: de to Apparent Losses): plied to Real Losses):	+ ?	9 9 9 9 9 score is:	4,212 48 No 30.0 94.0 \$1,082,546 \$10.21 \$330.94	ft psi S/Year S/1000 g S/Million g	(length of service linthat is the responsib	Customer	e utility) r Retail Unit			
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	System Attributes and Performance I	American Water Works Associa           Copyright © 2014, All Rights Reser
	Water Audit Report for: PAW- Punxsutawney District 420 (63300	010)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 86	out of 100 ***
ystem Attributes:		
	Apparent Losses:	8.509 MG/Yr
	+ Real Losses:	111.690 MG/Yr
	= Water Losses:	120.199 MG/Yr
	Unavoidable Annual Real Losses (UARL):	44.07 MG/Yr
	Annual cost of Apparent Losses:	\$86,907
	Annual cost of Real Losses:	\$1,140,804 Valued at Customer Retail Unit Cost
h-f		Return to Reporting Worksheet to change this assumption
erformance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	36.6%
	Non-revenue water as percent by cost of operating system:	117.5% Real Losses valued at Customer Retail Unit Cost
r	Apparent Losses per service connection per day:	5.53 gallons/connection/day
Operational Efficiency	Real Losses per service connection per day:	72.65 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.77 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	111.69 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.53

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		Reportin	g Workshee	<u>t</u>					ster Works Asso 4. All Rights Re
Click to access definition	Water Audit Report for:			1)					
Click to add a comment	Reporting Year:	2014 1/	/2014 - 12/2014						
lease enter data in the white cells below. put data by grading each component (n/a	a or 1-10) using the drop-down list to th	ne left of the input cell. I	Hover the mouse or	ver the cell to obta	ain a description o		fence in the	e accuracy of	f the
		nes to be entered a		LONS (US) PER	RYEAR				
	correct data grading for each input tility meets or exceeds <u>all</u> criteria fo	or that grade and all	grades below it.			aster Meter	and Supp	ly Error Adji	ustments
VATER SUPPLIED		<	Enter grading		d 'J'>	Pont:		Value:	
	Volume from own sources:	+ 7 9	509.936		+ 7 9	-4.40%	• 0		MG/
	Water exported:		0.000	MG/Yr	+ ?	0.00%	0 0		MG/
	Water exported:	+ 7 9	28.228	MG/Yr	+ ? n/a			for unde	r-registration
	WATER SUPPLIED:		505.178	MG/Yr		The second secon		ue for under le for over-re	r-registratior egistration
UTHORIZED CONSUMPTION							CI	ick here:	
UTHORIZED GONGOIN	Billed metered:	* 7 10	300.243	MG/Yr			for	r help using o	
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Default of	option selected for Unbilled unm	netered - a grading	of 5 is applied b	ut not displaye	d		<b>A</b>		
	AUTHORIZED CONSUMPTION:	7	306.596	MG/Yr				se buttons to	
	AG III G			Bru. T.			perce.	ntage of wate OR	r supplied
								value	
ATER LOSSES (Water Supplied - A	authorized Consumption)		198.582	MG/Yr				*******	
pparent Losses						Pont:	+	Value:	
pparam ====	Unauthorized consumption:	+ 7	1.263	MG/Yr		0.25%	0		MG
Default option	selected for unauthorized cons				ved				
				The state of the s	- Contraction of the Contraction	2 00%	• 0		MG
	Customer metering inaccuracies: Systematic data handling errors:		6.128 4.504			2.00%	0 0	4.504	MG MG
	Systematic data narrowing services		7.00	MG/TI			00	4.504	ler-
			11.895						
	osses or CARL) ater Losses - Apparent Losses:	7	186.687	MG/Yr					
	osses or CARL)	7		MG/Yr					
Real Losses = Wa	osses or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:	7	186.687 198.582	MG/Yr MG/Yr					
Real Losses = Wa	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7	186.687	MG/Yr MG/Yr					
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille	osses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7	186.687 198.582	MG/Yr MG/Yr					
Real Losses = Wa	NON-REVENUE WATER:	7	186.687 198.582 204.935	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille EYSTEM DATA	NON-REVENUE WATER:  Length of mains:	7 7 9	186.687 198.582 204.935	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille EYSTEM DATA	ND inactive service connections:		186.687 198.582 204.935	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA	NON-REVENUE WATER:  Length of mains:		186.687 198.582 204.935	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AP  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	7 9	186.687 198.582 204.935	MG/Yr MG/Yr MG/Yr miles conn./mile main	of service line, bey	and the prop	arty bound	anu	
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Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  SYSTEM DATA  Number of active AP  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line:	• 7 9 7	186.687 198.582 204.935 122.5 4,881 40 No 35.0	MG/Yr MG/Yr MG/Yr miles conn/mile main ft (length o			erty bound	ary,	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AP  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	• 7 9 7	186.687 198.582 204.935 122.5 4,881 40	MG/Yr MG/Yr MG/Yr miles conn/mile main ft (length o			erty bound	ary,	
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AP  Are customer meters typically located  Average	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line:	• 7 9 7	186.687 198.582 204.935 122.5 4,881 40 No 35.0	MG/Yr MG/Yr MG/Yr miles conn/mile main ft (length o			erty bound	ary.	
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Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Af  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  Lost of operating water system: Lost (applied to Apparent Losses):	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 86.0	MG/Yr MG/Yr miles conn/mile main ft (length o that is the psi) \$/Year \$/1000 gallons (	ne responsibility of	the utility)			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active Af  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit co	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 86.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of that is the	ne responsibility of	the utility)			
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active At  Are customer meters typically located  Average  OST DATA  Total annual  Customer retail unit co	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  Lost of operating water system: Lost (applied to Apparent Losses):	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 86.0	MG/Yr MG/Yr miles conn/mile main ft (length o that is the psi) \$/Year \$/1000 gallons (	ne responsibility of	the utility)			
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Af  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co- Variable production	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of mains: L	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9 + 7 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 86.0 \$1,255,490 \$10.21 \$517.84	MG/Yr MG/Yr miles conn/mile main ft (length o that is the psi) \$/Year \$/1000 gallons (	ne responsibility of	the utility)			
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Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active A!  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of mains: L	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9 + 7 9 + 7 9 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 \$1,255,490 \$10.21 \$517.84	MG/Yr MG/Yr MG/Yr miles conn/mile main ft that is th psi \$/Year \$/1000 gallons ( \$/Million gallons	(US)  Use Custor	the utility)			
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Af  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:  A weighted	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  It cost of operating water system: set (applied to Apparent Losses): on cost (applied to Real Losses):	+ 7 9 + 7 7 + 7 8 + 7 9 + 7 9 + 7 9 + 7 9 9 + 7 9	186.687 198.582 204.935 122.5 4,881 40 No 35.0 \$1,255,490 \$10.21 \$517.84	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of that is the state of that is the psi \$/Year \$/1000 gallons (\$/Million gallons)	(US)  Use Custor	the utility)			
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Af  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:  A weighted PRIORITY AREAS FOR ATTENTION:	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of consumptions of consumptio	+ 7 9 9 + 7 9 9 +	186.687 198.582 204.935 122.5 4.881 40 No 35.0 86.0 \$1,255,490 \$10.21 \$517.84 3510.21	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of that is the state of that is the psi \$/Year \$/1000 gallons (\$/Million gallons)	(US)  Use Custor	the utility)			
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit ac	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of consumptions of consumptio	+ 7 9 9 + 7 9 9 +	186.687 198.582 204.935 122.5 4.881 40 No 35.0 86.0 \$1,255,490 \$10.21 \$517.84 3510.21	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of that is the state of that is the psi \$/Year \$/1000 gallons (\$/Million gallons)	(US)  Use Custor	the utility)			
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Af  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:  A weighted PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit act	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of consumptions of consumptio	+ 7 9 9 + 7 9 9 +	186.687 198.582 204.935 122.5 4.881 40 No 35.0 86.0 \$1,255,490 \$10.21 \$517.84 3510.21	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of that is the state of that is the psi \$/Year \$/1000 gallons (\$/Million gallons)	(US)  Use Custor	the utility)			
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable productio  WATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit ac	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure:  It cost of operating water system: Length of cost (applied to Apparent Losses): Length of cost (applied to Real Losses): Length of consumptions of consumptio	+ 7 9 9 + 7 9 9 +	186.687 198.582 204.935 122.5 4.881 40 No 35.0 86.0 \$1,255,490 \$10.21 \$517.84 3510.21	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of that is the state of that is the psi \$/Year \$/1000 gallons (\$/Million gallons)	(US)  Use Custor	the utility)			

	AWWA Free Water Audit So	
	System Attributes and Performan	American Water Works Association. Copyright © 2014, All Rights Reserved.
	Water Audit Report for: PAW- Clarion District 430 (616000) Reporting Year: 2014 1/2014 - 12/2014	1)
System Attributes:	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
	Apparent Losses:	11.895 MG/Yr
	+ Real Losses:	186.687 MG/Yr
	= Water Losses:	198.582 MG/Yr
	Unavoidable Annual Real Losses (UARL):	51.41 MG/Yr
	Annual cost of Apparent Losses:	\$121,493
	Annual cost of Real Losses:	\$1,906,825 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial	Non-revenue water as percent by volume of Water Supplied:	40.6%
Financial:	Non-revenue water as percent by cost of operating system:	166.7% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	6.68 gallons/connection/day
	Real Losses per service connection per day:	104.79 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.22 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	186.69 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	3.63
* This performance indicator applies for	systems with a low service connection density of less than 32 service c	onnections/mile of pipeline

A	WWA Free Wa	ater Audit S	oftware:					WAS v5.0
		ng Workshe					American Water V opyright © 2014, All	Works Assor Il Rights Re
Click to access definition Water Audit Report for: Click to add a comment Reporting Year:		District 440 (503 1/2014 - 12/2014	30008)					
Please enter data in the white cells below. Where available, metered values shou input data by grading each component (n/a or 1-10) using the drop-down list to the						ence in the	a accuracy of the	
			ALLONS (US) PER YEAR	R				
To select the correct data grading for each input, the utility meets or exceeds <u>all</u> criteria for	for that grade and all	Ill grades below it.			ster Meter	and Supp	oly Error Adjustn	ments
WATER SUPPLIED			g in column 'E' and 'J'	>	Pont:		Value:	
Volume from own sources:		136.283		7 9	-2.50%	. 0		MG/Y
Water exported:			0 MG/Yr	?		0 0		MG/Y
Water exported:	+ ? n/a	0.000	0 MG/Yr	? Ente	Nise	% or value	-120,00	MG/Y
WATER SUPPLIED:		139.777	MG/Yr				ue for under-regis	
AUTHORIZED CONSUMPTION							lick here:	
Billed metered:	2 10	112.057	MG/Yr				r help using option	on
Billed unmetered:			MG/Yr				uttons below	A
Unbilled metered:			MG/Yr		Pont:		Value:	
Unbilled unmetered:	-		MG/Yr			• 0		MG/Y
Default option selected for Unbilled unm						<b>A</b>		
AUTHORIZED CONSUMPTION:	7.	113.824					se buttons to sele ntage of water sur OR	
WATER LOSSES (Water Supplied - Authorized Consumption)		25.953	NGW.			-	value	
		20.000	MG/TI					
Apparent Losses		-			Pont:	*	Value:	
Unauthorized consumption:			MG/Yr		0.25%	• 0		MG/
Default option selected for unauthorized consi	sumption - a gradin	ng of 5 is applied	d but not displayed					
Customer metering inaccuracies:			MG/Yr		2.00%	• 0		MG/
Systematic data handling errors:			MG/Yr		0.5%	0 •	1.681	MG/
The state of the s								
Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:	7	21.636						
WATER LOSSES:		25.953	MG/Yr					
NON-REVENUE WATER NON-REVENUE WATER:	2	27.720	MG/Yr					
= Water Losses + Unbilled Metered + Unbilled Unmetered								_
SYSTEM DATA								
Length of mains:		24.1	miles					
Number of active AND inactive service connections:		2,482						
Service connection density:	?		conn./mile main					
Are customer meters typically located at the curbstop or property line?		No	(length of service			erty bound/	arv.	
Average length of customer service line:	+ 7 7	30.0	ft that is the respo			***	.,.	
Average operating pressure:		75.0	1 mg					
			psi					
COST DATA								
Total annual cost of operating water system:	+ 7 9	\$599,320	\$/Year		1			
Customer retail unit cost (applied to Apparent Losses):			\$/1000 gallons (US)				1	
Variable production cost (applied to Real Losses):		Contract processing	The state of the s	Use Custom	er Retail Unit C	Cost to valu	neal losses	
reliano historiani seri (2)			S/William gallace	Use	f Notes	,U24	I Foot hearn.	_
NATER AUDIT DATA VALIDITY SCORE:								
***	" YOUR SCORE IS:	. 86 out of 100 ***						
A weighted scale for the components of consump	ption and water loss is	s included in the cal	culation of the Water Audi	it Data Valid	ity Score		777	
PRIORITY AREAS FOR ATTENTION:								
Based on the information provided, audit accuracy can be improved by addressing	ng the following compo	onents:						
1: Volume from own sources								
2: Unauthorized consumption								
3: Customer metering inaccuracies								

	AWWA Free Water Au		WAS v5. American Water Works Association
	System Attributes and Perfo	rmance Indicators	Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Kittanning District 44	0 (5030008)	
	Reporting Year: 2014 1/2014 - 12/2	014	
	*** YOUR WATER AUDIT DATA VALIDITY S	CORE IS: 86 out of 100 ***	
System Attributes:		4.040	
	Apparent L		
	+ Real L		
	= Water Lo	sses: 25.953	WG/YF
	Unavoidable Annual Real Losses (U	ARL): 16.66	MG/Yr
	Annual cost of Apparent L	osses: \$44,100	
	Annual cost of Real L	osses: \$220,986	Valued at Customer Retail Unit Cost
		,	Return to Reporting Worksheet to change this assumption
Performance Indicators:			
Financial:	Non-revenue water as percent by volume of Water Su	oplied: 19.8%	
i manciai.	Non-revenue water as percent by cost of operating s	ystem: 47.2%	Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per	er day: 4.77	gallons/connection/day
	Real Losses per service connection p	er day: 23.88	gallons/connection/day
Operational Efficiency:	Real Losses per length of main pe	r day*: N/A	
	Real Losses per service connection per day per psi pre	gallons/connection/day/psi	
	From Above, Real Losses = Current Annual Real Losses (	CARL): 21.64	million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/I	JARL]: 1.30	

		WWA Free	Water Audit So	oftware:				WAS v5.0
		Repor	ting Workshee	t			American Water \ Copyright © 2014, Al	Works Association Il Rights Reserved
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:	PAW- Warren D 2014	District 450 (662002 1/2014 - 12/2014	0)				
Please enter data in the white cells input data by grading each compon	below. Where available, metered values sho ent (n/a or 1-10) using the drop-down list to the	uld be used; if mete	ered values are unavailable. Hover the mouse of	able please estimate ver the cell to obtain	a value. Indicate a description of t	your confider he grades	nce in the accuracy of the	,
	All volum	nes to be entere	ed as: MILLION GAL	LONS (US) PER	YEAR			
To sele	ect the correct data grading for each input the utility meets or exceeds <u>all</u> criteria				Mas	ter Meter ar	nd Supply Error Adjustr	ments
WATER SUPPLIED		<	Enter grading	in column 'E' and	'J'>	Pont:	Value:	
	Volume from own sources:		649.550		+ 7 9	0.0070	• 0	MG/Yr MG/Yr
	Water imported: Water exported:		0.000	MG/Yr MG/Yr	+ 7		• 0	MG/Yr
							% or value for under-re	5
	WATER SUPPLIED:		689.544	MG/Yr	Ente	er positive %	or value for over-regis	stration
AUTHORIZED CONSUMPTION							Click here:	
	Billed metered: Billed unmetered:	7 10 n/a	423.296 0.000				for help using option	on
	Unbilled metered:		0.000			Pcnt:	Value:	
	Unbilled unmetered:	+ 7	8.619	MG/Yr		1.25%	• 0	MG/Yr
De	efault option selected for Unbilled unr	netered - a grad	ling of 5 is applied b	ut not displayed			1	
	AUTHORIZED CONSUMPTION:	7	431.915	MG/Yr			Use buttons to sele percentage of water su OR	
	Had Authorized Consumption)		257.628	MCN.	THE STATE OF THE S		value	
	lied - Authorized Consumption)		257.020	MG/TI		Dent	Value	
Apparent Losses	Use therized executation	+ 2	1.724	MCV.		Pcnt: 0.25%	Value:	MG/Yr
Default	Unauthorized consumption: option selected for unauthorized con-				d	0.2070		
Delauit			8.639			2.00%	• 0	MG/Yr
	Customer metering inaccuracies: Systematic data handling errors:		1.058			0.25%	• 0	MG/Yr
Defa	ult option selected for Systematic dat				displayed			
	Apparent Losses:	7	11.421	MG/Yr				
Real Losses (Current Annual I	Real Losses or CARL)							
Real Losse	s = Water Losses - Apparent Losses:	7	246.207	MG/Yr				
	WATER LOSSES:		257.628	MG/Yr				
NON-REVENUE WATER								
	NON-REVENUE WATER:	7	266.248	MG/Yr				
= Water Losses + Unbilled Metered	+ Unbilled Unmetered							_
SYSTEM DATA								
	Length of mains:		91.7	miles				
Number of a	ctive AND inactive service connections: Service connection density:	7 9	6,303	conn./mile main				
	Colvido Collinación Collony.							
	ocated at the curbstop or property line?		No		service line, beyo		rty boundary,	
£	verage length of customer service line:	+ 7 7	30.0	ft that is the	responsibility of t	he utility)		
	Average operating pressure:	4 2 8	85.0	psi				
	riterage operating procession							
COST DATA								
Total	annual cost of operating water system:	+ 7 g	\$1,628,306	\$/Year				
Customer retail	unit cost (applied to Apparent Losses):	+ 7 9	and the second s	\$/1000 gallons (U	JS)			
	oduction cost (applied to Real Losses):		\$128.54	\$/Million gallons	Use Custom	er Retail Unit C	ost to value real losses	
						2 1/1/2		_
WATER AUDIT DATA VALIDITY	SCORE:							_
		" YOUR SCORE	IS: 84 out of 100 ***					
Av	veighted scale for the components of consun	ption and water lo	ss is included in the cal	culation of the Wate	r Audit Data Valid	dity Score		
PRIORITY AREAS FOR ATTENTI								
		ng the following as	amponents:					
	audit accuracy can be improved by address	ng trie following co	imponents.					
1: Volume from own sources								
2: Unauthorized consumption								
3: Systematic data handling er	rors							

	AWWA Free Water Audit So	Assertan Motor Market Assertation
	System Attributes and Performan	Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Warren District 450 (662002)	0)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 84 out of 100 ***
System Attributes:		44.00
	Apparent Losses:	11.421 MG/Yr
	+ Real Losses:	246.207 MG/Yr
	= Water Losses:	257.628 MG/Yr
	Unavoidable Annual Real Losses (UARL):	53.06 MG/Yr
	Annual cost of Apparent Losses:	\$116,652
	Annual cost of Real Losses:	\$2,514,763 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	38.6%
Financial:	Non-revenue water as percent by cost of operating system:	167.0% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	4.96 gallons/connection/day
	Real Losses per service connection per day:	107.02 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.26 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	246.21 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	4.64
	ems with a low service connection density of less than 32 service of	

	A	WWA	Free W	ater Audit S	oftware:					WAS v5.0
			eporti	ng Workshe	<u>et</u>				American Wate Copyright © 2014,	
Click to access definition	Water Audit Report for:	PAW- Ka	ane Distri	ct 460 (6420019)						
Click to add a comment	Reporting Year:			1/2014 - 12/2014						
Please enter data in the white cells below. Wh	ere available, metered values sho	uld be used	d: if metere	d values are unavail	able please estimate a valu	e Indicat	e vour conf	idence in t	he accuracy of the	he
input data by grading each component (n/a or									ne accuracy or to	10
	All volur	mes to be	entered	as: MILLION GAL	LLONS (US) PER YEAR					
	rrect data grading for each input									
the utilit	y meets or exceeds <u>all</u> criteria f	for that gra		-			ster Meter	and Sup	ply Error Adjus	tments
WATER SUPPLIED			<		in column 'E' and 'J'	>	Pcnt:		Value:	
	Volume from own sources: Water imported:		-	132.700	MG/Yr +	7 9	-4.90%			MG/
	Water exported:		n/a n/a		MG/Yr	7		8 8		MG/
						Ent	er negativ	e % or va	lue for under-r	
	WATER SUPPLIED:			139.537	MG/Yr		_		ue for over-reg	
UTHORIZED CONSUMPTION									2	
THORIZED CONSOMPTION	Billed metered:	. 7	10	110.583	MG/Yr				Click here: 2 or help using opt	
	Billed unmetered:		n/a		MG/Yr				outtons below	
	Unbilled metered:		10		MG/Yr		Pcnt:		Value:	
	Unbilled unmetered:				MG/Yr		1.25%	. 0		MG/
	tion selected for Unbilled unn		a grading					1	Jse buttons to se	elect
AU	THORIZED CONSUMPTION:	?		115.530	MG/Yr				entage of water s	
									OR value	
VATER LOSSES (Water Supplied - Aut	horized Consumption)			24.007	MG/Yr			1"		
pparent Losses							Pont:	Ţ	Value:	
ppurent Loodes	Unauthorized consumption:	+ 7		0.349	MG/Yr		0.25%		Value.	MG/
Default option se	elected for unauthorized cons		- a gradii	- Chapter State Control			1 2.2011			
	stomer metering inaccuracies:				MG/Yr		2.00%	• 0		MG/
	stematic data handling errors:				MG/Yr		0.25%			MG/
Default option	selected for Systematic data	a handlin	g errors -	a grading of 5 is	applied but not displa	yed				
	Apparent Losses:	7		2.947	MG/Yr					
Real Losses (Current Annual Real Loss	es or CARL)									
Real Losses = Water	Losses - Apparent Losses:	?		21.060	MG/Yr					
	WATER LOSSES:			24.007	MG/Yr					
ON-REVENUE WATER							T		A Total	
	NON-REVENUE WATER:	?		28.954	MG/Yr					
Water Losses + Unbilled Metered + Unbilled	Unmetered									
YSTEM DATA										
	Length of mains:	+ ?	9	46.5	miles					
Number of active AND	inactive service connections:	+ ?	9	2,723						
	Service connection density:	7		59	conn./mile main					
Are customer meters typically located at	the curbstop or property line?			No	(length of service	line hour	and the prov	porty bour	dan	
	ngth of customer service line:	+ ?	7	34.0	(length of service ft that is the respon			perty boun	dary,	
	Average operating pressure:	+ 7	8	88.0	psi					
OST DATA										
Total annual co	ost of operating water system:	+ ?	9	\$623,257	\$/Year					
	(applied to Apparent Losses):		9	\$10.21	\$/1000 gallons (US)					
Variable production of	cost (applied to Real Losses):	+ ?	9	\$422.62	\$/Million gallons	Jse Custom	ner Retail Uni	t Cost to va	lue real losses	
ATER AUDIT DATA VALIDITY SCORE:										
	**	* YOUR S	CORFIS	85 out of 100 ***						
A COLLEGE A						Data Mari	dike Paran			
A weighted sc	ale for the components of consump	ption and v	water loss is	included in the cal	culation of the Water Audit	Data Valid	dity Score			
RIORITY AREAS FOR ATTENTION:										
ased on the information provided, audit accur	racy can be improved by addressin	ng the follo	wing compo	onents:						
1: Volume from own sources										
2: Unauthorized consumption										
3: Systematic data handling errors										

	AWWA Free Water Audit So	American Michael Michael American
	System Attributes and Performan	Ce Indicators Copyright © 2014, All Rights Reserve
	Water Audit Report for: PAW- Kane District 460 (6420019)	
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 85 out of 100 ***
System Attributes:	Assessed Lancas	2047 1400/-
	Apparent Losses: + Real Losses:	2.947 MG/Yr 21.060 MG/Yr
	= Water Losses:	24.007 MG/Yr
	- Water Lusses.	24.007 WIS/11
	2 Unavoidable Annual Real Losses (UARL):	25.42 MG/Yr
	Annual cost of Apparent Losses:	\$30,105
	Annual cost of Real Losses:	\$215,103 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	20.8%
	Non-revenue water as percent by cost of operating system:	47.5% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	2.97 gallons/connection/day
	Real Losses per service connection per day:	21.19 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.24 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	21.06 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.83
	tems with a low service connection density of less than 32 service c	

	CONTRACTOR OF THE PARTY OF THE	A STATE OF THE PARTY OF THE PAR	ater Audit So	ortware.					
		Reportin	ng Workshee	t				American Wa opyright © 201	ater Works Associ 14, All Rights Rese
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:		istrict 510 (14600 1/2014 - 12/2014	)46)					
Please enter data in the white cells below. Winput data by grading each component (n/a of	Where available, metered values shou	uld be used; if metered	d values are unavaila				dence in th	e accuracy o	f the
	The second secon	mes to be entered a			Charles and Carle Langue				
	orrect data grading for each input lity meets or exceeds <u>all</u> criteria for				М	aster Meter	and Supp	ly Error Adj	ustments
WATER SUPPLIED		<	Enter grading in	n column 'E' and '	'J'>	Pont:		Value:	
	Volume from own sources:	The second secon	3,399.375		+ 7	-2.30%			MG/Yr
	Water imported: Water exported:		18.532		+ ?		0 0		MG/Yr
	water exported.	+ 7 n/a		MG/Yr		tor penative		o for unde	MG/Yr
	WATER SUPPLIED:		3,497.933	MG/Yr		nter negative nter positive			
AUTHORIZED CONSUMPTION				THE STATE OF			C	ick here:	2
	Billed metered:		2,456.080				for	r help using o	
	Billed unmetered:		0.000				bu	ittons below	
	Unbilled metered:		0.104			Pont:	~ ^	Value:	
5-6-11-	Unbilled unmetered:		43.724			1.25%	• 0		MG/Yr
	ption selected for Unbilled unm						1 11	- huttons to	- Ind
A	UTHORIZED CONSUMPTION:	?	2,499.908	MG/Yr				se buttons to ntage of wate OR value	
WATER LOSSES (Water Supplied - Au	uthorized Consumption)		998.025	MG/Yr				Value	
Apparent Losses						Pont:	+	Value:	
npparent Esseries	Unauthorized consumption:	+ ?	8.745	MG/Yr		0.25%	• 0	V Gran	MG/Y
Default option s	selected for unauthorized cons				d				
	ustomer metering inaccuracies:		50.126			2.00%	• 0		MG/V
	ustomer metering inaccuracies: Systematic data handling errors:		36.841			2.0070	0 0	36.841	MG/Y MG/Y
	Janos. Inc.			Mercan				102	
	Apparent Losses:	7	95.712	MG/Yr					
Real Losses (Current Annual Real Los		7	95.712	MG/Yr					
		7	95.712						
	sses or CARL)			MG/Yr					
	sses or CARL) er Losses - Apparent Losses:		902.313	MG/Yr MG/Yr					
Real Losses = Wate	sses or CARL) er Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		902.313 998.025	MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled	sses or CARL) er Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		902.313 998.025	MG/Yr MG/Yr					
Real Losses = Wate	water Losses:  NON-REVENUE WATER:  d Unmetered		902.313 998.025 1,041.853	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA	water Losses:  NON-REVENUE WATER: d Unmetered  Length of mains:	+ 7 9	902.313 998.025	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA	water Losses:  NON-REVENUE WATER:  d Unmetered	+ 7 9	902.313 998.025 1,041.853	MG/Yr MG/Yr MG/Yr					
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA	SSES OF CARL)  OF LOSSES - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: D inactive service connections:	+ 7 9 + 7 9	902.313 998.025 1,041.853	MG/Yr MG/Yr MG/Yr					
NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active ANI  Are customer meters typically located a	WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: D inactive service connections: Service connection density: at the curbstop or property line?	+ 7 9 + 7 9	902.313   998.025   1,041.853   390.0   33,713   86   c	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of s	service line, <u>be</u>		-tv bound:	The state of the s	
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Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active ANI  Are customer meters typically located a	WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: D inactive service connections: Service connection density: at the curbstop or property line? length of customer service line:	+ ? 9 + ? 9 ?	902.313 998.025 1,041.853 390.0 33,713 86 No 40.0	MG/Yr MG/Yr miles conn./mile main (length of s that is the r			erty bounda	ary,	
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	AWWA Free Water Audit So	
	System Attributes and Performan	<u>ce Indicators</u> Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Norriston District 510 (14600	46)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE I	S: 86 out of 100 ***
System Attributes:	Assessed Leases: I	05 740 MCM-
	Apparent Losses:   + Real Losses:	95.712 MG/Yr 902.313 MG/Yr
	= Water Losses:	998.025 MG/Yr
	Unavoidable Annual Real Losses (UARL):	308.30 MG/Yr
	Annual cost of Apparent Losses:	\$977,605
	Annual cost of Real Losses:	\$9,216,223 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	29.8%
Fillaticial.	Non-revenue water as percent by cost of operating system:	110.0% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	7.78 gallons/connection/day
	Real Losses per service connection per day:	73.33 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.79 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	902.31 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.93
	systems with a low service connection density of less than 32 service co	

		THE THE	Vater Audit So	onware.				V	
		Reporti	ng Workshee	1				American Water W opyright © 2014, All	orks Asso Rights Re
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:		strict 520 (109007 1/2014 - 12/2014	4)					
lease enter data in the white cells below. Wi							ence in the	e accuracy of the	
	THE RESIDENCE OF THE PROPERTY			LONS (US) PER YE					
	rrect data grading for each input ty meets or exceeds <u>all</u> criteria for	t, determine the hig	hest grade where		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ster Meter	and Supp	ly Error Adjustm	ents
VATER SUPPLIED		<	Enter grading	in column 'E' and 'J'	>	Pont:		Value:	
	Volume from own sources:		1,102.728		+ ? 9	0.20%	• 0		MG/
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	Water exported:	+ ? 9	93.785	MG/Yr	+ 7 En		% or unit	for under rea	MG
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	Unbilled metered:	THE REAL PROPERTY.	0.249			Pont:		_Value:	7
D-6-11-	Unbilled unmetered:		12.584			1.25%	• 0		MG
	tion selected for Unbilled unn			(2) (3)			Î D	se buttons to selec	nd.
AL	JTHORIZED CONSUMPTION:	7	813.012	MG/Yr				ntage of water sup	
								OR value	
VATER LOSSES (Water Supplied - Aut	horized Consumption)		193.730	MG/Yr					
pparent Losses						Pcnt:	*	Value:	_
	Unauthorized consumption:		2.517			0.25%	• 0		MG
Default option se	elected for unauthorized cons	umption - a gradi	ng of 5 is applied	but not displayed					
	stomer metering inaccuracies:		16.335	MG/Yr		2.00%	• 0		MG
	stematic data handling errors:		12.003			10 2559	0 0	12.003	MG
	Apparent Losses:	7	30.855	MG/Yr					
			30.855 162.875						
	ses or CARL)	?	162.875	MG/Yr					
Real Losses = Wate	ses or CARL) r Losses - Apparent Losses:	2		MG/Yr					
Real Losses = Wate	ses or CARL) r Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7	162.875	MG/Yr MG/Yr					
Real Losses = Wate	ses or CARL) r Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7	162.875 193.730	MG/Yr MG/Yr					
Real Losses = Wate	ses or CARL) r Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7	162.875 193.730	MG/Yr MG/Yr					
Real Losses = Wate  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA	ses or CARL) r Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: Unmetered Length of mains:	+ 7 9	162.875 193.730 206.563	MG/Yr MG/Yr MG/Yr					
Real Losses = Wate  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  IYSTEM DATA	ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: 0 inactive service connections:	• 7 9 • 7 9	162.875 193.730 206.563	MG/Yr MG/Yr MG/Yr					
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Real Losses = Wate  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AND	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: D inactive service connections: Service connection density:	• 7 9 • 7 9	162.875 193.730 206.563	MG/Yr MG/Yr MG/Yr miles conn./mile main					
Real Losses = Wate  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AND  Are customer meters typically located at	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: D inactive service connections: Service connection density:	• 2 9	162.875 193.730 206.563 187.3 12,639 67	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sei	rvice line, <u>bey</u>		erty bound	ary.	
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Real Losses = Wate  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active AND  Are customer meters typically located at	NON-REVENUE WATER: Unmetered  Length of mains: Dinactive service connections: Service connection density: the curbstop or property line?	• 2 9 • 2 9	162.875 193.730 206.563 187.3 12.639 67 No	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the res			erty bound	ary,	
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Real Losses = Wate  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active AND  Are customer meters typically located at  Average le  OST DATA  Total annual cu  Customer retail unit cost  Variable production	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: D inactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses):	• 2 9 • 2 7 • 2 8	162.875 193.730 206.563  187.3 12.639 67  No 50.0 62.0  \$3,676,705 \$10.21 \$440.00	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  ft (length of set that is the ret psi  \$/Year \$/1000 gallons (US)	sponsibility of	the utility)			
Real Losses = Wate  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active AND  Are customer meters typically located at  Average le  OST DATA  Total annual cu  Customer retail unit cost  Variable production  VATER AUDIT DATA VALIDITY SCORE:	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: D inactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses):	• 7 9 9 7 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9	162.875 193.730 206.563  187.3 12.639 67  No 50.0 62.0 \$3,676,705 \$10.21 \$440.00	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the response structure of the context of the con	) Use Custon	the utility)			
Real Losses = Wate  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active ANE  Are customer meters typically located at Average le  COST DATA  Total annual or Customer retail unit cost Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted so	NON-REVENUE WATER: Unmetered  Length of mains: Dinactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses):	• 7 9 9 7 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9	162.875 193.730 206.563  187.3 12.639 67  No 50.0 62.0 \$3,676,705 \$10.21 \$440.00	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the response structure of the context of the con	) Use Custon	the utility)			
Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AND  Are customer meters typically located at Average left  COST DATA  Total annual cost Variable production of Variable production of Variable production of Variable Production of PRIORITY AREAS FOR ATTENTION:	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: Dinactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses): cale for the components of consumptions of consumptio	* 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	162.875 193.730 206.563  187.3 12,639 67  No 50.0 62.0  \$3,676,705 \$10.21 \$440.00  \$3.676,705 \$10.21	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the response structure of the control of the con	) Use Custon	the utility)			
Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AND  Are customer meters typically located at Average less and	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: Dinactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses): cale for the components of consumptions of consumptio	* 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	162.875 193.730 206.563  187.3 12,639 67  No 50.0 62.0  \$3,676,705 \$10.21 \$440.00  \$3.676,705 \$10.21	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the response structure of the control of the con	) Use Custon	the utility)			
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AND  Are customer meters typically located at Average le  COST DATA  Total annual cost Variable production of Vari	Ses or CARL) r Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: Unmetered  Length of mains: Dinactive service connections: Service connection density: the curbstop or property line? ength of customer service line: Average operating pressure: ost of operating water system: (applied to Apparent Losses): cost (applied to Real Losses): cale for the components of consumptions of consumptio	* 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	162.875 193.730 206.563  187.3 12,639 67  No 50.0 62.0  \$3,676,705 \$10.21 \$440.00  \$3.676,705 \$10.21	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of set that is the response structure of the control of the con	) Use Custon	the utility)			

	AWWA Free Water Audit So		WAS v5 American Water Works Associati
	System Attributes and Performan	ce Indicators	Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Yardley District 520 (109007	4)	
	Reporting Year: 2014 1/2014 - 12/2014		10
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	S: 86 out of 100 ***	
System Attributes:	Apparent Losses:	30.855 MG/Yr	
	+ Real Losses:	162.875 MG/Yr	
	= Water Losses:	193.730 MG/Yr	
	Unavoidable Annual Real Losses (UARL):	86.14 MG/Yr	
	Annual cost of Apparent Losses:	\$315,151	
	Annual cost of Real Losses:	\$1,663,604 Valued at <b>0</b>	Customer Retail Unit Cost
			ng Worksheet to change this assumption
Performance Indicators:			
Financial:	Non-revenue water as percent by volume of Water Supplied:	20.5%	
Fillancial.	Non-revenue water as percent by cost of operating system:	57.4% Real Losses v	alued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	6.69 gallons/connec	etion/day
	Real Losses per service connection per day:	35.31 gallons/connec	
Operational Efficiency:	Real Losses per length of main per day*:	N/A	,
	Real Losses per service connection per day per psi pressure:	0.57 gallons/connec	ction/day/psi
F	rom Above, Real Losses = Current Annual Real Losses (CARL):	162.87 million gallons/	vear
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.89	,
This performance indicator applies for syste			
This performance indicator applies for syste	ms with a low service connection density of less than 32 service of	office of pipeline	

	AWWA Free W	later Audit So	oftware:	ALL STREET, ST	WAS v5.0
	Reporti	ng Workshee	t de la companya de l	Ame Copyrig	rican Water Works Association ht © 2014, All Rights Reserved
Click to access definition Water Audit Report for Click to add a comment Reporting Year		District 530 (23590	08)		
Please enter data in the white cells below. Where available, metered values sh input data by grading each component (n/a or 1-10) using the drop-down list to	the left of the input cel	II. Hover the mouse ov	ver the cell to obtain a descri	Indicate your confidence in the acc ption of the grades	uracy of the
			LONS (US) PER YEAR		
To select the correct data grading for each inp the utility meets or exceeds <u>all</u> criteria				Master Meter and Supply Er	ror Adjustments
WATER SUPPLIED	<	Enter grading i	n column 'E' and 'J'	> Pcnt: Va	ilue:
Volume from own sources		462.321		9 -1.22%	MG/Yr
Water imported Water exported		0.000		7	MG/Yr MG/Yr
				Enter negative % or value for	r under-registration
WATER SUPPLIED	:	468.040	MG/Yr	Enter positive % or value for	over-registration
AUTHORIZED CONSUMPTION				Click h	ere: ?
Billed metered		373.520		for help buttons	using option
Billed unmetered Unbilled metered		0.000			lue:
Unbilled unmetered	The second secon	5.851		1.25% • •	MG/Yr
Default option selected for Unbilled un	metered - a gradin	g of 5 is applied b	ut not displayed	1	
AUTHORIZED CONSUMPTION	: ?	379.399	MG/Yr		ttons to select of water supplied
				personage	OR
WATER LOSSES (Water Supplied - Authorized Consumption)		88.642	MG/Vr		value
		00.042	WOTT	Pcnt: ▼ Va	lue:
Apparent Losses  Unauthorized consumption	+ 7	1.170	MG/Yr	0.25%	MG/Yr
Default option selected for unauthorized co					
Customer metering inaccuracies	+ 7 7	7.623	MG/Yr	2.00%	MG/Yr
Systematic data handling errors		5.603	MG/Yr	○ ● 5.6	MG/Yr
Apparent Losses	?	14.396	MG/Yr		
Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses	. 2	74.246	MG/Vr		
WATER LOSSES		88.642	MG/Yr		
NON-REVENUE WATER NON-REVENUE WATER	7	94.520	MG/Yr		
= Water Losses + Unbilled Metered + Unbilled Unmetered					
SYSTEM DATA		100.5			
Length of mains  Number of active AND inactive service connections		109.5	miles		
Service connection density	The second learning law and th		conn./mile main		
A		No			
Are customer meters typically located at the curbstop or property line? <u>Average</u> length of customer service line		50.0		ne, <u>beyond</u> the property boundary, bility of the utility)	
Average operating pressure	+ 7 8	75.0	psi		
COST DATA					
Total annual cost of operating water system		\$1,765,644	\$/Year \$/1000 gallons (US)		
Customer retail unit cost (applied to Apparent Losses) Variable production cost (applied to Real Losses)		The second secon	And the second s	e Customer Retail Unit Cost to value rea	losses
WATER AUDIT DATA VALIDITY SCORE:					
	*** YOUR SCORE IS	3: 86 out of 100 ***			
A weighted scale for the components of consu	mption and water loss	is included in the calc	ulation of the Water Audit D	ata Validity Score	-
PRIORITY AREAS FOR ATTENTION:					
	sing the following com-	nonents:			
Based on the information provided, audit accuracy can be improved by address	sing the rollowing comp	ponents.			
1: Volume from own sources	J 1				
2: Unauthorized consumption	1				
3: Customer metering inaccuracies	J				

	AWWA Free Water Audit Software:  System Attributes and Performance Indicators	WAS v5.t American Water Works Association Copyright © 2014, All Rights Reserve
	Water Audit Report for: PAW- Abington District 530 (2359008)  Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 86 out of 100 ***	
System Attributes:	Apparent Losses: 14.396 MG/Yr	
	+ Real Losses: 74.246 MG/Yr	
	= Water Losses: 88.642 MG/Yr	
	7 Unavoidable Annual Real Losses (UARL): 52.79 MG/Yr	
	Annual cost of Apparent Losses: \$147,044	
		at Customer Retail Unit Cost
Performance Indicators:	Return to Rep	porting Worksheet to change this assumption
	Non-revenue water as percent by volume of Water Supplied: 20.2%	
Financial:	<b>-</b>	es valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day: 6.53 gallons/con	nnection/day
	Real Losses per service connection per day: 33.66 gallons/con	
Operational Efficiency:	Real Losses per length of main per day*: N/A	
	Real Losses per service connection per day per psi pressure: 0.45 gallons/con	nection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL): 74.25 million gallo	
		ons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]: 1.41	
This performance indicator applies for	systems with a low service connection density of less than 32 service connections/mile of pipeline	

			Water Audit S						
		Report	ting Workshe	et				American Wi opyright © 201	ater Works Asso 4, All Rights Res
Click to access definition	Water Audit Report for:	PAW- Susquehi	nna District 540 (	2580224-2580023-	2580026)			7	
Click to add a comment	Reporting Year:		1/2014 - 12/2014	1500224,2000025,	2500020)			_	
lease enter data in the white cells below.	Mara available, metered values shou	uld be used: if mete	red values are unavail	able please estimate	a value Indicat	- wour confi	dance in the	- accuracy o	f the
nput data by grading each component (n/a	a or 1-10) using the drop-down list to the	he left of the input of	ell. Hover the mouse of	ver the cell to obtain	a description of	the grades	Jence in the	3 accuracy o	I the
	All volum	mes to be entere	d as: MILLION GAL	LONS (US) PER Y	EAR				
To select the	correct data grading for each input	t, determine the h	ighest grade where				144	1 1 1	
	utility meets or exceeds all criteria f				Ma	ster Meter	and Supp	ly Error Adj	ustments
VATER SUPPLIED		<	Enter grading	in column 'E' and '.	J,>	Pcnt:	116	Value:	1-3-3-4
	Volume from own sources:		320.560		+ ? 9	3.05%	0 0		MG/
	Water imported: Water exported:			MG/Yr MG/Yr	+ ?		0 0		MG/
	Trator experience.	MA MA	0.000	WGT		er negative		ue for unde	r-registration
	WATER SUPPLIED:		311.072	MG/Yr				e for over-r	
UTUODITED CONCUMPTION						HI. T	-		
UTHORIZED CONSUMPTION	Billed metered:	7 10	145.800	MG/Vr				ick here:	
	Billed unmetered:			MG/Yr				ittons below	ption
	Unbilled metered:	-		MG/Yr		Pont:		Value:	
	Unbilled unmetered:			MG/Yr		1.25%	• 0		MG/
Default	option selected for Unbilled unn	netered - a gradi	ng of 5 is applied b	out not displayed			1 0		
	AUTHORIZED CONSUMPTION:	?	149.725	MG/Yr				se buttons to ntage of water	
								OR	
VATER LOSSES (Water Supplied - A	Authorized Consumption)		161.347	110N.			-	value	
	Authorized Consumption,		101.041	MG/TI					
pparent Losses	Unauthorized concumption:		0.779			Pcnt:	• 0	Value:	luc.
Default option	Unauthorized consumption:			MG/Yr		0.25%	• 0		MG/
	selected for unauthorized cons						9.0		
	Customer metering inaccuracies: Systematic data handling errors:			MG/Yr		2.00%	0 0	2.187	MG
	Systematic data nanding endra.		2.107	MG/Yr			0 0	2.107	MG/
)	Apparent Losses:	2	5.941	MG/Yr					
		?	5.941 155.406						
	osses or CARL) ater Losses - Apparent Losses:	7	155.406	MG/Yr					
Real Losses = Wa	osses or CARL)	7		MG/Yr					
Real Losses = Wa	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES:	7	155.406 161.347	MG/Yr MG/Yr					
Real Losses = Wa	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		155.406	MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		155.406 161.347	MG/Yr MG/Yr					
Real Losses = Wa	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: led Unmetered	7	155.406 161.347 165.272	MG/Yr MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	7 9	155.406 161.347 165.272	MG/Yr MG/Yr					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA	osses or CARL) ater Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: led Unmetered  Length of mains:	7 9	155.406 161.347 165.272 61.2 3.123	MG/Yr MG/Yr MG/Yr					
Real Losses = Walter NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:	7 9	155.406 161.347 165.272 61.2 3.123 51	MG/Yr MG/Yr MG/Yr miles conn./mile main					
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbill SYSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	7 9 7 9 7	155.406 161.347 165.272 61.2 3,123 51	MG/Yr MG/Yr MG/Yr miles conn./mile main	ervice line, beyo		erty bounds	ary,	
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbill SYSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:	7 9 7 9 7	155.406 161.347 165.272 61.2 3.123 51	MG/Yr MG/Yr MG/Yr miles conn./mile main	ervice line, <u>bevc</u> esponsibility of t		erty bound.	ary,	
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbill  YSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	7 9 7 9 7 7	155.406 161.347 165.272 61.2 3,123 51	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of so			erty bound.	ary.	
Real Losses = Wa  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbill  YSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line:	7 9 7 9 7 7	155.406 161.347 165.272 61.2 3.123 51 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of so			erty bound.	ary,	
Real Losses = Walton-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al  Are customer meters typically located Average	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line:	7 9 7 9 7 7	155.406 161.347 165.272 61.2 3.123 51 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of so			erty bound:	ary,	
Real Losses = Walter Losses + Unbilled Metered + Unbilled System Data  Number of active Ale  Are customer meters typically located Average	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 9 7 9 7 7 4 7 8	155.406 161.347 165.272 61.2 3.123 51 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of st that is the re			erty bound:	ary.	
Real Losses = Walter NON-REVENUE WATER Water Losses + Unbilled Metered + Unbille SYSTEM DATA Number of active Al Are customer meters typically located Average COST DATA Total annual	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 7 9 7 4 7 8 4 7 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of st that is the re	esponsibility of t		erty bound.	ary.	
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbillet  YSTEM DATA  Number of active Al  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit co	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 + 7 9 + 7 7 8 · 7 9 + 7 9 + 7 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  ft (length of set that is the response to the resp	esponsibility of t				
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbillet  YSTEM DATA  Number of active Al  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit co	NON-REVENUE WATER:  led Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: lost (applied to Apparent Losses):	7 9 + 7 9 + 7 7 8 · 7 9 + 7 9 + 7 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of set that is the response to the set of the se	esponsibility of t	the utility)			
Real Losses = Walter  Non-Revenue Water  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable production	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: lost (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 + 7 9 + 7 7 8 · 7 9 + 7 9 + 7 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of set that is the response to the set of the se	esponsibility of t	the utility)			
Real Losses = Walter  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active Al  Are customer meters typically located  Average  OST DATA  Total annual  Customer retail unit co  Variable production	NON-REVENUE WATER:  led Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: lost (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 7 9 7 7 8 9 7 9 7 9 9 7 9 9 7 9 9 7 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of set that is the response to the set of the se	esponsibility of t	the utility)			
Real Losses = Walton-Revenue Water  Water Losses + Unbilled Metered + Unbille PYSTEM DATA  Number of active Al  Are customer meters typically located Average  OOST DATA  Total annual Customer retail unit co Variable production  VATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: set (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 7 9 9 9 7 9	155.406 161.347 165.272 61.2 3.123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			
Real Losses = Waler Losses + Unbilled Metered + Unbilled System Data  Number of active Alease Average  COST DATA  Total annual Customer retail unit con Variable production  NATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  led Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: lost (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 7 9 9 9 7 9	155.406 161.347 165.272 61.2 3.123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			
Real Losses = Walter  Non-Revenue Water  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: It cost of operating water system: set (applied to Apparent Losses): on cost (applied to Real Losses):	7 9 9 9 7 9 9 9 7 9	155.406 161.347 165.272 61.2 3.123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			
Real Losses = Water Losses + Unbilled Metered + Unbille System Data  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted PRIORITY AREAS FOR ATTENTION:	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure: Set (applied to Apparent Losses): Control (applied to Real Losses): Control (applied	7 9 9 7 9 7 9 9 7 9 9 9 9 9 9 9 9 9 9 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26 S: 86 out of 100 ****	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			
Real Losses = Walendard   NON-REVENUE WATER    Water Losses + Unbilled Metered + Unbille    SYSTEM DATA    Number of active Alendard    Are customer meters typically located    Average    COST DATA    Total annual    Customer retail unit co    Variable production    WATER AUDIT DATA VALIDITY SCORE:  A weighted    PRIORITY AREAS FOR ATTENTION:	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure: Set (applied to Apparent Losses): Control (applied to Real Losses): Control (applied	7 9 9 7 9 7 9 9 7 9 9 9 9 9 9 9 9 9 9 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26 S: 86 out of 100 ****	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  Number of active Al  Are customer meters typically located Average  COST DATA  Total annual Customer retail unit co Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit ac	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: Length of customer service line: Average operating pressure: Set (applied to Apparent Losses): Control (applied to Real Losses): Control (applied	7 9 9 7 9 7 9 9 7 9 9 9 9 9 9 9 9 9 9 9	155.406 161.347 165.272 61.2 3,123 51 No 50.0 78.3 \$770,768 \$10.21 \$581.26 S: 86 out of 100 ****	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of st that is the re psi  \$/Year \$/1000 gallons (US) \$/Million gallons	esponsibility of t	ner Retail Unit			

	AWWA Free Water Audit Softv System Attributes and Performance	Amorican Mater Marke Associati
	Water Audit Report for: PAW- Susquehanna District 540 (2580)	224;2580023;2580026)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 8	36 out of 100 ***
System Attributes:	Apparent Laccos	5.941 MG/Yr
	Apparent Losses: + Real Losses:	155.406 MG/Yr
	= Water Losses:	161.347 MG/Yr
	Unavoidable Annual Real Losses (UARL):	29.18 MG/Yr
	Annual cost of Apparent Losses:	\$60,681
	Annual cost of Real Losses:	\$1,587,316 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	53.1%
Fillancial.	Non-revenue water as percent by cost of operating system:	219.0% Real Losses valued at Customer Retail Unit Cost
_	Apparent Losses per service connection per day:	5.21 gallons/connection/day
	Real Losses per service connection per day:	136.33 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.74 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	155.41 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	5.32
This perference indicates and lies for	systems with a low service connection density of less than 32 service connection	antions (with of singling

	AWWA Free	Water Audit S	oftware:	2000		WAS v5.0
	Repor	ting Workshee	et .			Water Works Associa 2014, All Rights Resea
Click to access definition  Click to add a comment  Water Audit Report for Reporting Yea	and the second s	istrict 550 (348003 1/2014 - 12/2014	8)			
Please enter data in the white cells below. Where available, metered values s input data by grading each component (n/a or 1-10) using the drop-down list t					lence in the accurac	y of the
			LONS (US) PER YEAR	ption of the grades		
To select the correct data grading for each in						
the utility meets or exceeds <u>all</u> criteri WATER SUPPLIED			in column 'E' and 'J'		and Supply Error A	djustments
Volume from own source		249.583		9 -0.10%	Value:	MG/Yr
Water importe Water exporte			MG/Yr		• 0	MG/Yr
water expone	ed: 7 n/a	0.000	MG/Yr	Enter negative	% or value for uno	MG/Yr der-registration
WATER SUPPLIE	D:	249.833	MG/Yr		% or value for over	S SHOULD BE SHOU
AUTHORIZED CONSUMPTION					Click here:	7
Billed metere Billed unmetere		186.245			for help usin buttons belo	g option
Unbilled metere			MG/Yr MG/Yr	Pont:	Value:	
Unbilled unmetere	d: 2	3.123	MG/Yr	1.25%	• 0	MG/Yr
Default option selected for Unbilled u	nmetered - a gradi	ng of 5 is applied b	out not displayed		1 Use hullions	to colout
AUTHORIZED CONSUMPTION	N: 7	189.504	MG/Yr		use buttons percentage of w OR value	rater supplied
WATER LOSSES (Water Supplied - Authorized Consumption)		60.329	MG/Yr		-	
Apparent Losses				Pont:	▼ Value:	
Unauthorized consumption		0.625		0.25%	• 0	MG/Yr
Default option selected for unauthorized co						
Customer metering inaccuracie: Systematic data handling error		3.804 0.466		0.25%	0 0	MG/Yr MG/Yr
Default option selected for Systematic d				Committee of the committee of the		MIG/11
Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses	s: 2	55.435	MG/Yr			
WATER LOSSES	ś:	60.329	MG/Yr			
NON-REVENUE WATER NON-REVENUE WATER	o. 2	63.588	MG/Vr			
= Water Losses + Unbilled Metered + Unbilled Unmetered		03.300	MOTT			
SYSTEM DATA						
Length of mains  Number of <u>active AND inactive</u> service connections  Service connection density	S: + 7 9	56.5 3,946 70	miles			
Are queterner maters trainelly leveled at the gurbates or green to like	2	Ne				
Are customer meters typically located at the curbstop or property line <u>Average</u> length of customer service line		No 50.0	(length of service lin ft that is the responsib		erty boundary,	
Average operating pressure	E + ? 8	84.0	psi			
COST DATA						
Total annual cost of operating water system	r: + 7 9	\$1,095,112	\$/Year			
Customer retail unit cost (applied to Apparent Losses) Variable production cost (applied to Real Losses)		A STATE OF THE PARTY OF THE PAR	\$/1000 gallons (US) \$/Million gallons	Customer Retail Unit	Cost to value real losse	s
WATER AUDIT DATA VALIDITY SCORE:						
	*** YOUR SCORE	S: 85 out of 100 ***				
A weighted scale for the components of consu	umption and water loss	s is included in the calc	culation of the Water Audit Da	ta Validity Score		
PRIORITY AREAS FOR ATTENTION:						
Based on the information provided, audit accuracy can be improved by addres	sing the following com	ponents:				
1: Volume from own sources	-					
2: Unauthorized consumption	4					
3: Systematic data handling errors						

	AWWA Free Water Audit Soft	A Mileter Mileter Association
	Water Audit Report for: PAW- Bangor District 550 (3480038)	
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	S: 85 out of 100 ***
System Attributes:		
	Apparent Losses:	4.894 MG/Yr
	+ Real Losses:  Water Losses:	55.435 MG/Yr
	= Water Losses:	60.329 MG/Yr
	Unavoidable Annual Real Losses (UARL):	36.11 MG/Yr
	Annual cost of Apparent Losses:	\$49,986
	Annual cost of Real Losses:	\$566,213 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	25.5%
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Non-revenue water as percent by cost of operating system:	59.3% Real Losses valued at Customer Retail Unit Cos
Γ	Apparent Losses per service connection per day:	3.40 gallons/connection/day
	Real Losses per service connection per day:	38.49 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.46 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	55.44 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.54
This performance indicator applies for ex	stems with a low service connection density of less than 32 service co	procetions/mile of pineline

		AWWA	Free	Water Audit S	oftwa	re:							VAS v5.0
		F	Зеро	orting Workshee	et						Cos	American Water Webyright © 2014, All F	erks Associe Rights Rese
Click to access definition Click to add a comment	Water Audit Report for Reporting Years			nt. / Nazareth District 1/2014 - 12/2014	560 (2	2450133)						]	
Please enter data in the white cells below. Where a input data by grading each component (n/a or 1-10)											in the	accuracy of the	
	A CONTRACTOR OF THE PROPERTY O			ered as: MILLION GAL									
	data grading for each inpueets or exceeds all criteria							Mas	ter Meter	and	Supply	Error Adjustme	ents
WATER SUPPLIED			<	Enter grading	in colun	mn 'E' and 'J'		>	Pont:			Value:	
,	Volume from own sources:			706.418	The state of the s		+ ?	9	-0.94%	•	Ŏ		MG/Yr
	Water imported: Water exported:		n/a n/a		MG/Yr MG/Yr	0	+ 7	$\vdash$			0		MG/Yr MG/Yr
				0.000				Ente	r negativ		or value	e for under-regi	
	WATER SUPPLIED:		_	713.121	MG/Yr			Ente	r positive	9 % or	value	for over-registr	ation
AUTHORIZED CONSUMPTION												k here:	
	Billed metered: Billed unmetered:		10 n/a	600.605	0.000							help using option tons below	
	Unbilled metered:		h		MG/Yr MG/Yr				Pont:		Dutt	Value:	
	Unbilled unmetered:	THE R. P. LEWIS CO., Land Low, Low, Low, Low, Low, Low, Low, Low,	10		MG/Yr				1.25%		0	value.	MG/Yr
Default option	selected for Unbilled uni		- a gra	Land Swamp					1.2070				
	ORIZED CONSUMPTION:		T I	611.026						L		buttons to selec	
Autri	JRIZED CONSUMPTION.	litt.im		611.020	MG/TI					ţ	percent	oR value	plied
			-									value	
WATER LOSSES (Water Supplied - Authori	zed Consumption)		l,	102.095	MG/Yr								
Apparent Losses									Pcnt:	_	*	Value:	_
U	nauthorized consumption:	+ ?		1.783	MG/Yr				0.25%	•	0		MG/Yr
Default option select	ted for unauthorized con	sumption	a - a gr	rading of 5 is applied	but no	t displayed							
Custom	ner metering inaccuracies:	+ ?	7	12.288	MG/Yr				2.00%	•	0		MG/Yr
System	natic data handling errors:	+ 7	7	9.009	MG/Yr				0.223	0	•	9.009	MG/Yr
	Apparent Losses:	2		23.080	MG/Yr								
	Apparent Losses.	-	L	20.000	MG/11								
Real Losses (Current Annual Real Losses of	or CARL)												
Real Losses = Water Los		7		79.015	MG/Yr								
	WATER LOSSES:		. [	102.095	MG/Yr								
NON DELICANCE WATER													-
NON-REVENUE WATER	NON-REVENUE WATER:	?		112.516	MG/Yr								
Water Losses + Unbilled Metered + Unbilled Unm			1		Terror								
YSTEM DATA													_
TO TEM DATA	Length of mains:	+ ?	9	157.1	miles								
Number of active AND inac				10,174	mes								
	ervice connection density:	?			conn./m	nile main							
			-										
Are customer meters typically located at the		Designation of the latest and the la		No		(length of ser				perty b	oounda	ry,	
Average length	of customer service line:	+ 7	7	25.0	ft	that is the re-	sponsibilit	y of th	e utility)				
Ave	erage operating pressure:	+ 2	В	95.0	nsi								
	rage operating pressure.		0	33.0	psi								
COST DATA													-
		2		60 004 005									
	of operating water system:		9	\$2,884,095		anllone /LIC	`						
Customer retail unit cost (app	(applied to Real Losses):		<del></del>	\$287.23		gallons (US)		estome	- Petail Lin	* Cost	to value	real losses	
variable production cost	(applied to Near Losses).		9	VE01.E0	3r Willing	ganons	030.50	Busine	Neum um	t toot .	D Vinne	rea rosses	
VATER AUDIT DATA VALIDITY SCORE:													_
		** YOUR	SCOR	E IS: 86 out of 100 ***									7
A weighted ecolo f					adation (	of the Mater A	udit Data	Volidi	L. Coore				_
A weighted scale in	or the components of consum	nption and	wateric	oss is included in the card	culation c	of the vvaler A	udit Data	Valion	ly Score				
PRIORITY AREAS FOR ATTENTION:													
	can be improved by addressi	ng the follo	wing co	omponents:									
	can be improved by addressi	ing the follo	owing co	omponents:									
Based on the information provided, audit accuracy 1: Volume from own sources	can be improved by addressi	ing the folk	owing o	components:									
PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy in 1: Volume from own sources 2: Unauthorized consumption 3: Customer metering inaccuracies	can be improved by addressi	ing the folk	owing o	components:									

	AWWA Free Water Audit Sof System Attributes and Performance	
	Water Audit Report for: PAW- Blue Mnt. / Nazareth District 50	60 (2450133)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	S: 86 out of 100 ***
System Attributes:	Apparent Legence:	23.080 MG/Yr
	Apparent Losses: + Real Losses:	79.015 MG/Yr
	= Water Losses:	102.095 MG/Yr
	Unavoidable Annual Real Losses (UARL):	94.91 MG/Yr
	Annual cost of Apparent Losses:	\$235,738
	Annual cost of Real Losses:	\$807,064 Valued at Customer Retail Unit Cost
	T-84 / WTW1-1	Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Firmedal	Non-revenue water as percent by volume of Water Supplied:	15.8%
Financial:	Non-revenue water as percent by cost of operating system:	39.8% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	6.22 gallons/connection/day
	Real Losses per service connection per day:	21.28 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.22 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	79.02 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.83
This performance indicator applies for	systems with a low service connection density of less than 32 service cor	annotional mile of significa

			A CONTRACTOR OF THE PARTY OF TH	Muuit S	oftware:							AS v5 (
0.11		Re	porting W	orkshee	<u> </u>						merican Water Wo yright © 2014, All R	
Click to access definition	Water Audit Report for:	PAW- Poc	ono District 5	70 (245006	i3)							
Click to add a comment	Reporting Year:	2014	1/2014	- 12/2014								
lease enter data in the white cells below. put data by grading each component (n/a										e in the	accuracy of the	
			entered as: MIL		LONS (US) PI	ER YEAR						
	correct data grading for each input, tility meets or exceeds all criteria for					100	Made	Mater		nh-	Cres Adjustees	-1-
	milly friedla of exceeds an order.	of that grass	A CONTRACTOR OF THE PARTY OF TH		in column 'E' a	nd '.l'			inu o		Error Adjustme	nts
NATER SUPPLIED	Volume from own sources:	+ ?	9	665.729		+ ?		cnt: -1.10%	•	0	Value:	MG/
	Water imported:		n/a	A STATE OF THE PROPERTY OF THE	MG/Yr	+ ?		1.1070	707	0	1000	MG/
	Water exported:		n/a	0.000	MG/Yr	+ ?				0		MG/
	WATER SUPPLIED:			673.133	MONE						for under-registration for over-registration	
	WATER OUT I BEET.			010.100	MOIT		Lines	Oshire	70 01			_
UTHORIZED CONSUMPTION	Billed metered:	. ?	10	370.071	MONE						k here:	
	Billed unmetered:		n/a	0.000							ons below	
	Unbilled metered:	+ ?	9	0.132			P	cnt:			Value:	
	Unbilled unmetered:			8.414				1.25%	•	0		MG/
Default	option selected for Unbilled unn	netered - a	grading of 5 is	s applied b	ut not display	red			1	Hee	t tions to pelant	
	AUTHORIZED CONSUMPTION:	?		378.617	MG/Yr				1		buttons to select centage of water	
											supplied	
MATER LOCCES (Mater Supplied )	Lutharized Consumption)			204 546	11000						OR value	
VATER LOSSES (Water Supplied - A	Authorized Consumption)			294.516	MG/Yr			and the same of th				
pparent Losses	the state of annual section [	2					-	cnt:	0		Value:	7.40
Default ention	Unauthorized consumption:		anding of 5	1.683		- total		0.25%	•	0		MG/
	selected for unauthorized cons		a grading or o			ayed			2	~		7
	Customer metering inaccuracies:		7	7.555				2.00%		0	e ee4	MG
	Systematic data handling errors:	Ed Har	7	5.551	MG/YI				U	•	5.551	MG
and the second second second	Apparent Losses:	2										
				14.789								
	osses or CARL) ater Losses - Apparent Losses:	?		279.727								
		7			MG/Yr							
Real Losses = Wa	ater Losses - Apparent Losses: WATER LOSSES:			279.727 294.516	MG/Yr MG/Yr							
Real Losses = Wa	WATER LOSSES:  NON-REVENUE WATER:	?		279.727	MG/Yr MG/Yr							
Real Losses = Wa	WATER LOSSES:  NON-REVENUE WATER:			279.727 294.516	MG/Yr MG/Yr							
Real Losses = Wa	WATER LOSSES:  NON-REVENUE WATER:  illed Unmetered	?		279.727 294.516 303.062	MG/Yr MG/Yr MG/Yr							
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil EYSTEM DATA	WATER LOSSES:  NON-REVENUE WATER:	7	the same of the sa	279.727 294.516	MG/Yr MG/Yr MG/Yr							
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil EYSTEM DATA	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  lilled Unmetered  Length of mains:	7	the same of the sa	279.727 294.516 303.062	MG/Yr MG/Yr MG/Yr							
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  SYSTEM DATA  Number of active Al	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  illed Unmetered  Length of mains:  ND inactive service connections:  Service connection density:	7	the same of the sa	279.727 294.516 303.062 144.1 9,768 68	MG/Yr MG/Yr MG/Yr miles conn./mile main							
NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  SYSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: d at the curbstop or property line?	+ 7 9 + 7 9 7	9	279.727 294.516 303.062 144.1 9,768 68 No	MG/Yr MG/Yr MG/Yr miles conn./mile main	of service line,						
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  SYSTEM DATA  Number of active Al  Are customer meters typically located	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  illed Unmetered  Length of mains:  ND inactive service connections:  Service connection density:	+ 7 9 + 7 9 7	9	279.727 294.516 303.062 144.1 9,768 68	MG/Yr MG/Yr MG/Yr miles conn./mile main	of service line, ary, that is the re				у)		
Real Losses = Wa  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil SYSTEM DATA  Number of active Al  Are customer meters typically located	NON-REVENUE WATER:  Length of mains: ND inactive service connections: Service connection density: d at the curbstop or property line?	+ 7 9 + 7 9 2	7	279.727 294.516 303.062 144.1 9,768 68 No	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length					у)		
Real Losses = Walton-Revenue Water  Water Losses + Unbilled Metered + Unbil EYSTEM DATA  Number of active Al  Are customer meters typically located  Average	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses - Apparent Losses:  NON-REVENUE WATER:  Length of mains:  NO inactive service connections:  Service connection density:  d at the curbstop or property line? e length of customer service line:	+ 7 9 + 7 9 2	7	279.727 294.516 303.062 144.1 9,768 68 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length					ly)		
Real Losses = Walton   Real Losses = Walton   Real Losses   Walton   Walton   Real Losses   Walton   W	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses - Apparent Losses:  NON-REVENUE WATER:  Length of mains:  NO inactive service connections:  Service connection density:  d at the curbstop or property line? e length of customer service line:	+ 7 9 + 7 9 2	7	279.727 294.516 303.062 144.1 9,768 68 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length					ly)		
Real Losses = Walter Losses + Unbilled Metered + Un	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  Illed Unmetered  Length of mains: ND inactive service connections: Service connection density: d at the curbstop or property line? e length of customer service line: Average operating pressure:	+ ? 9 + ? 9 ? + ? 7 + ? 8	9 3	279.727 294.516 303.062 144.1 9,768 68 No 50.0 75.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length bound)	ary, that is the n				ly)		
Real Losses = Walter Losses = Walter Losses + Unbilled Metered + Unbil	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Illed Unmetered  Length of mains: NO inactive service connections: Service connection density: d at the curbstop or property line? e length of customer service line: Average operating pressure:  Ill cost of operating water system: ost (applied to Apparent Losses):	+ ? 9 + ? 9 ? + ? 8	7 3 3 5 5 5 5 5	279.727 294.516 303.062 144.1 9,768 68 No 50.0 75.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length bound) psi \$/Year \$/1000 gallons	ary, that is the r	esponsit	bility of th	ne utilit			
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  YSTEM DATA  Number of active Al  Are customer meters typically located  Average  OST DATA  Total annual  Customer retail unit co	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  Illed Unmetered  Length of mains: ND inactive service connections: Service connection density: d at the curbstop or property line? e length of customer service line: Average operating pressure:	+ ? 9 + ? 9 ? + ? 8	7 3 3 5 5 5 5 5	279.727 294.516 303.062 144.1 9,768 68 No 50.0 75.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length bound)	ary, that is the ri	esponsit	bility of th	ne utilit		al losses	
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Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  YSTEM DATA  Number of active Al  Are customer meters typically located  Average  OST DATA  Total annual  Customer retail unit co  Variable production	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Illed Unmetered  Length of mains: ND inactive service connections: Service connection density: d at the curbstop or property line? e length of customer service line: Average operating pressure:  Il cost of operating water system: lost (applied to Apparent Losses): on cost (applied to Real Losses):	+ ? 9 + ? 9 ? + ? 8 + ? 9 + ? 9	52	279.727 294.516 303.062 144.1 9,768 68 No 50.0 75.0 2,310,208 \$10.21 \$403.36	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length bound) psi \$/Year \$/1000 gallons	ary, that is the r	esponsit	bility of th	ne utilit		al losses	1
Real Losses = Wa  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbil  YSTEM DATA  Number of active Al  Are customer meters typically located Average  OST DATA  Total annual Customer retail unit co Variable production  VATER AUDIT DATA VALIDITY SCORE	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Illed Unmetered  Length of mains:  ND inactive service connections: Service connection density: d at the curbstop or property line? e length of customer service line:  Average operating pressure:  Ill cost of operating water system: Dot (applied to Apparent Losses): On cost (applied to Real Losses):	+ ? 9 + ? 9 + ? 3 + ? 9 + ? 9 + ? 9	9 S2 S2 S2 SCORE IS: 86 ou	279.727 294.516 303.062 144.1 9.768 68 No 50.0 75.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length bound psi \$/Year \$/1000 gallons \$/Million gallons	is (US)  Use Cus	esponsit	tail Unit C	ne utilit		al losses	-
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	AWWA Free Water Audit Softwa	American Materillian American
	System Attributes and Performance I	ndicators Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Pocono District 570 (2450063)	
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 86	6 out of 100 ***
System Attributes:	Apparent League	14.789 MG/Yr
	Apparent Losses: + Real Losses:	279.727 MG/Yr
	= Water Losses:	294.516 MG/Yr
	Unavoidable Annual Real Losses (UARL):	80.45 MG/Yr
	Annual cost of Apparent Losses:	\$151,055
	Annual cost of Real Losses:	\$2,857,134 Valued at Customer Retail Unit Cost
	7 Hindar 5550 57 From 2555555.	Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Figuration	Non-revenue water as percent by volume of Water Supplied:	45.0%
Financial:	Non-revenue water as percent by cost of operating system:	134.0% Real Losses valued at Customer Retail Unit Cos
	Apparent Losses per service connection per day:	4.15 gallons/connection/day
	Real Losses per service connection per day:	78.46 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	1.05 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	279.73 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	3.48
This performance indicator applies for	or systems with a low service connection density of less than 32 service conn	postions/mile of pipeline

STREET,	AND DESCRIPTION OF THE PARTY OF		Water Audit S	SHALL BELLEVILLE						
		Repo	orting Workshee	et					American Wate opyright © 2014.	
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:		nicsburg District 610	(7210029)						
Please enter data in the white cells below. Viput data by grading each component (n/a	Where available, metered values shou	uld be used; if me	etered values are unavail	able please est	timate a value. Ir obtain a descript	ndicate y	our confidence	ence in the	e accuracy of	the
	The state of the s		ered as: MILLION GAL					15		
	correct data grading for each input illity meets or exceeds all criteria for	t, determine the	e highest grade where			Maste	r Meter a	ind Supp	ly Error Adju	stments
ATER SUPPLIED		Contraction of the Contraction of the	Enter grading	in column 'E'	and 'J'		Pont:		Value:	
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	Water exported:	+ ? n/a	0.000	MG/Yr	+ 7		1	O  O  O  O  O  O  O  O  O  O  O  O  O	dor	MG/
	WATER SUPPLIED:		4,087.369	MG/Yr					ue for under- le for over-re	
UTHORIZED CONSUMPTION									ick here:	_
OTTOMELE GUILDING	Billed metered:	* 7 10	2,806.228	MG/Yr					ick here:	
	Billed unmetered:	* ? n/a	0.000	MG/Yr					ittons below	
	Unbilled metered:	THE RESERVE TO SERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I		MG/Yr		F	cnt:		Value:	
	Unbilled unmetered:	· ·	51.092		18/19		1.25%	• 0		MG/
Default o	ption selected for Unbilled unm		ding of 5 is applied b	ut not displa	ayed			1		
A	AUTHORIZED CONSUMPTION:	?	2,857.534	MG/Yr					se buttons to sontage of water OR	
ATER LOSSES (Water Supplied - Au	uthorized Consumption)	-	1,229.835	MG/Yr					value	
pparent Losses						F	cnt:	*	Value:	
	Unauthorized consumption:		10.218			piece		• 0	T	MG
Default option	selected for unauthorized cons				layed					
	customer metering inaccuracies:		57.274				2.00%	• 0		MG
5	Systematic data handling errors:	• ? 7	42.093				2.00	0 0	42.093	MG
			109.586							
		?	1,120.248	MG/Yr						
Real Losses = Wat	sses or CARL) er Losses - Apparent Losses:	?		MG/Yr						
Real Losses = Wat	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	?	1,120.248	MG/Yr MG/Yr						
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		1,120.248 1,229.835	MG/Yr MG/Yr						
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		1,120.248 1,229.835	MG/Yr MG/Yr						
Real Losses = Wat  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains:	7 7 9	1,120.248 1,229.835 1,281.141	MG/Yr MG/Yr						
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA	SSES OF CARL)  SET LOSSES:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: ID inactive service connections:	7 7 9	1,120.248 1,229.835 1,281.141 515.7 41,324	MG/Yr MG/Yr MG/Yr						
Real Losses = Wat  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA	sses or CARL) ter Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains:	7 7 9	1,120.248 1,229.835 1,281.141 515.7 41,324	MG/Yr MG/Yr MG/Yr	n					
Real Losses = Wat  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active AN	water Losses:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: D inactive service connections: Service connection density:	7 7 9	1,120.248 1,229.835 1,281.141 515.7 41,324 80	MG/Yr MG/Yr MG/Yr miles conn./mile mai						
Real Losses = Water Losses + Unbilled Metered + Unb	water Losses:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line?	7 9 9 7 9 7 9 7 9 7 9 7 9 9 7 9 9 7 9	1,120.248 1,229.835 1,281.141 515.7 41,324 80	MG/Yr MG/Yr MG/Yr miles conn./mile mai	th of service line			ty bounda	ıry.	
Real Losses = Wat  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  YSTEM DATA  Number of active AN  Are customer meters typically located a	water Losses:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: D inactive service connections: Service connection density:	7 9 9 7 9 7 9 7 9 7 9 7 9 9 7 9 9 7 9	1,120.248 1,229.835 1,281.141 515.7 41,324 80	MG/Yr MG/Yr MG/Yr miles conn./mile mai				ty bounda	vry.	
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Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual of Customer retail unit cost Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted service of the Control of Control	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: at (applied to Apparent Losses): at cost (applied to Real Losses): at cost (applied to Real Losses):	7 9 9 7 9 9 7 7 9 9 9 9 9 9 9 9 9 9 9 9	1,120.248 1,229.835  1,281.141  515.7 41,324 80  No 50.0  94.0  \$11,519,326 \$10.21 \$319.52  E IS: 86 out of 100 **** oss is included in the calculations are considered as a second considered considered as a second considered considered considered as a second considered considered considered consid	MG/Yr MG/Yr MG/Yr miles conn./mile mai ft (leng ft that is	th of service line, s the responsibilities the resp	Customer P	utility)			
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Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual of Customer retail unit cost Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted so  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit according to the company of the comp	WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER: d Unmetered  Length of mains: Service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: at (applied to Apparent Losses): at cost (applied to Real Losses): at cost (applied to Real Losses):	7 9 9 7 9 9 7 7 9 9 9 9 9 9 9 9 9 9 9 9	1,120.248 1,229.835  1,281.141  515.7 41,324 80  No 50.0  94.0  \$11,519,326 \$10.21 \$319.52  E IS: 86 out of 100 **** oss is included in the calculations are considered as a second considered considered as a second considered considered considered as a second considered considered considered consid	MG/Yr MG/Yr MG/Yr miles conn./mile mai ft (leng ft that is	th of service line, s the responsibilities the resp	Customer P	utility)			

	System Attributes and Performan	CE Indicators  American Water Works Associat Copyright © 2014, All Rights Resen
	Water Audit Report for: PAW- Mechanicsburg District 610	(7210029)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
ystem Attributes:	Apparent Laggary	109.586 MG/Yr
	Apparent Losses: + Real Losses:	1,120.248 MG/Yr
	= Water Losses:	1,229.835 MG/Yr
	Unavoidable Annual Real Losses (UARL):	409.09 MG/Yr
	Annual cost of Apparent Losses:	\$1,119,313
	Annual cost of Real Losses:	\$11,442,217 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	31.3%
Fillancial.	Non-revenue water as percent by cost of operating system:	113.6% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	7.27 gallons/connection/day
	Real Losses per service connection per day:	74.27 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.79 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	1,120.25 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.74
	ems with a low service connection density of less than 32 service co	

Click to access definition Click to add a comment  Please enter data in the white cells below. Where available input data by grading each component (n/a or 1-10) using the component of the comp	- Audit Parast for	E	Reportin	THE STATE OF THE S						A security of the second	ter Works Asso
Click to add a comment	- Audia Danast fam			e worksner	<u>et</u>					pyright © 2014	
Click to add a comment  ease enter data in the white cells below. Where available	r Audit Report for:	PAW- H	ershey Pa	Imyra District 62	20 (7220017)					7	
lease enter data in the white cells below. Where available put data by grading each component (n/a or 1-10) using	Reporting Year:			1/2014 - 12/2014						_	
put data by grading each component (n/a or 1-10) using	e metered values sho	uld be user	d if meterer	values are unavail	able please estima	te a value. Inc	licate you	confide	nce in the	accuracy of	the
	the drop-down list to the	ne left of th	e input cell.	Hover the mouse of	over the cell to obta	in a description	n of the g	rades	HIGE III	diounte, c.	trie
	All volum	nes to be	entered a	as: MILLION GAL	LONS (US) PER	RYEAR					
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	exceeds all criteria for	or that gra		-					nd Supp	y Error Adju	stments
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Volume	from own sources:		9	2,185.130		+ ?		.80%	0 0		MG/
	Water imported: Water exported:			11.930 0.000	MG/Yr MG/Yr	+ 7	9		<ul><li>O</li><li>O</li></ul>		MG/
	Truit. O.P.	Marian Marian	100		INIO/ 11		Enter ne	_		ue for under-	
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	Billed unmetered:	+ ?	n/a		MG/Yr					ttons below	Mon
	Unbilled metered:	+ 7			MG/Yr		Pci	nt:		Value:	
U	Inbilled unmetered:	+ 7		28.250	MG/Yr		1	25%	• 0		MG/
Default option selecte	ed for Unbilled unn	netered -	a grading	of 5 is applied b	out not displaye	d			<b>1</b>		
AUTHORIZED	D CONSUMPTION:	?		1,781.073	MG/Yr					e buttons to s tage of water	
									pura	OR	Supplies
The second secon				170 000					-	value	
VATER LOSSES (Water Supplied - Authorized Co	nsumption)			478.933	MG/Yr						
pparent Losses			-				Pcr		*	Value:	
	rized consumption:			5.650			0	25%	• 0		MG
Default option selected for				g of 5 is applied	but not display	red					
	tering inaccuracies:		7	35.772			2	00%	• 0		MG
Systematic da	ata handling errors:	+ 7	7	26.287	MG/Yr			2594	0 •	26.287	MG
bidical and a scarcing by	Apparent Losses:			67.709							
		0		144 004							
Real Losses = Water Losses - A	37.27.	?		411.224							
Real Losses = Water Losses - A	Apparent Losses: WATER LOSSES:	?		411.224 478.933							
Real Losses = Water Losses - A	WATER LOSSES:			478.933	MG/Yr						
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-RE	37.27.	7			MG/Yr						_
Real Losses = Water Losses - A  ION-REVENUE WATER  NON-RE  Water Losses + Unbilled Metered + Unbilled Unmetered	WATER LOSSES:			478.933	MG/Yr						
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-RE Water Losses + Unbilled Metered + Unbilled Unmetered	WATER LOSSES:			478.933	MG/Yr						_
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  EYSTEM DATA	WATER LOSSES: EVENUE WATER: Length of mains:	?	9	478.933 507.531	MG/Yr						_
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se	WATER LOSSES: EEVENUE WATER:  Length of mains: ervice connections:	?	9 9	478.933 507.531 325.8 20,782	MG/Yr MG/Yr miles						_
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-RE Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se	WATER LOSSES: EVENUE WATER: Length of mains:	?	manufactured by the same of th	478.933 507.531 325.8 20,782	MG/Yr						
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-RE Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se	Length of mains: ervice connections connection density:	?	manufactured by the same of th	478.933 507.531 325.8 20,782	MG/Yr MG/Yr miles conn./mile main	f earvice line,	havend this	a proper	tu bound	***************************************	
NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se  Service of	Length of mains: ervice connections: connection density: op or property line?	+ ? + ? 2	9	478.933 507.531 325.8 20,782 64	MG/Yr MG/Yr miles conn./mile main (length o	f service line, e responsibility			rty bounda	ary.	
Real Losses = Water Losses - A  NON-REVENUE WATER	Length of mains: ervice connection density: op or property line? stomer service line:	7 7 7 7	7	325.8 20,782 64 Select 50.0	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the				ty bounda	ary.	
Real Losses = Water Losses - A  ION-REVENUE WATER  NON-RE Water Losses + Unbilled Metered + Unbilled Unmetered  EYSTEM DATA  Number of active AND inactive se Service of Are customer meters typically located at the curbstop  Average length of cust	Length of mains: ervice connections: connection density: op or property line?	7 7 7 7	7	478.933 507.531 325.8 20,782 64 Select	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the				rty bounda	ary.	
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Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se Service of Are customer meters typically located at the curbsto Average length of cust  Average of  COST DATA  Total annual cost of operations	WATER LOSSES:  EEVENUE WATER:  Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure:	? ? ? ? . ? . ? ?	7 8	478.933 507.531 325.8 20,782 64 Select 50.0 79.0	MG/Yr  MG/Yr  miles  conn./mile main  ft (length o that is the psi	e responsibility			ity bounda	ary.	
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-RE Water Losses + Unbilled Metered + Unbilled Unmetered SYSTEM DATA  Number of active AND inactive se Service of Are customer meters typically located at the curbsto Average length of cust  Average of  COST DATA  Total annual cost of operat Customer retail unit cost (applied to A	WATER LOSSES:  Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: atting water system: Apparent Losses):	? ? ? ? . ? . ? ? ? ? ? ?	7 8 9 9	325.8 20,782 64 Select 50.0 79.0	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi)  \$//Year  \$/1000 gallons (	e responsibility	y of the ut	lity)			
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Real Losses = Water Losses - A  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se Service of Are customer meters typically located at the curbsto, Average length of cust  Average of  COST DATA  Total annual cost of operat Customer retail unit cost (applied to A  Variable production cost (applied	Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: ating water system: Apparent Losses): ed to Real Losses):	? ? ? ? . ? . ? . ? . ? . ? . ?	9 8 9 9 9 9	325.8 20,782 64 Select 50.0 79.0	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi)  \$//Year  \$/1000 gallons (	e responsibility	y of the ut	lity)			
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se Service of Average length of cust  Average of  COST DATA  Total annual cost of operate Customer retail unit cost (applied to A  Variable production cost (applied  NATER AUDIT DATA VALIDITY SCORE:	Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: entire water system: Apparent Losses): entire Real Losses):	? ? ? ? ? . ? . ? . ? . ? . ? . ? ? ? ? ? ?	9 9 9 9 9 SCORE IS:	\$25.8 20,782 64 Select 50.0 79.0 \$5,617,987 \$10.21 \$397.60	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi  \$/Year \$/1000 gallons (\$/Million gallons)	US)  Use Cu	y of the ut	lity)			
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se Service of Average length of cust  Average of  COST DATA  Total annual cost of operat Customer retail unit cost (applied to a Variable production cost (applied  NATER AUDIT DATA VALIDITY SCORE:	Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: entire water system: Apparent Losses): entire Real Losses):	? ? ? ? ? . ? . ? . ? . ? . ? . ? ? ? ? ? ?	9 9 9 9 9 SCORE IS:	\$25.8 20,782 64 Select 50.0 79.0 \$5,617,987 \$10.21 \$397.60	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi  \$/Year \$/1000 gallons (\$/Million gallons)	US)  Use Cu	y of the ut	lity)			
Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Number of active AND inactive se Service of Average length of cust  Average of  COST DATA  Total annual cost of operat Customer retail unit cost (applied to A  Variable production cost (applied  NATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the co	WATER LOSSES:  Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: Apparent Losses): ed to Real Losses): omponents of consump	? ? ? ? ? . ? . ? . ? . ? ? ? ?	9 9 9 9 9 SCORE IS:	\$507.531 325.8 20,782 64 Select 50.0 79.0 \$5,617,987 \$10.21 \$397.60	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi  \$/Year \$/1000 gallons (\$/Million gallons)	US)  Use Cu	y of the ut	lity)			
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Real Losses = Water Losses - A  NON-REVENUE WATER  NON-REVENUE WATER AND inactive se Service of Service of Service of Service of Average length of cust Average of COST DATA  Total annual cost of operate Customer retail unit cost (applied to Avariable production cost (applied WATER AUDIT DATA VALIDITY SCORE:	WATER LOSSES:  Length of mains: ervice connections: connection density: op or property line? stomer service line: operating pressure: Apparent Losses): ed to Real Losses): omponents of consump	? ? ? ? ? . ? . ? . ? . ? ? ? ?	9 9 9 9 9 SCORE IS:	\$507.531 325.8 20,782 64 Select 50.0 79.0 \$5,617,987 \$10.21 \$397.60	MG/Yr  MG/Yr  miles  conn/mile main  ft (length o that is the psi  \$/Year \$/1000 gallons (\$/Million gallons)	US)  Use Cu	y of the ut	lity)			
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	AWWA Free Water Audit So	Amarican Wester Associati
	System Attributes and Performan	Ce Indicators Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Hershey_Palmyra District 620	0 (7220017)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
system Attributes:	A	67.700 1100/-
	Apparent Losses: + Real Losses:	67.709 MG/Yr 411.224 MG/Yr
	= Water Losses:	478.933 MG/Yr
	- Water Losses.	4/0.533 WG/11
	Unavoidable Annual Real Losses (UARL):	183.28 MG/Yr
	Annual cost of Apparent Losses:	\$691,580
	Annual cost of Real Losses:	\$4,200,242 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	22.5%
L	Non-revenue water as percent by cost of operating system:	92.3% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	8.93 gallons/connection/day
	Real Losses per service connection per day:	54.21 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.69 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	411.22 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.24
This performance indicates applies for syst	ems with a low service connection density of less than 32 service co	ennectionalmile of singline

AWW		later Audit S				American Water W	VAS v5.0
	Reporti	ng Workshe	et			Copyright © 2014, All	
Click to access definition  Water Audit Report for: PAW  Click to add a comment  Reporting Year: 2		g_Penn District 6 1/2014 - 12/2014	(3060069)				
Please enter data in the white cells below. Where available, metered values should be input data by grading each component (n/a or 1-10) using the drop-down list to the left						the accuracy of the	
All volumes to	be entered	as: MILLION GAL	LONS (US) PER YEAR				
To select the correct data grading for each input, dete the utility meets or exceeds <u>all</u> criteria for tha	t grade and a	Il grades below it.			leter and Su	upply Error Adjustm	ents
WATER SUPPLIED			in column 'E' and 'J'	100		Value:	_
Volume from own sources:  Water imported:	7 9 7 n/a	877.744	MG/Yr **	7 9 0.	20%	0	MG/Y MG/Y
	? n/a		MG/Yr 4		•	Ö	MG/Y
					100	value for under-reg	
WATER SUPPLIED:		875.992	MG/Yr	Enter pos	sitive % or v	alue for over-regist	ration
AUTHORIZED CONSUMPTION						Click here:	
Billed metered: Billed unmetered:	7 10 7 n/a	801.799	MG/Yr MG/Yr			for help using option buttons below	
	7 10		MG/Yr	Pcn	t	Value:	
	?	10.950			25%	0	MG/Y
Default option selected for Unbilled unmetere	ed - a gradin	g of 5 is applied b	out not displayed		<b>A</b>		
AUTHORIZED CONSUMPTION:	?	814.410	MG/Yr		L	Use buttons to select	
THE THE POST OF TH		0111110			pe	rcentage of water sup <u>OR</u>	plied
						value	
VATER LOSSES (Water Supplied - Authorized Consumption)		61.582	MG/Yr			*************	
pparent Losses				Pcn	t	▼ Value:	
Unauthorized consumption:	?	2.190	MG/Yr	0.3	25%		MG/Y
Default option selected for unauthorized consumpt	ion - a gradi	ng of 5 is applied	but not displayed				
Customer metering inaccuracies:	7 7	16.397	MG/Yr	2.0	00%	0	MG/Y
Systematic data handling errors:	7	12.027	MG/Yr	0.00	1548 0 (	12.027	MG/Y
Apparent Losses:	?	30.614	MG/Yr				
Real Losses (Current Annual Real Losses or CARL)							
Real Losses = Water Losses - Apparent Losses:	?	30.968	MG/Yr				
WATER LOSSES:		61.582	MG/Yr				
ION DEVENUE WATER							_
NON-REVENUE WATER:	?	74.193	MG/Yr				
Water Losses + Unbilled Metered + Unbilled Unmetered			ALCONDO CARE				_
YSTEM DATA							
Length of mains:	7 9	162.0	miles				
	9	12,476					
Service connection density:	7	77	conn./mile main				
Are customer meters typically located at the curbstop or property line?		No					
Average length of customer service line:	7	20.0	(length of service ft that is the respon			undary,	
			The state of the s	onemy or and ann			
A constant and the second seco							
Average operating pressure:	8	86.0	psi				
Average operating pressure:	8	86.0	psi				
	8	86.0	psi				_
OST DATA							-
OST DATA  Total annual cost of operating water system:	7 9	\$3,621,052	\$/Year				-
OST DATA  Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):	? 9	\$3,621,052 \$10.21	\$/Year \$/1000 gallons (US)	Jse Customer Retz	il Unit Cost to	value real losses	
OST DATA  Total annual cost of operating water system:	? 9	\$3,621,052 \$10.21	\$/Year \$/1000 gallons (US)	Use Customer Reta	iii Unit Cost to	value real losses	
OST DATA  Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):	? 9	\$3,621,052 \$10.21	\$/Year \$/1000 gallons (US)	Use Customer Retz	ill Unit Cost to	value real losses	
OST DATA  Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):	? 9	\$3,621,052 \$10.21	\$/Year \$/1000 gallons (US)	Jse Customer Reta	ill Unit Cost to	value real losses	_
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):	? 9 ? 9 ? 9	\$3,621,052 \$10.21	\$/Year \$/1000 gallons (US)	Use Customer Reta	ill Unit Cost to	value real losses	_
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:	9 9 9 9 9 9 PR SCORE IS	\$3,621,052 \$10.21 \$230.22	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a	9 9 9 9 9 9 PR SCORE IS	\$3,621,052 \$10.21 \$230.22	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a RIORITY AREAS FOR ATTENTION:	PR SCORE IS	\$3,621,052 \$10,21 \$230,22 : 86 out of 100 ***	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	_
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a PRIORITY AREAS FOR ATTENTION:	PR SCORE IS	\$3,621,052 \$10,21 \$230,22 : 86 out of 100 ***	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a PRIORITY AREAS FOR ATTENTION:	PR SCORE IS	\$3,621,052 \$10,21 \$230,22 : 86 out of 100 ***	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a PRIORITY AREAS FOR ATTENTION:  Based on the information provided, audit accuracy can be improved by addressing the formation provided, audit accuracy can be improved by addressing the formation provided.	PR SCORE IS	\$3,621,052 \$10,21 \$230,22 : 86 out of 100 ***	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	
Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption a RIORITY AREAS FOR ATTENTION: lased on the information provided, audit accuracy can be improved by addressing the factorized to the components of consumption and the information provided and the components of consumption and the information provided and the components of consumption and consumption and consumption and consumption and consumption and consumption and consumpti	PR SCORE IS	\$3,621,052 \$10,21 \$230,22 : 86 out of 100 ***	\$/Year \$/1000 gallons (US) \$/Million gallons			value real losses	

	AWWA Free Water Audit So	
	System Attributes and Performan	Ce Indicators Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Wyomissing_Penn District 63	30 (3060069)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
System Attributes:	Apparent Losses:	30.614 MG/Yr
	+ Real Losses:	30.968 MG/Yr
	= Water Losses:	61.582 MG/Yr
	Unavoidable Annual Real Losses (UARL):	97.38 MG/Yr
	Annual cost of Apparent Losses:	\$312,692
	Annual cost of Real Losses:	\$316,307 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	8.5%
	Non-revenue water as percent by cost of operating system:	20.9% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	6.72 gallons/connection/day
	Real Losses per service connection per day:	6.80 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.08 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	30.97 million gallons/year
	7 Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.32
	illiastructure Leakage Illuex (ILI) [CARL/DARL].	0.52

			ater Audit So						
			ng Workshee					American Wate opyright © 2014,	
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:		ce District 633 (3)	060088;3060126)					
lease enter data in the white cells below. I put data by grading each component (n/a	Where available, metered values show or 1-10) using the drop-down list to the	uld be used; if metere he left of the input cell	d values are unavaila Hover the mouse or	ible please estimate a ver the cell to obtain a	value. Indicat description of	e your confid the grades	ence in the	e accuracy of t	he
				LONS (US) PER YE	AR				
	correct data grading for each input tility meets or exceeds all criteria for	for that grade and a	Il grades below it.			ster Meter a	and Supp	ly Error Adjus	stments
ATER SUPPLIED		<	Enter grading i	in column 'E' and 'J'	>	Pcnt:		Value:	
	Volume from own sources:		538.708		+ 7 9	0.71%	0 0		MG/
	Water imported: Water exported:	THE RESERVE TO SERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED	173.159 0.000		+ ? 9	2.00%	0 0		MG/
	Water exported.	+ ? n/a	0.000	MG/Yr	• 7 Ent		% or valu	for under-	MG/\(\)
	WATER SUPPLIED:		704.690	MG/Yr				ue for under- e for over-reg	-
UTHORIZED CONSUMPTION							CI	ick here:	
	Billed metered:	THE RESERVE TO THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAME	608.337	MG/Yr			for	r help using op	
	Billed unmetered:	* ? n/a	0.000	MG/Yr				ittons below	
	Unbilled metered:	DESCRIPTION OF THE PERSON NAMED IN COLUMN 1	0.015			Pcnt:		Value:	
	Unbilled unmetered:		8.809			1.25%	• 0		MG/
Default o	option selected for Unbilled unm	netered - a grading	of 5 is applied b	ut not displayed			1	11-11-11-11-11-11-11-11-11-11-11-11-11-	
,	AUTHORIZED CONSUMPTION:	7	617.161	MG/Yr				se buttons to se ntage of water	
ATER LOSSES (Water Supplied - A	uthorized Consumption)		87.529	MG/Yr			-	value	
pparent Losses						Pont:	+	Value:	
	Unauthorized consumption:	+ 7	1.762	MG/Yr		0.25%	• 0		MG/
Default option	selected for unauthorized cons								
	Customer metering inaccuracies:		12.415			2.00%	90		MG
	Customer metering inaccuracies: Systematic data handling errors:		12.415 9.125			2.0070	0 0	9.125	MG
eal Losses (Current Annual Real Lo	Apparent Losses:	7	23.302	MG/Yr					
	osses or CARL) ter Losses - Apparent Losses:	2	64.227	MG/Yr					
Real Losses = Wat	osses or CARL)			MG/Yr					
Real Losses = Wat	osses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		64.227	MG/Yr					
Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille	osses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		64.227 87.529	MG/Yr					
Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille	osses or CARL) ter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		64.227 87.529	MG/Yr					
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA	Dasses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ed Unmetered Length of mains:	7 9	64.227 87.529 96.353	MG/Yr					
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:	7 9	96.353 96.363	MG/Yr MG/Yr MG/Yr					
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA	Dasses or CARL) Iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER: ed Unmetered Length of mains:	7 9	96.353 96.363	MG/Yr MG/Yr MG/Yr					
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:	7 9	96.353 96.353 141.1 9,690 69	MG/Yr MG/Yr MG/Yr miles conn./mile main					
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:  at the curbstop or property line?	? 9 • ? 9	96.353 96.353 141.1 9.690 69	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen			rty bounda	ary,	
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:	? 9 • ? 9	96.353 96.353 141.1 9,690 69	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen			rty bounda	ary,	
Real Losses = Water Losses + Unbilled Metered + Unb	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:  at the curbstop or property line?	9 9 9 9 7 9	96.353 96.353 141.1 9.690 69	MG/Yr MG/Yr miles conn./mile main (length of sen that is the res			rty bounda	ary.	
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a  Average	NON-REVENUE WATER:  d Unmetered  Length of mains: Service connections. Service connection density: at the curbstop or property line? length of customer service line:	9 9 9 9 7 9	96.353 96.353 141.1 9,690 69 No 60.0	MG/Yr MG/Yr miles conn./mile main (length of sen that is the res			erty bounda	ary,	
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a  Average	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 9 7 9 7 4 7 8	64.227 87.529 96.353 141.1 9.690 69 No 60.0	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of sen that is the res			irty bounda	ary,	
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual	NON-REVENUE WATER:  MON-REVENUE WATER:  Monumetered  Length of mains:  No inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:	7 9 9 9 7 7 4 7 8 4 7 9	64.227 87.529 96.353 141.1 9.690 69 No 60.0 76.0	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of sen that is the res			irty bounda	ary,	
Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual  Customer retail unit cos	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 9 7 9 7 7 8 7 8 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9,690 69 No 60.0 76.0 \$2,753,639 \$10.21	MG/Yr MG/Yr miles conn./mile main ft (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered	NON-REVENUE WATER:  MON-REVENUE WATER:  Monumetered  Length of mains:  No inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:	7 9 9 7 9 7 7 8 7 8 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9,690 69 No 60.0 76.0 \$2,753,639 \$10.21	MG/Yr MG/Yr miles conn./mile main ft (length of sen that is the res		the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cost Variable production	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:	7 9 9 7 9 7 7 8 7 8 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9,690 69 No 60.0 76.0 \$2,753,639 \$10.21	MG/Yr MG/Yr miles conn./mile main ft (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active ANA  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cost Variable production	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): in cost (applied to Real Losses):	7 9 9 7 9 7 7 8 7 8 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9,690 69 No 60.0 76.0 \$2,753,639 \$10.21 \$1,091.30	MG/Yr MG/Yr miles conn./mile main ft (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cos Variable production  VATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): in cost (applied to Real Losses):	? 9 9 9 7 9 9 7 8 9 9 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9.690 69 No 60.0 76.0 \$2,753,639 \$10.21 \$1,091.30	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Wat  ION-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual  Customer retail unit cos  Variable production  VATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  MON-REVENUE WATER:  Mon-Revenue Water:  Mon-Revenue Water:  Mon-Revenue Water:  Mon-Revenue Water:  Length of mains:  No inactive service connections:  Service connection density:  At the curbstop or property line?  I length of customer service line:  Average operating pressure:  Cost of operating water system:  St (applied to Apparent Losses):  In cost (applied to Real Losses):	? 9 9 9 7 9 9 7 8 9 9 9 9 9 9 9 9 9 9 9 9	64.227 87.529 96.353 141.1 9.690 69 No 60.0 76.0 \$2,753,639 \$10.21 \$1,091.30	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cost Variable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted is RIORITY AREAS FOR ATTENTION:	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: st (applied to Apparent Losses): in cost (applied to Real Losses): scale for the components of consump	? 9 9 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	96.353  96.353  141.1 9,690 69  No 60.0  76.0 \$\$10.21 \$1,091.30  86 out of 100*** s included in the calculations are selected as included in the calculations.	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cos Variable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted asset on the information provided, audit according to the production of the	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: st (applied to Apparent Losses): in cost (applied to Real Losses): scale for the components of consump	? 9 9 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	96.353  96.353  141.1 9,690 69  No 60.0  76.0 \$\$10.21 \$1,091.30  86 out of 100*** s included in the calculations are selected as included in the calculations.	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			
Real Losses = Water  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cos Variable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted active AN  A weighted AN  A weight	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: st (applied to Apparent Losses): in cost (applied to Real Losses): scale for the components of consump	? 9 9 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	96.353  96.353  141.1 9,690 69  No 60.0  76.0 \$\$10.21 \$1,091.30  86 out of 100*** s included in the calculations are selected as included in the calculations.	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			
Water Losses + Unbilled Metered + Unbille EYSTEM DATA  Number of active AN  Are customer meters typically located a Average  COST DATA  Total annual Customer retail unit cos Variable production  VATER AUDIT DATA VALIDITY SCORE:  A weighted is PRIORITY AREAS FOR ATTENTION: lased on the information provided, audit accelerated	NON-REVENUE WATER:  d Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure: st (applied to Apparent Losses): in cost (applied to Real Losses): scale for the components of consump	? 9 9 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	96.353  96.353  141.1 9,690 69  No 60.0  76.0 \$\$10.21 \$1,091.30  86 out of 100*** s included in the calculations are selected as included in the calculations.	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of sen that is the res	ponsibility of	the utility)			

	AWWA Free Water Audit Soft	American Minter Monte Associati
	System Attributes and Performance	e Indicators Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Glenn Alsace District 633 (306)	0088;3060126)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS:	86 out of 100 ***
ystem Attributes:	Apparent Lacocca	22 202 NOV
	Apparent Losses: + Real Losses:	23.302 MG/Yr 64.227 MG/Yr
	= Water Losses:	87.529 MG/Yr
	Hasvaidable Agrael Basil acces (HARI):	
	Unavoidable Annual Real Losses (UARL):	84.40 MG/Yr
	Annual cost of Apparent Losses:	\$238,008
	Annual cost of Real Losses:	\$656,015 Valued at Customer Retail Unit Cost  Return to Reporting Worksheet to change this assumption
Performance Indicators:		Notality Nepolaling Worksheet to change this assumption
	Non-revenue water as percent by volume of Water Supplied:	13.7%
Financial:	Non-revenue water as percent by cost of operating system:	35.7% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	6.59 gallons/connection/day
	Real Losses per service connection per day:	18.16 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.24 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	64.23 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.76
This performance indicator applies for	r systems with a low service connection density of less than 32 service con-	nestions/mile of sincline

			<b>Vater Audit So</b>						
		Report	ing Workshee	at					ter Works Assoc i, All Rights Res
Click to access definition	Water Audit Report for:	PAW- Roversfor	d District 640 (115	50166-1150206)					
Click to add a comment	Reporting Year:		1/2014 - 12/2014	100,1100200,					
ease enter data in the white cells below. \	Where available metered values show	uld be used: if meter	red values are unavail:	able please estimate	a value Indicate	e vour confic	fance in th	e accuracy of	the
out data by grading each component (n/a	or 1-10) using the drop-down list to the	he left of the input ce	II. Hover the mouse o	ver the cell to obtain	a description of	the grades	lence in	e accuracy c.	trie
	All volum	nes to be entered	d as: MILLION GAL	LONS (US) PER	YEAR				
	correct data grading for each input								ALL DOLL
	tility meets or exceeds <u>all</u> criteria for	or that grade and					and Supp	ly Error Adju	stments
VATER SUPPLIED		· · · · ·		in column 'E' and '		Pcnt:		Value:	- Janes
	Volume from own sources: Water imported:		1,301.640 61.288	20162	+ 7 9	-0.45%	0 0		MG/Y
	Water exported:			MG/Yr	+ ?		0 0		MG/Y
					Ente	er negative	% or val	ue for under	registration
	WATER SUPPLIED:		1,368.812	MG/Yr	Ente	er positive	% or valu	e for over-re	gistration
UTHORIZED CONSUMPTION						7/18-19	C	lick here:	
	Billed metered:		1,218.749				for	r help using o	
	Billed unmetered: Unbilled metered:	The second secon	The second secon	MG/Yr		Deat	bu	uttons below	
	Unbilled metered: Unbilled unmetered:	THE RESERVE TO SERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED	0.012 17.110			Pcnt: 1.25%	• 0	Value:	MG/Y
Default o	option selected for Unbilled unn					1 in the second	<b>A</b>		IMO.
	AUTHORIZED CONSUMPTION:	7	1,235.871					se buttons to	
	TOTHORIZED CONCOMI TIC		1,200.01	MG/TI			percer	ntage of water OR	supplied
								value	
ATER LOSSES (Water Supplied - A	uthorized Consumption)		132.941	MG/Yr				*******	
pparent Losses						Pcnt:	*	Value:	
	Unauthorized consumption:	The second secon	3.422			0.25%	• 0		MG/Y
Default option	selected for unauthorized cons	sumption - a grad			1				
	Customer metering inaccuracies:		24.873			2.00%	• 0		MG/
	Systematic data handling errors:	+ 2 7	10 201	110 N/-		THE RESERVE OF THE PARTY NAMED IN	0	18.281	MG/
			18.281	MG/11		-	0 0		
eal Losses (Current Annual Real Lo	Apparent Losses:	7	46.576	MG/Yr					
eal Losses (Current Annual Real Lo	Apparent Losses:	7		MG/Yr					
eal Losses (Current Annual Real Lo	Apparent Losses:	7	46.576	MG/Yr					
eal <u>Losses (Current Annual Real Lo</u> Real Losses = Wal	Apparent Losses:  osses or CARL) ter Losses - Apparent Losses:	7	46.576 86.365	MG/Yr					
eal Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER	Apparent Losses:  osses or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:	7	46.576 86.365	MG/Yr MG/Yr MG/Yr					
eal Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille	Apparent Losses:  osses or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:	7	46.576 86.365 132.941	MG/Yr MG/Yr MG/Yr					
eal Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER	Apparent Losses:  OSSES OF CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  and Unmetered	?	46.576 86.365 132.941 150.063	MG/Yr MG/Yr MG/Yr					
Real Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbilled	Apparent Losses:  OSSES or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: ad Unmetered  Length of mains:	7 7 9	46.576 86.365 132.941 150.063	MG/Yr MG/Yr MG/Yr					
Real Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbilled	Apparent Losses:  OSSES OF CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  and Unmetered	7 7 9	46.576 86.365 132.941 150.063	MG/Yr MG/Yr MG/Yr					
eal Losses (Current Annual Real Lo Real Losses = Wat ON-REVENUE WATER Water Losses + Unbilled Metered + Unbille YSTEM DATA Number of active AN	Apparent Losses:  OSSES OF CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  Ed Unmetered  Length of mains:  ND inactive service connections:  Service connection density:	7 7 9	46.576 86.365 132.941 150.063 275.1 16,801 61	MG/Yr MG/Yr MG/Yr miles					
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN	Apparent Losses:  OSSES or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: ad Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line?	7 7 9 7 9 7 9 7	46.576 86.365 132.941 150.063 275.1 16,801 61	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of s	service line, beyo			lary.	
CON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  Number of active AM  Are customer meters typically located a	Apparent Losses:  OSSES OF CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  Ed Unmetered  Length of mains:  ND inactive service connections:  Service connection density:	7 7 9 7 9 7 9 7	46.576 86.365 132.941 150.063 275.1 16,801 61	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of s	service line, <u>beyo</u> responsibility of ti			lary.	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN	Apparent Losses:  OSSES or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: ad Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line?	7 9 7 9 7	46.576 86.365 132.941 150.063 275.1 16,801 61	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r				lary.	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille  YSTEM DATA  Number of active AN	Apparent Losses:  Description of CARL)  ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:	7 9 7 9 7	46.576 86.365 132.941 150.063 275.1 16,801 61 No 60.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r				lary,	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average	Apparent Losses:  Description of CARL)  ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:	7 9 7 9 7	46.576 86.365 132.941 150.063 275.1 16,801 61 No 60.0	MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r				lary.	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average	Apparent Losses:  OSSES or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  In the dunmetered  Length of mains:  No inactive service connections:  Service connection density:  It the curbstop or property line?  It length of customer service line:  Average operating pressure:	7 7 9 • 7 9 • 7 9 • 7 9 • 7 8 • 7 8	46.576  86.365  132.941  150.063  275.1  16.801  61  No 60.0	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r				lary.	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average	Apparent Losses:  OSSES or CARL)  ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:	7 7 9 7 9 7 7 4 7 8 4 7 9	46.576  86.365  132.941  150.063  275.1  16,801  61  No 60.0  70.0	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r	responsibility of th			lary.	
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual Customer retail unit cos	Apparent Losses:  OSSES or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  In the dunmetered  Length of mains:  No inactive service connections:  Service connection density:  It the curbstop or property line?  It length of customer service line:  Average operating pressure:	7 7 9 7 9 7 7 8 4 7 9 4 7 9 4 7 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r	responsibility of th	the utility)	erty bound		
PON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual  Customer retail unit cos	Apparent Losses:  OSSES or CARL)  ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:  cost of operating water system:  st (applied to Apparent Losses):	7 7 9 7 9 7 7 8 4 7 9 4 7 9 4 7 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r	responsibility of the	the utility)	erty bound		
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual  Customer retail unit cos  Variable production	Apparent Losses:  OSSES or CARL)  ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  d Unmetered  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:  cost of operating water system:  st (applied to Apparent Losses):	7 7 9 7 9 7 7 8 4 7 9 4 7 9 4 7 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r	responsibility of the	the utility)	erty bound		
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a  Average  OST DATA  Total annual  Customer retail unit cos  Variable production	Apparent Losses:  Description of mains:  NON-REVENUE WATER:  and Unmetered  Length of mains:  No inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:  cost of operating water system:  st (applied to Apparent Losses):  n cost (applied to Real Losses):	7 7 7 9 7 9 7 7 8 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi  \$/Year \$/1000 gallons (US \$/Million gallons	responsibility of the	the utility)	erty bound		
eal Losses (Current Annual Real Lo Real Losses = Wat  ON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille YSTEM DATA  Number of active AN  Are customer meters typically located a Average  OST DATA  Total annual Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:	Apparent Losses:  OSSES or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  In dunmetered  Length of mains:  No inactive service connections:  Service connection density:  It the curbstop or property line?  I length of customer service line:  Average operating pressure:  Cost of operating water system:  It (applied to Apparent Losses):  In cost (applied to Real Losses):	7 7 9 9 9 7 9 9 9 9 7 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1  16.801  61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		
Real Losses (Current Annual Real Losses = Water Losses = Water Losses + Unbilled Metered	Apparent Losses:  Description of mains:  NON-REVENUE WATER:  and Unmetered  Length of mains:  No inactive service connections:  Service connection density:  at the curbstop or property line?  length of customer service line:  Average operating pressure:  cost of operating water system:  st (applied to Apparent Losses):  n cost (applied to Real Losses):	7 7 9 9 9 7 9 9 9 9 7 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1  16.801  61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		
CON-REVENUE WATER  Water Losses + Unbilled Metered	Apparent Losses:  OSSES or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:  In dunmetered  Length of mains:  No inactive service connections:  Service connection density:  It the curbstop or property line?  I length of customer service line:  Average operating pressure:  Cost of operating water system:  It (applied to Apparent Losses):  In cost (applied to Real Losses):	7 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1  16.801  61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		
Real Losses (Current Annual Real Losses = Water Losses = Water Losses + Unbilled Metered	Apparent Losses:  Sesses or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: and Unmetered  Length of mains: No inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses): scale for the components of consump	7 9 9 7 9 9 7 7 8 9 9 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		
Real Losses (Current Annual Real Losses = Water Losses = Water Losses + Unbilled Metered	Apparent Losses:  Sesses or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: and Unmetered  Length of mains: No inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses): scale for the components of consump	7 9 9 7 9 9 7 7 8 9 9 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		
Real Losses (Current Annual Real Losses = Walt RON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled BYSTEM DATA  Number of active AN  Are customer meters typically located a  Average  COST DATA  Total annual  Customer retail unit cos  Variable production  NATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit act	Apparent Losses:  Sesses or CARL) ter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER: and Unmetered  Length of mains: No inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: Average operating pressure:  cost of operating water system: st (applied to Apparent Losses): n cost (applied to Real Losses): scale for the components of consump	7 9 9 7 9 9 7 7 8 9 9 9 9 9 9 9 9 9 9 9	46.576  86.365  132.941  150.063  275.1 16,801 61  No 60.0  70.0  \$4,737,109 \$10.21 \$469.56	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of s that is the r psi \$/Year \$/1000 gallons (US \$/Million gallons	S)  Use Custome	ihe utility) er Retail Unit	erty bound		

	AWWA Free Water Audit Sol	American Wester Merke Associati
	System Attributes and Performance	<u>Ce Indicators</u> Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Royersford District 640 (1150	166;1150206)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	S: 86 out of 100 ***
system Attributes:	Apparent Lossos:	46.576 MG/Yr
	Apparent Losses: + Real Losses:	86.365 MG/Yr
	= Water Losses:	132.941 MG/Yr
	Unavoidable Annual Real Losses (UARL):	139.00 MG/Yr
	Annual cost of Apparent Losses:	\$475,727
	Annual cost of Real Losses:	\$882,130 Valued at Customer Retail Unit Cost
	7 till dal 300t 01 1 total 200000.	Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	11.0%
Financial:	Non-revenue water as percent by cost of operating system:	32.4% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	7.60 gallons/connection/day
	Real Losses per service connection per day:	14.08 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.20 gallons/connection/day/psi
F	rom Above, Real Losses = Current Annual Real Losses (CARL):	86.36 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.62
	ms with a low service connection density of less than 32 service co	

	A	WWA Free V	Vater Audit So	oftware:			AS v5.0
		Report	ing Workshee	<u>et</u>		American Water Wo Copyright © 2014, All R	rks Association lights Reserved
Click to access definition Click to add a comment	Water Audit Report for: Reporting Year:	PAW- Coatesvill 2014	e District 650 (115 1/2014 - 12/2014	0106)			
Please enter data in the white cells below. input data by grading each component (n/a	Where available, metered values show or 1-10) using the drop-down list to the	uld be used; if meter ne left of the input or	red values are unavaila	able please estimate a valu ver the cell to obtain a desc	e. Indicate your confidence cription of the grades	in the accuracy of the	
	All volum	nes to be entere	d as: MILLION GAL	LONS (US) PER YEAR			
	correct data grading for each input tility meets or exceeds <u>all</u> criteria f	or that grade and	all grades below it.			Supply Error Adjustme	ents
WATER SUPPLIED		<	Enter grading	in column 'E' and 'J'		Value:	
	Volume from own sources:		1,290.204		9 4.90%	0	MG/Yr MG/Yr
	Water imported: Water exported:		0.000 49.756		7 0	Ö	MG/Yr
	Trater enperteur				Enter negative % of	or value for under-regis	stration
	WATER SUPPLIED:		1,180.181	MG/Yr	Enter positive % or	value for over-registra	ation
AUTHORIZED CONSUMPTION						Click here:	
	Billed metered:	7 10	903.075			for help using option buttons below	
	Billed unmetered: Unbilled metered:	the same and the s	0.000 36.725		Pcnt:	Value:	
	Unbilled unmetered:	CONTRACTOR OF THE PERSON NAMED IN COLUMN 1	14.752		1.25%	0	MG/Yr
Default	option selected for Unbilled unn		at a frequency and a few sections of		<b>+</b>		
	AUTHORIZED CONSUMPTION:	7	954.552		l	Use buttons to select	
	AUTHORIZED CONSOMPTION.		304.002	WG/11		percentage of water supp OR	olled
					_	value	
WATER LOSSES (Water Supplied - A	Authorized Consumption)		225.629	MG/Yr			
Apparent Losses					Pcnt:	▼ Value:	7
	Unauthorized consumption:		2.950		0.25%	0	MG/Yr
Default option	selected for unauthorized cons	sumption - a grad	ding of 5 is applied	but not displayed			_
	Customer metering inaccuracies:		19.180		2.00%	0	MG/Yr
	Systematic data handling errors:	+ 7 7	13.546	MG/Yr	0.25	• 13.546	MG/Yr
		-	25.676				
	Apparent Losses:	7	35.676	MG/Yr			
Real Losses (Current Annual Real L		2	189.953	MC/Ve			
Real Losses = Wa	ater Losses - Apparent Losses:	-					
	WATER LOSSES:		225.629	MG/Yr			_
NON-REVENUE WATER							
	NON-REVENUE WATER:	?	277.106	MG/Yr			
= Water Losses + Unbilled Metered + Unbil	led Unmetered						-
SYSTEM DATA							
	Length of mains:			miles			
Number of active A	ND inactive service connections: Service connection density:	7 9	13,318	conn./mile main			
	Service connection density.		07	Comprise main			
Are customer meters typically located	at the curbstop or property line?		No	(length of service	line, beyond the property	boundary.	
Average	e length of customer service line:	+ 7 7	24.0		nsibility of the utility)	D1111111111111	
			95.0	nai			
	Average operating pressure:	7 8	85.0	psi			
COST DATA							_
COST DATA		2	60.015.55	404			
	cost of operating water system:		\$3,645,587				
	ost (applied to Apparent Losses): on cost (applied to Real Losses):			\$/1000 gallons (US) \$/Million gallons	Use Customer Retail Unit Cost	to value real losses	
variable producti	on cost (applied to Real Losses):	9	2021.93	William Manoria	CONTRACTOR ACTOR COST	TO THIS TENN MADES	
WATER AUDIT DATA VALIDITY SCORE	<u>:</u>						7
	**	* YOUR SCORE	IS: 86 out of 100 ***				
A weighte	d scale for the components of consum	ption and water los	s is included in the cal	culation of the Water Audit	Data Validity Score		
PRIORITY AREAS FOR ATTENTION:	• *************************************						
		- H - f-H - 1-					
Based on the information provided, audit a	ccuracy can be improved by addressi	ng the following cor	nponents:				
1: Volume from own sources							
2: Unauthorized consumption							
3: Customer metering inaccuracies							

	AWWA Free Water Audit So	American Motor Morke Acceptati
	System Attributes and Performan	Ce Indicators Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Coatesville District 650 (115	0106)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
ystem Attributes:	Assessed Leaves	25 C7C NCO/-
	Apparent Losses: + Real Losses:	35.676 MG/Yr 189.953 MG/Yr
	= Water Losses:	225.629 MG/Yr
	Unavoidable Annual Real Losses (UARL):	
		109.65 MG/Yr
	Annual cost of Apparent Losses:	\$364,396
	Annual cost of Real Losses:	\$1,940,176 Valued at Customer Retail Unit Cost  Return to Reporting Worksheet to change this assumption
erformance Indicators:		
	Non-revenue water as percent by volume of Water Supplied:	23.5%
Financial:	Non-revenue water as percent by cost of operating system:	77.6% Real Losses valued at Customer Retail Unit Cost
_	Apparent Losses per service connection per day:	7.34 gallons/connection/day
	Real Losses per service connection per day:	39.08 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.46 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	189.95 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.73
This performance indicator applies for quet	ems with a low service connection density of less than 32 service c	opportions/mile of pineline

AWV								VALUE OF STREET
and the property of the street	Reportin	ng Workshee	1				American Water opyright © 2014.	
Click to access definition Water Audit Report for: PA	W- Lake Herita	ge District 660 (	7010035)				7	
Click to add a comment Reporting Year:		1/2014 - 12/2014	10000				_	
ease enter data in the white cells below. Where available, metered values should b						lence in the	accuracy of the	he
put data by grading each component (n/a or 1-10) using the drop-down list to the le	eft of the input cell.	Hover the mouse o	over the cell to obtain a d	description of				
0.0000000000000000000000000000000000000			LONS (US) PER YEA	AR				
To select the correct data grading for each input, de the utility meets or exceeds <u>all</u> criteria for the				Mar	tor Meter	and Sunni	- Error Adjus	terante
VATER SUPPLIED		The same of the sa	in column 'E' and 'J' -		Pont:	and Supp.	y Error Adjus Value:	itmenis
Volume from own sources:	7 9	38.515	_	7 9	0.00%	• 0	Value.	MG/
Water imported:	7 n/a	0.000	MG/Yr	+ ?		• 0		MG/
Water exported:	7 n/a	0.000	MG/Yr	?		• 0		MG/
WATER SUPPLIED:		38.515	MC/Vr				e for under-reg	
			MOLT	-	n position.			_
AUTHORIZED CONSUMPTION  Billed metered:	7 10	37.082	MG/Yr				ck here: 2	
Billed unmetered:	7 n/a	0.000	MG/Yr				ttons below	lor.
Unbilled metered:	7 10		MG/Yr		Pont:		Value:	-
Unbilled unmetered:		- Colombia	MG/Yr		1.25%	• 0		MG
Default option selected for Unbilled unmete						Us	e buttons to se	elect
AUTHORIZED CONSUMPTION:	7	37.563	MG/Yr				tage of water s	
							OR value	
NATER LOSSES (Water Supplied - Authorized Consumption)		0.952	MG/Yr			1		
Apparent Losses					Pont:	+	Value:	
Unauthorized consumption:	7	0.096	MG/Yr		0.25%	• 0	1	MG/
Default option selected for unauthorized consum		ng of 5 is applied	but not displayed					
Customer metering inaccuracies:		0.757			2.00%	• 0		MG
Systematic data handling errors:		0.093			0.25%	• 0		MG
Default option selected for Systematic data ha	andling arrors -	Day of Fire	40 4 4 4	hound				
Apparent Losses: Real Losses (Current Annual Real Losses or CARL)	7	0.946	MG/Yr	piayed				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:		0.946	MG/Yr	nayed				
Apparent Losses: Real Losses (Current Annual Real Losses or CARL)	7	0.946	MG/Yr	nayed				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:	2	0.946 0.006 0.952	MG/Yr MG/Yr MG/Yr	лауец				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:	7	0.946	MG/Yr MG/Yr MG/Yr	пауец				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered	2	0.946 0.006 0.952	MG/Yr MG/Yr MG/Yr	nayed				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA	2	0.946 0.006 0.952	MG/Yr MG/Yr MG/Yr MG/Yr	nayed				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  For Water Losses + Unbilled Metered + Unbilled Unmetered	2	0.946 0.006 0.952	MG/Yr MG/Yr MG/Yr	nayed				_
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  Parallel Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0.946 0.006 0.952 1.433	MG/Yr MG/Yr MG/Yr MG/Yr	nayed				
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:	7 9 7 9	0.946 0.006 0.952 1.433	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main					
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	7 9 9 9 7	0.946 0.006 0.952 1.433	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:	? 9 9 9 ? 7 7 P	0.946 0.006 0.952 1.433 13.3 849 64 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the resp	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  = Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	? 9 9 9 ? 7 7 P	0.946 0.006 0.952 1.433	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the resp	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  E Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	? 9 9 9 ? 7 7 P	0.946 0.006 0.952 1.433 13.3 849 64 No 50.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the resp	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	? 9 9 9 ? 7 7 7 8	0.946 0.006 0.952 1.433 13.3 849 64 No 50.0	MG/Yr MG/Yr MG/Yr MG/Yr miles conn/mile main (length of serv that is the resp	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  E Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system:	2 2 2 2 9 2 9 2 9 7	0.946 0.006 0.952 1.433 13.3 849 64 No 50.0 \$246,251	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the resp	rice line, beyon		erty bounda	ıry.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	? 9 ? 9 ? 7 ? 8	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the resp	rice line, <u>beyo</u> r	he utility)			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OSST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses):	? 9 ? 9 ? 7 ? 8	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the resp	ice line, <u>beyo</u> onsibility of ti	he utility)			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density: Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):	? 9 ? 9 ? 7 ? 8	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the resp	ice line, <u>beyo</u> onsibility of ti	he utility)			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:	? 9 9 7 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 9 7 9 9 9 9 7 9	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the resp	ice line, <u>beyo</u> onsibility of ti	he utility)			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  Non-REVENUE WATER:  Parallel Metered + Unbilled Unmetered  System DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  ***YO	2	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21 \$259.07	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the responsion of the servent that is the servent that	ice line, <u>beyo</u> consibility of the consibility of the consibility of the consideration of the constant of the	er Retail Unit			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density: Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating water system: Variable production cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  *** YO  A weighted scale for the components of consumption	2	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21 \$259.07	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the response services for the servi	ice line, <u>beyo</u> consibility of the consibility of the consibility of the consideration of the constant of the	er Retail Unit			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION:	7 9 9 7 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21  \$259.07	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the response services for the servi	ice line, <u>beyo</u> consibility of the consibility of the consibility of the consideration of the constant of the	er Retail Unit			
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Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  F Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy can be improved by addressing the 1: Volume from own sources	7 9 9 7 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21  \$259.07	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the response services for the servi	ice line, <u>beyo</u> consibility of the consibility of the consibility of the consideration of the constant of the	er Retail Unit			
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy can be improved by addressing the	7 9 9 7 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9	0.946  0.006  0.952  1.433  13.3  849  64  No 50.0  54.0  \$246,251  \$10.21  \$259.07	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of serv that is the response services for the servi	ice line, <u>beyo</u> consibility of the consibility of the consibility of the consideration of the constant of the	er Retail Unit			

	AWWA Free Water Audit S	oftware: WAS v5.0
	System Attributes and Performa	American Water Works Association.  Copyright © 2014, All Rights Reserved.
	Water Audit Report for: PAW- Lake Heritage District 660 ( Reporting Year: 2014 1/2014 - 12/2014	7010035)
System Attributes:	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 84 out of 100 ***
	Apparent Losses:	0.946 MG/Yr
	+ Real Losses:	0.006 MG/Yr
	= Water Losses:	0.952 MG/Yr
	Unavoidable Annual Real Losses (UARL):	See limits in definition MG/Yr
	Annual cost of Apparent Losses:	\$9,660
	Annual cost of Real Losses:	\$59 Valued at Customer Retail Unit Cost
Performance Indicators:		Return to Reporting Worksheet to change this assumption
	Non-revenue water as percent by volume of Water Supplied:	3.7%
Financial:	Non-revenue water as percent by cost of operating system:	5.9% Real Losses valued at Customer Retail Unit Cost
_	Apparent Losses per service connection per day:	2.05 college/sourcetion/dev
The second secon		3.05 gallons/connection/day
Operational Efficiency:	Real Losses per service connection per day:	0.02 gallons/connection/day
	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.00 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	0.01 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	
* This performance indicator applies for	systems with a low service connection density of less than 32 service of	onnections/mile of pipeline

	WWA Free W	ater Audit So	ftware:					WAS v5.0
		ng Workshee					American Wal pyright © 2014	ter Works Associ L. All Rights Rese
Click to access definition Water Audit Report for: Reporting Year:		ke District 680 (Me 1/2014 - 12/2014	ultiple)					
Please enter data in the white cells below. Where available, metered values shou nput data by grading each component (n/a or 1-10) using the drop-down list to the						ence in the	accuracy of	the
			LONS (US) PER YEA	R				
To select the correct data grading for each input the utility meets or exceeds <u>all</u> criteria f	for that grade and al	Il grades below it.			er Meter a	nd Suppl	y Error Adju	stments
NATER SUPPLIED			in column 'E' and 'J'		Pcnt:		Value:	
Volume from own sources:		549.709	2000 EX. 84	7 9	-1.10%	0 0		MG/Yr
Water imported: Water exported:		0.000		?		0 0		MG/Yr
						% or valu		-registration
WATER SUPPLIED:		555.823	MG/Yr	Enter	positive		e for over-re	
UTHORIZED CONSUMPTION	2 10	202 797					ck here:	
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Unbilled metered:	Concession of the Parket of th	0.000			Pont:		Value:	
Unbilled unmetered:		6.948				• 0	Value	MG/Y
Default option selected for Unbilled unn		An Alexander		4	Time .	A		]
							e buttons to	
AUTHORIZED CONSUMPTION:	7	290.748	MG/Yr				tage of water	
VATER LOSSES (Water Supplied - Authorized Consumption)		265.075	HOW.			-	value	
		200.010	MG/YI					
pparent Losses		1 200	- constraints		Pont:	9 0	Value:	
Unauthorized consumption:		1.390			0.25%	• 0		MG/Y
Default option selected for unauthorized cons		ng of 5 is applied	but not displayed					
Customer metering inaccuracies:	* 7 7	5.792			2.00%	• 0		MG/
Systematic data handling errors:	+ 7 7	4.257			11.25	0 •	4.257	MG/Y
Apparent Losses		11.438	100/-					
Apparent Losses:	100	11.400	MG/Yr					
Real Losses (Current Annual Real Losses or CARL)								
Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:	7	253.637						
	7	253.637 265.075	MG/Yr					
Real Losses = Water Losses - Apparent Losses: WATER LOSSES: ION-REVENUE WATER		265.075	MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses: WATER LOSSES:  ON-REVENUE WATER NON-REVENUE WATER:	?		MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered		265.075	MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered		265.075	MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:	2 9	265.075 1 272.036 1	MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER: Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains: Number of active AND inactive service connections:	2 9	272.036 I	MG/Yr MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:	2 9	272.036 I	MG/Yr MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains:  Number of active AND inactive service connections:  Service connection density:	• 2 9 • 7 9	272.036 1 170.0 1 10,647 63	MG/Yr MG/Yr MG/Yr					
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	7 9 9 7 9	272.036 1 170.0 1 10.647 63	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servi			rty bounda	ary,	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains:  Number of active AND inactive service connections:  Service connection density:	7 9 9 7 9	272.036 1 170.0 1 10,647 63	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servi			rty bounda	ary.	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:	• 2 9 • 7 9	272.036 1 170.0 1 10,647 63 0	MG/Yr MG/Yr miles conn./mile main (length of servi			rty bounda	ary,	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	• 2 9 • 7 9	272.036 1 170.0 1 10.647 63	MG/Yr MG/Yr miles conn./mile main (length of servi			rty bounda	ary,	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	• 2 9 • 7 9	272.036 1 170.0 1 10,647 63 0	MG/Yr MG/Yr miles conn./mile main (length of servi			rty bounda	ary.	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	7 • 7 9 • 7 9 • 7 9 • 7 7	272.036 1 170.0 1 10.647 63 c	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp			rty bounda	ary.	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system:	7 9 9 9 7 9 7 8	272.036 1 170.0 10.647 63 0 No 50.0 1 71.0 p	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp			rty bounda	ary.	
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses):	• ? 9 • ? 8	272.036 1 170.0 10,647 63 C No 50.0 171.0 p \$2,155,516 \$ \$10.21 \$	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of servithat is the resp psi	onsibility of the	e utility)			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system:	• ? 9 • ? 8	272.036 1 170.0 10,647 63 C No 50.0 171.0 p \$2,155,516 \$ \$10.21 \$	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp		e utility)			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses):	• ? 9 • ? 8	272.036 1 170.0 10,647 63 C No 50.0 171.0 p \$2,155,516 \$ \$10.21 \$	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of servithat is the resp psi	onsibility of the	e utility)			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:	• ? 9 • ? 9 • ? 8	272.036 1 170.0 10,647 63 C	MG/Yr MG/Yr  MG/Yr  miles  conn./mile main  (length of servithat is the resp psi	onsibility of the	e utility)			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:	7 9 9 9 2 7 4 7 8 4 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	272.036 1 170.0 10.647 63 c	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  EYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:	7 9 9 9 2 7 4 2 8 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 9	272.036 1 170.0 10.647 63 c	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:	7 9 9 9 2 7 4 2 8 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 4 2 9 9 9 9	272.036 1 170.0 10.647 63 c	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  EYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:	• ? 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	272.036 1  170.0 1 10,647 63 6  No 50.0 1  71.0 p  \$2,155,516 \$10.21 \$378.91 \$5  86 out of 100 **** s included in the calculations in the calculation in the calculat	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumptions of the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided and the components of consumptions and the information provided and the information provided and the components of consumptions are consumptions.	• ? 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	272.036 1  170.0 1 10,647 63 6  No 50.0 1  71.0 p  \$2,155,516 \$10.21 \$378.91 \$5  86 out of 100 **** s included in the calculations in the calculation in the calculat	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  WATER LOSSES:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption of the information provided, audit accuracy can be improved by addressing 1: Volume from own sources	• ? 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	272.036 1  170.0 1 10,647 63 6  No 50.0 1  71.0 p  \$2,155,516 \$10.21 \$378.91 \$5  86 out of 100 **** s included in the calculations in the calculation in the calculat	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			
Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  ION-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumptions of the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided, audit accuracy can be improved by addressing and the information provided and the components of consumptions and the information provided and the information provided and the components of consumptions are consumptions.	• ? 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	272.036 1  170.0 1 10,647 63 6  No 50.0 1  71.0 p  \$2,155,516 \$10.21 \$378.91 \$5  86 out of 100 **** s included in the calculations in the calculation in the calculat	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of servithat is the resp psi \$/Year \$/1000 gallons (US) \$/Million gallons	Onsibility of the	e utility)  Retail Unit (			

	System Attributes and Performance	American Water Works Associate Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Lehman Pike District 680 (Mul	ltiple)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE IS	S: 86 out of 100 ***
ystem Attributes:	A	44 420 1400/-
	Apparent Losses: + Real Losses:	11.438 MG/Yr 253.637 MG/Yr
	= Water Losses:	265.075 MG/Yr
	Unavoidable Annual Real Losses (UARL):	84.82 MG/Yr
	Annual cost of Apparent Losses:	\$116,830
	Annual cost of Real Losses:	\$2,590,649 Valued at Customer Retail Unit Cost
Performance Indicators:		Return to Reporting Worksheet to change this assumption
remormance indicators.	Man revenue water as percent by valume of Water Supplied:	49 09/
Financial: -	Non-revenue water as percent by volume of Water Supplied:	48.9%
	Non-revenue water as percent by cost of operating system:	128.9% Real Losses valued at Customer Retail Unit Cost
Γ	Apparent Losses per service connection per day:	2.94 gallons/connection/day
	Real Losses per service connection per day:	65.27 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.92 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	253.64 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.99
	systems with a low service connection density of less than 32 service cor	

		WWA Free V	Vater Audit S	oftware:		WAS v5.0
		Report	ing Workshee	1		American Water Works Asso Copyright © 2014, All Rights Re
? Click to access definition	Mater Audit Depart for	DAW Milton Die	triot 710 (District	740)		
Click to add a comment	Water Audit Report for Reporting Year		1/2014 - 12/2014	710)		_
Please enter data in the white cells below.	Mhere available, metered values shr	uld be used: if meter	ed values are unavail	able please estimate a value	Indicate your confidence in t	he accuracy of the
input data by grading each component (n/a	or 1-10) using the drop-down list to	he left of the input ce	ell. Hover the mouse of	ver the cell to obtain a descr	iption of the grades	to accordey or the
	All volu	mes to be entered	das: MILLION GAL	LONS (US) PER YEAR		
	correct data grading for each inputility meets or exceeds all criteria				Master Meter and Sup	ply Error Adjustments
WATER SUPPLIED	,	The second secon	And the second second second	in column 'E' and 'J'		Value:
WATER SUPPLIED	Volume from own sources:		1,869.076		9 2.00%	MG/
	Water imported				7	MG/
	Water exported		0.000	MG/Yr	7	MG/
			4 000 407			lue for under-registration
	WATER SUPPLIED:		1,832.427	MG/Yr	Enter positive % or val	ue for over-registration
AUTHORIZED CONSUMPTION	Dilled anatomed	2 40	1 659 244	MCW.		Click here: 2 or help using option
	Billed metered: Billed unmetered:	The second secon	1,658.344	MG/Yr MG/Yr		outtons below
	Unbilled metered	managed bearing bearing bearing	2.279	MG/Yr	Pcnt:	Value:
	Unbilled unmetered:	7 5	22.905	MG/Yr	1.25%	MG/
Default of	option selected for Unbilled un	metered - a gradin	ng of 5 is applied b	out not displayed	<b>†</b>	
	AUTHORIZED CONSUMPTION:	7	1,683.528	MG/Yr		Use buttons to select entage of water supplied
					poro	OR
					_	value
WATER LOSSES (Water Supplied - A	uthorized Consumption)		148.899	MG/Yr		
Apparent Losses					Pcnt: 🔻	Value:
	Unauthorized consumption:	+ ?	4.581	MG/Yr	0.25%	MG/
Default option	selected for unauthorized con	sumption - a grad	fing of 5 is applied	but not displayed		
	Customer metering inaccuracies:	+ ? 7	33.890	MG/Yr	2.00%	MG/
	Systematic data handling errors:	+ ? 7	24.875	MG/Yr	102508	24.875 MG/
	Apparent Losses:	7	63.346	MG/Yr		
Real Losses (Current Annual Real Lo	osses or CARL)					
Real Losses = Wa	ter Losses - Apparent Losses:	7	85.553	MG/Yr		
	WATER LOSSES:		148.899	MG/Yr		
NON REVENUE WATER						
NON-REVENUE WATER	NON-REVENUE WATER:	?	174.083	MG/Yr		
= Water Losses + Unbilled Metered + Unbille						
SYSTEM DATA	ou omnetered					
OTOTEM DATA	Length of mains:	+ 7 9	235.6	miles		
Number of active Al	ND inactive service connections:		13,791	Times		
realities of debte 7	Service connection density:	?		conn./mile main		
Are customer meters typically located	at the curbstop or property line?		No		line, beyond the property bour	idary,
Average	length of customer service line:	7 7	45.0	ft that is the respons	sibility of the utility)	
	Average operating pressure:	2 0	73.0	nsi		
	Average operating pressure.		73.0	pai		
COST DATA						
			40 750 750	*0/		
Total annual	cost of operating water system:	9	\$3,752,705	\$/Year \$/1000 gallons (US)		7
	est (applied to Apparent Losses): on cost (applied to Real Losses):				se Customer Retail Unit Cost to v	alue real losses
variable production	in cost (applied to Real Losses).		\$200.01			
WATER AUDIT DATA VALIDITY SCORE:						
			IS: 86 out of 100 ***			
A weighted	scale for the components of consul	mption and water los	s is included in the ca	culation of the Water Audit [	Data Validity Score	
PRIORITY AREAS FOR ATTENTION:						
Based on the information provided, audit ad	ccuracy can be improved by address	ing the following con	nponents:			
	couldest call be improved by address	are reading con	-porterior			
1: Volume from own sources						
2: Unauthorized consumption						
3: Customer metering inaccuracies						

	AWWA Free Water Au	
	System Attributes and Perfo	TOFMANCE INDICATORS Copyright © 2014, All Rights Re
	Water Audit Report for: PAW- Milton District 710 (	(District 710)
	Reporting Year: 2014 1/2014 - 12	2/2014
	*** YOUR WATER AUDIT DATA VALIDITY	Y SCORE IS: 86 out of 100 ***
System Attributes:		
	Apparent L	
		Losses: 85.553 MG/Yr
	= Water L	Losses: 148.899 MG/Yr
	7 Unavoidable Annual Real Losses (	s (UARL): 112.57 MG/Yr
	Annual cost of Apparent L	t Losses: \$647,021
	Annual cost of Real L	Losses: \$873,834 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial: -	Non-revenue water as percent by volume of Water Su	Supplied: 9.5%
T manotal.	Non-revenue water as percent by cost of operating s	g system: 47.4% Real Losses valued at Customer Retail Unit C
	Apparent Losses per service connection p	per day: 12.58 gallons/connection/day
	Real Losses per service connection p	
Operational Efficiency:	Real Losses per length of main pe	
	Real Losses per service connection per day per psi pro	
	From Above, Real Losses = Current Annual Real Losses (	s (CARL): 85.55 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/	L/UARL]: 0.76
T1.	stems with a low service connection density of less than 32 s	

			ater Audit S						
A CONTRACTOR OF THE PARTY OF TH		Reportin	ng Workshee	et .			C		ater Works Ass 14, All Rights Re
Click to access definition	Water Audit Report for:	PAW- Phillipsburg	District 720 (Di	strict 720)				7	
Click to add a comment	Reporting Year:		1/2014 - 12/2014						
lease enter data in the white cells below. \							dence in th	e accuracy o	of the
put data by grading each component (n/a						ie grades			
To select the	All volum correct data grading for each input			LLONS (US) PER YEA	IR				
	correct data grading for each input utility meets or exceeds all criteria for				Mas	ter Meter	and Supp	oly Error Adj	iustments
VATER SUPPLIED				in column 'E' and 'J' -		Pont:	Mina	Value:	tro
	Volume from own sources:	7 9	776.514	MG/Yr	7 9	-0.15%	. 0		MG
	Water imported:	+ 7 n/a	0.000	MG/Yr	7		. 0		MG
	Water exported:	+ ? n/a	0.000	MG/Yr	7 Ente	antive	• % or value	forunda	MG/
	WATER SUPPLIED:		777.681	MG/Yr		-		ue for unde le for over-r	er-registration
- The state of the				WOLL		pos			
AUTHORIZED CONSUMPTION	Billed metered:	+ 7 10	435.920					lick here:	
	Billed metered: Billed unmetered:			MG/Yr MG/Yr				r help using outtons below	
	Unbilled metered:	* ? n/a	0.000	MG/Yr		Pcnt:		Value:	
2 (-1)	Unbilled unmetered:		9.721			1.25%	. 0		MG
	option selected for Unbilled unm						1 U	- Hone to	and and
	AUTHORIZED CONSUMPTION:	7	445.641	MG/Yr				se buttons to ntage of water	
								OR value	
WATER LOSSES (Water Supplied - A	Authorized Consumption)		332.040	MG/Yr					
Apparent Losses	dinonzed consump			WGH		Pont:		Value:	
Apparent Losses	Unauthorized consumption:	7	1.944	MONE	1	0.25%	• 0	Value.	MG/
Default option	selected for unauthorized cons					U.E.			
	Customer metering inaccuracies:		8.896			2.00%	• 0		MG
	Systematic data handling errors:		6.539			£.00.	0 0	6.539	MG
	Apparent Losses:	2	17.379 314.660	MG/Yr					
	osses or CARL) ater Losses - Apparent Losses:	7	314.660	MG/Yr					
	osses or CARL)			MG/Yr					
Real Losses = Wat	osses or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:	7	314.660 332.040	MG/Yr MG/Yr MG/Yr					
Real Losses = Wat	osses or CARL) iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	2	314.660	MG/Yr MG/Yr MG/Yr					
Real Losses = Water NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled	osses or CARL) iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:	2	314.660 332.040	MG/Yr MG/Yr MG/Yr					
Real Losses = Water NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled	osses or CARL)  Iter Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER:	2	314.660 332.040 341.761	MG/Yr MG/Yr MG/Yr MG/Yr					
Real Losses = Wat  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille  SYSTEM DATA	osses or CARL) iter Losses - Apparent Losses: WATER LOSSES: NON-REVENUE WATER:		314.660 332.040	MG/Yr MG/Yr MG/Yr MG/Yr					
Real Losses = Water NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA	NON-REVENUE WATER:		314.660 332.040 341.761 293.5 9,260	MG/Yr MG/Yr MG/Yr MG/Yr					
Real Losses = Wat  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:		314.660 332.040 341.761 293.5 9,260 32	MG/Yr MG/Yr MG/Yr miles conn./mile main					
Real Losses = Water Non-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN  Are customer meters typically located at	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	7 9	314.660 332.040 341.761 293.5 9,260	MG/Yr MG/Yr MG/Yr miles			erty bound	ary,	
Real Losses = Water Non-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN  Are customer meters typically located a Average	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:  at the curbstop or property line? Length of customer service line. Lustomer service line has been service.	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondence)	consibility of th		erty bound	ary,	
Real Losses = Water Non-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled System Data  Number of active AN  Are customer meters typically located and Average	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line?	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondence)	consibility of th		erty bound	ary,	
Real Losses = Water NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AN  Are customer meters typically located and Average length of cu	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density:  at the curbstop or property line? Length of customer service line. Lustomer service line has been service.	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondence)	consibility of th		erty bound	ary,	
Real Losses = Water Non-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AN  Are customer meters typically located a Average Average length of cu	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line? Length of customer service line sustomer service line has been serviced operating pressure:	• ? 9 ? set to zero and a dat • ? 8	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondence of 10 has been applips)	consibility of th		erty bound	ary,	
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located and Average length of customer described by the customer described b	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? Length of customer service line: Lustomer service line has been se Average operating pressure:	• ? 9 ? et to zero and a da • ? 8	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondence of 10 has been applips)	consibility of th		erty bound	ary,	
Real Losses = Water NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled System Data  Number of active AN  Are customer meters typically located a Average Average length of customer retail unit cost	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ied Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: ustomer service line has been service operating pressure: It cost of operating water system: lest (applied to Apparent Losses):	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the servent of 10 has been applips) \$/Year \$/1000 gaillons (US)	onsibility of th	ne utility)			
Real Losses = Water Losses = Water Losses + Unbilled Metered + Unbilled SYSTEM DATA  Number of active AN  Are customer meters typically located a Average Average length of customer retail unit cost	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? Length of customer service line: Lustomer service line has been se Average operating pressure:	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0	MG/Yr MG/Yr MG/Yr miles conn/mile main (length of serv that is the respondent of the service) siyyear \$/1000 gallons (US)	consibility of th	ne utility)			
Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbillet SYSTEM DATA  Number of active AN  Are customer meters typically located: Average Average length of cu  COST DATA  Total annual Customer retail unit cost Variable production	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Well Unmetered  Length of mains:  ND inactive service connections: Service connection density:  at the curbstop or property line? I length of customer service line.  Service connection density:  Average operating pressure:  I cost of operating water system:  Set (applied to Apparent Losses):  On cost (applied to Real Losses):	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the servent of 10 has been applips) \$/Year \$/1000 gaillons (US)	onsibility of th	ne utility)			
Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN  Are customer meters typically located:  Average Average length of cu  COST DATA  Total annual  Customer retail unit cost Variable production	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line? Length of customer service line: Lustomer service line has been service operating pressure:  It cost of operating water system: Length of customer service line: Length of customer service line: Lustomer service line has been service line: Length of customer service line: Lustomer service line has been service line: Length of customer service line has been service line	+ ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes sta grading score 85.0 \$2,271,311 \$10.21 \$499.25	MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the servent of 10 has been applips) \$/Year \$/1000 gaillons (US)	onsibility of th	ne utility)			
Real Losses = Water  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN  Are customer meters typically located a Average Average length of cu  COST DATA  Total annual Customer retail unit cost Variable production  WATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  Length of mains:  ND inactive service connections:  Service connection density:  at the curbstop or property line? Length of customer service line: Lustomer service line has been service operating pressure:  It cost of operating water system: Length of customer service line: Length of customer service line: Lustomer service line has been service line: Length of customer service line: Lustomer service line has been service line: Length of customer service line has been service line	+ ? 9 et to zero and a dat + ? 8 + ? 9 + ? 9 + ? 9 + ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0 \$2,271,311 \$10.21 \$499.25	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the service of 10 has been applips) \$/Year \$/1000 gallons (US) \$/Million gallons	onsibility of the	e utility)			
Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located:  Average  Average length of cu  COST DATA  Total annual  Customer retail unit cost Variable production  WATER AUDIT DATA VALIDITY SCORE:	NON-REVENUE WATER:  Length of mains:  ND inactive service connections: Service connection density: at the curbstop or property line? Length of customer service line sustomer service line has been service at the curbstop or property line? Length of customer service line sustomer service line sustomer service line has been service	+ ? 9 et to zero and a dat + ? 8 + ? 9 + ? 9 + ? 9 + ? 9	314.660 332.040 341.761 293.5 9,260 32 Yes ata grading score 85.0 \$2,271,311 \$10.21 \$499.25	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the service of 10 has been applips) \$/Year \$/1000 gallons (US) \$/Million gallons	onsibility of the	e utility)			
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Real Losses = Water  NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbilled  SYSTEM DATA  Number of active AN  Are customer meters typically located and Average length of customer retail unit cost Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit act	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ied Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: ustomer service line has been se Average operating pressure:  It cost of operating water system: lest (applied to Apparent Losses): on cost (applied to Real Losses): It scale for the components of consump	+ ? 9 et to zero and a da + ? 8  + ? 9 + ? 9 + ? 9 + ? 9 - ? 9  • YOUR SCORE IS: uption and water loss is	314.660 332.040 341.761  293.5 9,260 32  Yes sta grading score 85.0  \$2,271,311 \$10.21 \$499.25	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the service of 10 has been applips) \$/Year \$/1000 gallons (US) \$/Million gallons	onsibility of the	e utility)			
NON-REVENUE WATER  = Water Losses + Unbilled Metered + Unbille SYSTEM DATA  Number of active AN  Are customer meters typically located a Average Average length of cu  COST DATA  Total annual Customer retail unit cos Variable production  WATER AUDIT DATA VALIDITY SCORE:  A weighted PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit acceptable.	NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  ied Unmetered  Length of mains: ND inactive service connections: Service connection density: at the curbstop or property line? length of customer service line: ustomer service line has been se Average operating pressure:  It cost of operating water system: lest (applied to Apparent Losses): on cost (applied to Real Losses): It scale for the components of consump	+ ? 9 et to zero and a da + ? 8  + ? 9 + ? 9 + ? 9 + ? 9 - ? 9  • YOUR SCORE IS: uption and water loss is	314.660 332.040 341.761  293.5 9,260 32  Yes sta grading score 85.0  \$2,271,311 \$10.21 \$499.25	MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of serv that is the respondent of the service of 10 has been applips) \$/Year \$/1000 gallons (US) \$/Million gallons	onsibility of the	e utility)			

	AWWA Free Water Audit S		WAS v5 American Water Works Associat
	System Attributes and Performan	ice Indicators	Copyright © 2014, All Rights Reser
	Water Audit Report for: PAW- Phillipsburg District 720 (Di	strict 720)	
	Reporting Year: 2014 1/2014 - 12/2014		
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 85 out of 100 ***	
ystem Attributes:			
	Apparent Losses:	17.379	
	+ Real Losses:	314.660	MG/Yr
	= Water Losses:	332.040	MG/Yr
	Unavoidable Annual Real Losses (UARL):	92.35	MG/Yr
	Annual cost of Apparent Losses:	\$177,443	
	Annual cost of Real Losses:	\$3,212,681	
		70,2,2,00	Return to Reporting Worksheet to change this assumption
erformance Indicators:			
Financial:	Non-revenue water as percent by volume of Water Supplied:	43.9%	
Fillancial.	Non-revenue water as percent by cost of operating system:	153.6%	Real Losses valued at Customer Retail Unit Cost
	Apparent Language and active accounting and the		
	Apparent Losses per service connection per day:		gallons/connection/day
Operational Efficiency:	Real Losses per service connection per day:	N/A	gallons/connection/day
	Real Losses per length of main per day*:	2,937.57	gallons/mile/day
	Real Losses per service connection per day per psi pressure:	N/A	gallons/connection/day/psi
F	from Above, Real Losses = Current Annual Real Losses (CARL):	314.66	million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	3.41	
This performance indicator applies for syste	ms with a low service connection density of less than 32 service c	annostions/mile of pig-line	

AWW	A Free W	ater Audit So	oftware:						WAS v5.0
		g Workshee							ter Works Associati 4, All Rights Reserv
Click to access definition  Water Audit Report for: PAV Click to add a comment Reporting Year:		trict 730 (41900)	13)						
Please enter data in the white cells below. Where available, metered values should be			able please estimate a	value Indi	icale vour	confide	nce in the	a accuracy of	the
input data by grading each component (n/a or 1-10) using the drop-down list to the left	t of the input cell.	Hover the mouse of		description			ice in the	e accuracy or	the
To select the correct data grading for each input, det	ermine the high	nest grade where	20110 (00) 1211 11						To provide the second
the utility meets or exceeds <u>all</u> criteria for the		The second second second second second	in column 'E' and 'J'				d Suppl	ly Error Adju	ustments
WATER SUPPLIED  Volume from own sources:	2 9	505.188		+ 2	Pcr 9 0	70%	• 0	Value:	MG/Yr
	? n/a	0.000	MG/Yr	+ ?	0.	_	ŏŏ		MG/Yr
Water exported:	? n/a	0.000	MG/Yr	+ 7	Enter no		0 0	un for under	MG/Yr
WATER SUPPLIED:		501.676	MG/Yr					e for over-re	registration egistration
AUTHORIZED CONSUMPTION					7		Cli	ick here:	
Billed metered:	7 10	361.114					for	help using o	
Billed unmetered:  Unbilled metered:	? n/a 7 10	0.000 0.076			Den		but	ttons below Value:	
Unbilled unmetered:		6.271			Pcn		• 0	value.	MG/Yr
Default option selected for Unbilled unmeter					1.	2570	4		MG/11
AUTHORIZED CONSUMPTION:	7	367.461						e buttons to	
AUTHORIZED CONSOMPTION.		307.401	MG/11				percen	ntage of water OR	r supplied
MATER LOSSES (Mater Supplied Authorized Communical)		124 245	1100/-				leases	value	
WATER LOSSES (Water Supplied - Authorized Consumption)		134.215	MG/YF					14.1	
Apparent Losses  Unauthorized consumption:	2	1.254	MG/Ve		Pcn	25%	. 0	Value:	MG/Yr
Default option selected for unauthorized consump					0,,	2570			MG/TF
	-				-				MG/Yr
	7					2006	0 0		
Customer metering inaccuracies:	7 7	7.371 5.417			2.0	00%	0	5.417	MG/Yr
	7 7	7.371 5.417			2.0	00%	0	5.417	MG/Yr
Customer metering inaccuracies:	7 7 7 7		MG/Yr		2.0	00%	0 0	5.417	MG/Yr
Customer metering inaccuracies: Systematic data handling errors:	7 7 7	5.417	MG/Yr		2.0	00%	0 0	5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)	7 7	5.417 14.042	MG/Yr		2.0	00%	0 0	5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:	7 7 7 7	14.042 120.173	MG/Yr MG/Yr		2.0	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)	7 7	5.417 14.042	MG/Yr MG/Yr		2.0	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:	7	14.042 120.173 134.215	MG/Yr MG/Yr MG/Yr MG/Yr		2.0	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER	7 7	14.042 120.173	MG/Yr MG/Yr MG/Yr MG/Yr		2.1	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered	7	14.042 120.173 134.215	MG/Yr MG/Yr MG/Yr MG/Yr		2.1	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA	7	14.042 120.173 134.215	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr		2.1	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:	7	14.042 120.173 134.215	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr		2.1	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:	7 9	14.042 120.173 134.215 140.562 84.5 7,151	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr		2.1	00%		5.417	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:	7 7 7 7 7 9 7 9 9 7 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main						MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:	7 7 7 7 7 9 9 7 9 7 9 9 7	14.042 120.173 134.215 140.562 84.5 7,151	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se		peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	7 7 7 7 7 9 9 7 9 7 9 9 7	5.417 14.042 120.173 134.215 140.562 84.5 7,151 85 No 30.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re		peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re		peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.417 14.042 120.173 134.215 140.562 84.5 7,151 85 No 30.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re		peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:	7 7 7 7 9 9 7 9 7 7 8 8	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re		peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system:	7 7 7 7 9 9 7 7 8 7 8 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 9 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0 91.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re	sponsibility	peyond the	e propert			MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system:  Customer retail unit cost (applied to Apparent Losses):	7 7 7 7 7 9 7 8 7 9 9 7 9 9 7 9 9 7 9 9 9 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0 91.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the repsi	sponsibility	beyond the of the util	e propert	ly bounda	ary.	MG/Yr
Customer metering inaccuracies:  Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system:	7 7 7 7 7 9 7 8 7 9 9 7 9 9 7 9 9 7 9 9 9 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0 91.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the repsi	sponsibility	beyond the of the util	e propert	ly bounda		MG/Yr
Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density: Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):	7 7 7 7 7 9 7 8 7 9 9 7 9 9 7 9 9 7 9 9 9 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0 91.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the repsi	sponsibility	beyond the of the util	e propert	ly bounda	ary.	MG/Yr
Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER: Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses): WATER AUDIT DATA VALIDITY SCORE:	7 7 7 7 7 9 9 7 9 7 8 9 9 9 9 9 9 9 9 9	5.417 14.042 120.173 134.215 140.562 84.5 7.151 85 No 30.0 91.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main ft (length of se that is the repsi	sponsibility	beyond the of the util	e propert	ly bounda	ary.	MG/Yr
Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered SYSTEM DATA  Length of mains: Service connection density: Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:	7 7 7 7 7 7 7 7 7 7 8 7 7 9 9 9 9 9 9 9	5.417 14.042 120.173 134.215 140.562  84.5 7.151 85 No 30.0 91.0 \$1,880,841 \$10.21 \$173.97	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re psi \$/Year \$/1000 gallons (US) \$/Million gallons	) Use Cus	beyond the util	e propertity)	ly bounda	ary.	MG/Yr
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Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line?  Average operating pressure:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy can be improved by addressing the	7 7 7 7 7 7 7 8 7 7 9 9 9 7 9 9 9 9 9 9	5.417 14.042 120.173 134.215 140.562  84.5 7.151 85  No 30.0 91.0 \$1,880,841 \$10.21 \$173.97	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re psi \$/Year \$/1000 gallons (US) \$/Million gallons	) Use Cus	beyond the util	e propertity)	ly bounda	ary.	MG/Yr
Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses):  WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION:	7 7 7 7 7 7 7 8 7 7 9 9 9 7 9 9 9 9 9 9	5.417 14.042 120.173 134.215 140.562  84.5 7.151 85  No 30.0 91.0 \$1,880,841 \$10.21 \$173.97	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re psi \$/Year \$/1000 gallons (US) \$/Million gallons	) Use Cus	beyond the util	e propertity)	ly bounda	ary.	MG/Yr
Customer metering inaccuracies: Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: WATER LOSSES:  NON-REVENUE WATER  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Number of active AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  COST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): Variable production cost (applied to Real Losses): WATER AUDIT DATA VALIDITY SCORE:  PRIORITY AREAS FOR ATTENTION: Based on the information provided, audit accuracy can be improved by addressing the	7 7 7 7 7 7 7 8 7 7 9 9 9 7 9 9 9 9 9 9	5.417 14.042 120.173 134.215 140.562  84.5 7.151 85  No 30.0 91.0 \$1,880,841 \$10.21 \$173.97	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of se that is the re psi \$/Year \$/1000 gallons (US) \$/Million gallons	) Use Cus	beyond the util	e propertity)	ly bounda	ary.	MG/Yr

	AWWA Free Water A System Attributes and Per		American Water Works Associat Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Berwick District 73	30 (4190013)	
	Reporting Year: 2014 1/2014 -		
	*** YOUR WATER AUDIT DATA VALIDIT	TY SCORE IS: 86 out of 100 ***	
System Attributes:			010 11001
			.042 Mg/Yr
			.173 MG/Yr
	= <u>wate</u>	r Losses: 134	.215 MG/Yr
	Unavoidable Annual Real Losse	es (UARL):	60.93 MG/Yr
	Annual cost of Apparer	nt Losses: \$14	3,426
	Annual cost of Rea	al Losses: \$1,22	7,449 Valued at Customer Retail Unit Cost
			Return to Reporting Worksheet to change this assumption
Performance Indicators:			
Financial:	Non-revenue water as percent by volume of Water	Supplied: 2	8.0%
Financial.	Non-revenue water as percent by cost of operating	ng system: 7	6.3% Real Losses valued at Customer Retail Unit Cos
	Apparent Losses per service connectio	on per day:	5.38 gallons/connection/day
	Real Losses per service connection		46.04 gallons/connection/day
Operational Efficiency:	Real Losses per length of mair		N/A
	Real Losses per service connection per day per psi		0.51 gallons/connection/day/psi
			,,
	From Above, Real Losses = Current Annual Real Losse	es (CARL):	20.17 million gallons/year
	Infrastructure Leakage Index (ILI) [CA	RL/UARL]:	1.97
	ems with a low service connection density of less than 3		

Water imported:		F	WWA F	Free W	ater Audit S	oftware:						WAS v5
The properties of value of the control of the properties of value of the control of the properties of value of the control of			R	eportir	g Workshe	et						
Thorized Consumption  Water apported \$1.00 and						0032;3540072;35	(40053)					
To select the correct data grading for sharings, determine the pipeling side where the testing meets or acceled all criteria for that grade and all grades below it.  The select the correct data grading for sharings, determined by the grade and all grades below it.  Enter grading in column E and 'J Pott Value:  Volume from come sources.  Enter grading in column E and 'J Pott Value:  Value important the property of the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value important the pipeling in column E and 'J Pott Value:  Value:  Value important the pipeling in column E and 'J Value:  Va	lease enter data in the white cells below.	Where available, metered values sho	ould be used:	d; if metered	d values are unavaila	lable please estimal over the cell to obta	ite a value. Inc	dicate y	your confi	idence in	the accuracy	y of the
To select the correct data grains for each input, otherwise the highest grade where the full willy meets or exceeding for inclination from tag and all grades below it.	put data of grand						The state of the s	711	. 9			
ATER SUPPLIED  Volume from corn sources. S. 32 9 1296 MG/Y Water imported. S. 32 9 2.996 MG/Y Water imported. S. 32 9 0 0.000 MG/Y  WATER SUPPLIED: 135.847 MG/Y  Billied metered. S. 32 10 0.000 MG/Y Urbillied unmetered. S. 32 10 0.000 MG/Y  Default option selected for Urbillied unmetered. S. 32 10 0.000 MG/Y  Default option selected for Urbillied unmetered. S. 32 10 0.000 MG/Y  Water Income Teach of Selected for Urbillied unmetered. S. 32 10 0.000 MG/Y  Default option selected for unauthorized consumption. S. 110.075 MG/Y  Default option selected for unauthorized consumption. S. 32 7 0.000 MG/Y  Systematic data handling errors. S. 32 7 2.222 MG/Y  Systematic data handling errors. S. 32 7 2.222 MG/Y  APPARENT Losses. Water Losses. Apparent Losses: S. 32 7 2.222 MG/Y  WATER Losses Water Losses. Apparent Losses: S. 32 7 2.222 MG/Y  WATER Losses Water Losses. Apparent Losses: S. 32 7 2.222 MG/Y  Number of active AND inactive service fore. Selected for unauthorized consumption. S. 32 7 2.222 MG/Y  Number of active AND inactive service fore. Selected for unauthorized consumption. S. 32 9 2.794 MG/Y  Service connection density. S. 32 9 2.794 MG/Y  Average operating pressure. S. 32 9 2.794 MG/Y  Average operating benefated. S. 32 9 2.794 MG/Y  Average operating pressure		correct data grading for each inpu	ut, determin	ine the high	hest grade where			Mast	er Meter	and Su	ipply Error A	Adjustments
Volume from own sources: \$\frac{3}{2} \frac{9}{2} \frac{132.194}{2} \frac{144}{2} \frac{132.194}{2} \frac{144}{2} \frac{132.194}{2} \frac{144}{2} \frac{132.194}{2} \frac{144}{2}							d 'J'	-				.,
Water supplied water expected a part of the components of consumption and water losses and the components of the components of consumption of the components of the components of consumptions of the components of components of the components of the components of components of the components of components of the components of the components of components of the components of the components of the components of the components of components of the components of components of the	M. 2				132.134	MG/Yr	+ 7		-		5	MC
WATER SUPPLIED:  135.847  MG/Y  Enter regarders % or value for under-registration UTHORIZED CONSUMPTION  Billed metered					2.996	MG/Yr					0	MC
UTHORIZED CONSUMPTION  Billed metered (1		Water exported:	+ 7	n/a	0.000	MG/Yr	+ /				) for up	MC MC
Billed metered:		WATER SUPPLIED:			135.847	MG/Yr						
Billed metered:	LITHORIZED CONSUMPTION										Click here:	2
Billed unnetered   10   10   10   10   10   10   10   1											for help using	ng option
Unbilled unmertered: 1 1989 MG/Y  Default option selected for Unbilled unmertered - 3 grading of 5 is applied but not displayed  AUTHORIZED CONSUMPTION: 1 110.075 MG/Y  WATER LOSSES (Water Supplied - Authorized Consumption - 2 grading of 5 is applied but not displayed consumption - 2 grading of 5 is applied but not displayed but not displayed but not displayed consumption - 2 grading of 5 is applied but not displayed consumpti									March 1		buttons below	
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed  AUTHORIZED CONSUMPTION: 110.075 MG/Y  Use buttons to select percentage of value supplied of value percentage of value value percentage of value supplied of value percentage of value valu				10				1			Value:	
AUTHORIZED CONSUMPTION: 110.075 MG/Yr  Value: percentage of sail service processing of the service service service processing of the service service service processing of the service							600		1.25%	•	)	MG
ACTER LOSSES (Water Supplied - Authorized Consumption)  25.772  MG/Y  Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed  Customer metering inaccuracies: \$ 1/2 7 2.212  MG/Y  Customer metering inaccuracies: \$ 1/2 7 2.213  MG/Y  Apparent Losses: \$ 1/2 7 2.213  MG/Y  WATER LOSSES: \$ 25.772  MG/Y  WATER Losses: \$ 1/2 7 2.213			-	a grading			d			1	tres buttons	t stant
ATER LOSSES (Water Supplied - Authorized Consumption)  Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed  Customer metering inaccuracies.	/	AUTHORIZED CONSUMPTION:	7		110.075	MG/Yr					rcentage of wa	vater supplied
Unauthorized consumption:  Unauthorized consumpt												
Unauthorized consumption: 2 2 0.340 MG/Y  Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed  Customer metering inaccuracies: 2 7 2.212 MG/Y  Systematic data handing errors: 2 7 1.625 MG/Y  Apparent Losses: 2 4.177 MG/Y  Real Losses (Current Annual Real Losses or CARL)  Real Losses water Losses - Apparent Losses: 2 21.596 MG/Y  Real Losses + Unablied Metered + Unablied Unnestered  NON-REVENUE WATER  NON-REVENUE WATER  NON-REVENUE WATER  Non-Revenue Water Losses - Unablied Metered + Unablied Unnestered  STEM DATA  Length of mains: 2 9 27.500 MG/Y  Service connection density: 2 9 2.794  Service connection density: 2 103 conn./mile main  ore customer meters typically located at the curbstop or property line?  Average length of customer service line: 2 7 200 ft that is the responsibility of the utility)  Average operating pressure: 2 9 5895.366 Service.  Customer retail unit cost (applied to Apparent Losses): 2 9 5895.366 Service connections density: 3 9 5895.366 Service at the customer service line: 3 9 5895.366 Service at the customer service line: 3 9 5895.366 Service connections density: 4 9 5895.36	10 Marie 10	authorized Consumption)			25.772	MG/Yr						
Customer metering inaccuracies	pparent Losses							1			Value:	
Customer metering inaccuracies: 1 2 7 2212 Systematic data handling errors: 1 1625  Apparent Losses: 2 4.177  MG/Y									0.25%	• (		MG
Apparent Losses: 1 1 625 Mg/r  Apparent Losses: 1 1 1625 Mg/r  Apparent Losses: 1 1 1625 Mg/r  Real Losses (Current Annual Real Losses - Apparent Losses: 2 21.596 Mg/r  WATER LOSSES: 25.772 Mg/r  ON-REVENUE WATER  NON-REVENUE WATER: 2 7,500 Mg/r  Water Losses - Unbilled Metered + Unbilled Unmetered  Part Losses - Unbilled Metered + Unbilled Unmetered  Forevice connection density: 2 9 2.794  Number of active AND inactive service connection density: 3 9 2.794  Number of active AND inactive service connection density: 3 9 2.794  Average length of customer service line: 2 7 200 ft that is the responsibility of the utility)  Average length of customer service line: 3 9 5695.366  Average length of production cost (applied to Apparent Losses): 3 9 510.21 (3/1000 gailons (US)  Variable production cost (applied to Real Losses): 3 9 510.21 (3/1000 gailons (US)  Variable production cost (applied to Real Losses): 3 9 5894.88 (3/Million gailons): Use Customer Retail Unit Cost to value real losses  Are YOUR SCORE IS: 86 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  RIGITITY AREAS FOR ATTENTION:  seed on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	Default option	selected for unauthorized con-	sumption	- a gradin	ig of 5 is applied	but not display	ed					
Apparent Losses: 3 4.177 MG/Yr  Apparent Losses: 3 4.177 MG/Yr  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: 2 21.596 MG/Yr  WATER LOSSES: 25.772 MG/Yr  ON-REVENUE WATER  NON-REVENUE WATER: 27.500 MG/Yr  Water Losses + Unbilled Metered + Unbilled Unmetered  Very Connection of active AND inactive service connection density: 3 9 2.794  Number of active AND inactive service connection density: 3 103  Average length of customer service line: 4.29 9 550 psi  OST DATA  Total annual cost of operating water system: 2 9 \$695.366  Customer retail unit cost (applied to Apparent Losses): 2 9 \$10.21 (\$100.00 gallons (US)  Variable production cost (applied to Real Losses): 2 9 \$50.25 (\$100.00 gallons (US)  Variable production cost (applied to Real Losses): 2 9 \$584.88 \$f.Million gallons: 4 Use Customer Retail Unit Cost to value real losses  Are A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score  RICRITY AREAS FOR ATTENTION:  used on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	(	Customer metering inaccuracies:	+ 7	7	2.212	MG/Yr			2.00%	•		MG
Apparent Losses: 3 4.177 MG/Yr  Real Losses (Gurrent Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: 2 21.596 MG/Yr  WATER LOSSES: 25.772 MG/Yr  DN-REVENUE WATER NON-REVENUE WATER: 2 27.500 MG/Yr  Water Losses + Unbilled Metered + Unbilled Umerlered  Number of active AND inactive service connections (s 2 2 9 2.794 103 conn./mile main conn				7					0.25%	0 6	1.625	MG
Real Losses - Water Losses - Apparent Losses:    21.596   MG/Yr						A State of the sta						
ON-REVENUE WATER  NON-REVENUE WATER: 2 27.500 MG/Yr  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains: 2 9 27.2 miles  Number of active AND inactive service connections 2 9 2.794  Service connection density: 2 9 2.794  Service connection density: 2 9 2.794  Average length of customer service line: 2 7 20 0 tt  Average length of customer service line: 2 7 20 0 tt  Average operating pressure: 2 8 55.0 psi  OST DATA  Total annual cost of operating water system: 2 9 \$695.366  SY'ear  Customer retail unit cost (applied to Apparent Losses): 2 9 \$10.21 S/1000 gaillons (US)  Variable production cost (applied to Real Losses): 2 9 \$584.88 SM/fillion gailons  Dec Use Customer Retail Unit Cost to value real losses  ATER AUDIT DATA VALIDITY SCORE:  **YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources		ater Losses - Apparent Losses:										
NON-REVENUE WATER: 2 27.500 MG/Y  Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains: 2 2 9 27.2  Number of active AND inactive service connections: 3 9 2,794  Number of active AND inactive service connection density: 103  Are customer meters typically located at the curbstop or property line?  Average length of customer service line: 2 7 9 0 0,794  Average operating pressure: 2 8 55.0 psi  OST DATA  Total annual cost of operating water system: 2 9 \$695,366 S/Year  Customer retail unit cost (applied to Apparent Losses): 2 9 \$10.21 S/1000 gallons (US)  Variable production cost (applied to Real Losses): 2 9 \$584.88 S/Million gallons  Use Customer Retail Unit Cost to value real losses  WATER AUDIT DATA VALIDITY SCORE:  *** YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources		WATER LOSSES:			25.772	MG/Yr		71		1		
Water Losses + Unbilled Metered + Unbilled Unmetered  YSTEM DATA  Length of mains:  2 2 9 272  Number of active AND inactive service connections:  3 2 9 2,794  Service connection density:  103 conn/mile main  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  4 2 8 55.0 psi  OST DATA  Total annual cost of operating water system:  2 9 \$695.366  Customer retail unit cost (applied to Apparent Losses):  3 9 \$10.21 \$10.00 gallons (US)  Variable production cost (applied to Real Losses):  5 9 \$10.21 \$10.00 gallons (US)  Variable production cost (applied to Real Losses):  4 9 \$584.88 \$7.00 gallons (US)  Variable production cost (applied to Real Losses):  5 9 \$10.21 \$10.00 gallons (US)  Variable production cost (applied to Real Losses):  5 10 9 \$584.88 \$7.00 gallons (US)  Variable production cost (applied to Real Losses):  5 10 9 \$584.88 \$7.00 gallons (US)  Variable production cost (applied to Real Losses):  6 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ON-REVENUE WATER				27 500							
Number of active AND inactive service connections: Service connection density: Service connection density: 103 conn/mile main  Are customer meters typically located at the curbstop or property line? Average length of customer service line: 2 7 2 7 200  Average length of customer service line: 2 8 550 psi  OST DATA  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses): 3 2 9 \$695,366  SYear  Customer retail unit cost (applied to Real Losses): 3 2 9 \$10.21  Sy1000 gallons (US) Variable production cost (applied to Real Losses): 3 554 88  WATER AUDIT DATA VALIDITY SCORE:  "YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION: ased on the information provided, audit accuracy can be improved by addressing the following components: 1: Volume from own sources	The West Material & Hobit		100,000		27.500	MG/Yr						
Length of mains:    2 9   27.2   miles		ed Unmetered										
Number of active AND inactive service connections: 9 9 2,794 Service connection density: 103 conn./mile main  Are customer meters typically located at the curbstop or property line?  Average length of customer service line: 9 7 7 20.0 ft (length of service line, beyond the property boundary, that is the responsibility of the utility)  Average operating pressure: 9 8 55.0 psi  OST DATA  Total annual cost of operating water system: 9 \$695,366 S/Year  Customer retail unit cost (applied to Apparent Losses): 9 9 \$10.21 S/1000 gallons (US)  Variable production cost (applied to Real Losses): 9 9 \$584.88 S/Million gallons  Use Customer Retail Unit Cost to value real losses  VATER AUDIT DATA VALIDITY SCORE:  ***YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION: ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	YSTEM DATA	•										
Service connection density: 9 103 conn/mile main  Are customer meters typically located at the curbstop or property line?  Average length of customer service line: 9 7 7 20.0 ft (length of service line, beyond the property boundary, that is the responsibility of the utility)  Average operating pressure: 9 55.0 psi  OST DATA  Total annual cost of operating water system: 9 9 5695,366 SYear  Customer retail unit cost (applied to Apparent Losses): 9 9 510.21 SY1000 gallons (US)  Variable production cost (applied to Real Losses): 9 9 \$584.88 SrMillion gallons Use Customer Retail Unit Cost to value real losses  VATER AUDIT DATA VALIDITY SCORE:  ***YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources						miles						
Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  7 7 20.0 ft  Average operating pressure:  7 8 55.0 psi   OST DATA  Total annual cost of operating water system:  7 9 \$695,366 \$7/ear  Customer retail unit cost (applied to Apparent Losses):  7 9 \$10.21 \$/1000 gallons (US)  Variable production cost (applied to Real Losses):  8 7 9 \$10.21 \$/1000 gallons (US)  Variable production cost (applied to Real Losses):  8 7 9 \$584.88 \$/Million gallons  7 Use Customer Retail Unit Cost to value real losses  ATER AUDIT DATA VALIDITY SCORE:  ***YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	Number of active Ar			9		to the major						
Average length of customer service line: 2 7 200 ft that is the responsibility of the utility)  Average operating pressure: 2 8 55.0 psi  OST DATA  Total annual cost of operating water system: 2 9 \$695.366 \$7/ear  Customer retail unit cost (applied to Apparent Losses): 2 9 \$10.21 \$/1000 gallons (US)  Variable production cost (applied to Real Losses): 2 9 \$584.88 \$7/Million gallons Use Customer Retail Unit Cost to value real losses  VATER AUDIT DATA VALIDITY SCORE:  A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score  RIORITY AREAS FOR ATTENTION: assed on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources		Service connection density.	7		103	conn./mile main						
Average length of customer service line: 2 7 200 ft that is the responsibility of the utility)  Average operating pressure: 4 2 8 55.0 psi  Total annual cost of operating water system: 2 9 \$695.366 \$7/ear  Customer retail unit cost (applied to Apparent Losses): 2 9 \$10.21 \$7/1000 gallons (US)  Variable production cost (applied to Real Losses): 2 9 \$584.88 \$7/Million gallons Use Customer Retail Unit Cost to value real losses  VATER AUDIT DATA VALIDITY SCORE:  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: Volume from own sources	Are customer meters typically located	at the curbston or property line?			No	(tageth o	Total Sing			- bar		
Average operating pressure:  Total annual cost of operating water system:  Total annual cost of operating water sy			STREET, SQUARE, SQUARE	7		ft that is the	e responsibilit	beyon.	d the proper utility)	serty bou	ndary,	
Total annual cost of operating water system:  Total annual cost of o							1 tout	,	J. Setting,			
Total annual cost of operating water system:    Solution   Solutio		Average operating pressure:	+ ?	8	55.0	psi						
Total annual cost of operating water system:	ATAN TRO											
Customer retail unit cost (applied to Apparent Losses):  Variable production cost (applied to Real Losses):  Variable production cost (applied to Real Losses):  VATER AUDIT DATA VALIDITY SCORE:  ***YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources			2		**************************************							
VATER AUDIT DATA VALIDITY SCORE:  *** YOUR SCORE IS: 86 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  **RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources						parameter and the same of the						
*** YOUR SCORE IS: 86 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  RIORITY AREAS FOR ATTENTION:  ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources					The state of the s	the same of the sa		-shorage	Proteil Unit	Court to y	the mail losse	
A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score  RIORITY AREAS FOR ATTENTION: assed on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	variable production	n cost (applied to real cosses).		9	3304.00	\$/Million gallons	Use co	istomen	Retail Unix	Cost to v	alue real rosse.	\$
A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score  RIORITY AREAS FOR ATTENTION: assed on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	ATER AUDIT DATA VALIDITY SCORE:											
ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources		. •	** YOUR S	CORE IS:	86 out of 100 ***							
ased on the information provided, audit accuracy can be improved by addressing the following components:  1: Volume from own sources	A weighted	scale for the components of consum	nption and w	water loss is	included in the cal	culation of the Wate	er Audit Data	Validit	y Score			
1: Volume from own sources												
1: Volume from own sources	ased on the information provided, audit ar	ocuracy can be improved by addressi	ing the follow	wing compo	onents:							
		ondo) varies in pro-	19	All g	/Reme.							
2: Unauthorized consumption												
	2: Unauthorized consumption		A									

	AWWA Free Water Audit So	A
	System Attributes and Performan	Copyright © 2014, All Rights Reserv
	Water Audit Report for: PAW- Frackville District 740 (3540)	032;3540072;3540053)
	Reporting Year: 2014 1/2014 - 12/2014	
	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 86 out of 100 ***
ystem Attributes:		
	Apparent Losses:	4.177 MG/Yr
	+ Real Losses:	21.596 MG/Yr
	= Water Losses:	25.772 MG/Yr
	Unavoidable Annual Real Losses (UARL):	12.96 MG/Yr
	Annual cost of Apparent Losses:	\$42,660
	Annual cost of Real Losses:	\$220,579 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
Financial:	Non-revenue water as percent by volume of Water Supplied:	20.2%
Financial.	Non-revenue water as percent by cost of operating system:	40.4% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	4.10 gallons/connection/day
	Real Losses per service connection per day:	21.18 gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	N/A
	Real Losses per service connection per day per psi pressure:	0.39 gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	21.60 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.67
	ems with a low service connection density of less than 32 service of	

	AV	WA Free Wa	iter Audit So	oftware:		WAS v5.0
			g Workshee			American Water Works Association Copyright © 2014, All Rights Reserved
Click to access definition Click to add a comment	Water Audit Report for: PReporting Year:		ity (Nittany/Bogg /2014 - 12/2014	s) 720 (District 720)		
Please enter data in the white cells below. input data by grading each component (n/a						ne accuracy of the
				LONS (US) PER YEAR		
	correct data grading for each input, tility meets or exceeds <u>all</u> criteria for	that grade and all	grades below it.		Master Meter and Sup	ply Error Adjustments
WATER SUPPLIED		<	Enter grading	in column 'E' and 'J'	> Pcnt:	Value:
	Volume from own sources:		54.956			MG/Yr MG/Yr
	Water imported: Water exported:	+ ? n/a + ? n/a	0.000	277.750.4.0		MG/Yr
	WATER CURRULED		54.978	MON.	Enter negative % or val	lue for under-registration
	WATER SUPPLIED:		34.970	MG/TI		
AUTHORIZED CONSUMPTION	Billed metered:	+ 7 10	41.615	MG/Yr		Click here: 2 or help using option
	Billed unmetered:	2 n/a	0.000			uttons below
	Unbilled metered:	many management between the common terms of	0.000		Pcnt:	Value:
	Unbilled unmetered:	+ 7	0.687		1.25%	MG/Yr
Default	option selected for Unbilled unme	etered - a grading			1	Jse buttons to select
	AUTHORIZED CONSUMPTION:	7	42.302	MG/Yr		entage of water supplied OR
WATER LOSSES (Water Supplied - A	uthorized Consumption)		12.676	MG/Vr	-	value
Apparent Losses	duthorized Consumption)		12.070	WG/11	Pont:	Value:
Apparent Losses	Unauthorized consumption:	+ 7	0.137	MG/Yr	0.25%	MG/Yr
Default option	selected for unauthorized consu		- The state of the			
	Customer metering inaccuracies:		0.849		2.00%	MG/Yr
	Systematic data handling errors:		0.624		<b>2.00%</b> ○ ●	0.624 MG/Yr
	Apparent Losses:	7	1.611	MG/Yr		
Real Losses (Current Annual Real L	osses or CARL)					
Real Losses = Wa	ter Losses - Apparent Losses:	7	11.065			
	WATER LOSSES:		12.676	MG/Yr		
NON-REVENUE WATER	HON DEVENUE WATER	2	13.363	MON		
= Water Losses + Unbilled Metered + Unbil	NON-REVENUE WATER:		13.363	MG/TF		
SYSTEM DATA	ed Onmetered					
STSTEMIDATA	Leasth of mains.		26.0	miles		
Number of active A	Length of mains: ND inactive service connections:		567	miles		
Number of active y	Service connection density:	7		conn./mile main		
Are customer meters typically located	at the curbstop or property line?		No	(length of service lin	e, beyond the property boun	dary
	length of customer service line:	7 7	30.0			oury,
			00.2			
	Average operating pressure:	7 8	99.2	psi		
COST DATA						
Total annua	I cost of operating water system:	7 9	\$170,850	\$/Year		
	est (applied to Apparent Losses):			\$/1000 gallons (US)		
	on cost (applied to Real Losses):		\$978.23	\$/Million gallons Use	Customer Retail Unit Cost to va	lue real losses
WATER AUDIT DATA VALIDITY SCORE		VOUD COORE IS	05 1 - 6 400 ***			
		YOUR SCORE IS:				
A weighte	scale for the components of consump	tion and water loss is	included in the cal	culation of the Water Audit Da	ata Validity Score	
PRIORITY AREAS FOR ATTENTION:						
Based on the information provided, audit a	ccuracy can be improved by addressing	the following compo	onents:			
1: Volume from own sources						
2: Unauthorized consumption						
3: Customer metering inaccuracies						

	AWWA Free Water Audit So System Attributes and Performan	American Minter Monte American
	Water Audit Report for: PAW- Centre County (Nittany/Bog Reporting Year: 2014 1/2014 - 12/2014	gs) 720 (District 720)
System Attributes:	*** YOUR WATER AUDIT DATA VALIDITY SCORE	IS: 85 out of 100 ***
	Apparent Losses:	1.611 MG/Yr
	+ Real Losses:	11.065 MG/Yr
	= Water Losses:	12.676 MG/Yr
	Unavoidable Annual Real Losses (UARL):	See limits in definition MG/Yr
	Annual cost of Apparent Losses:	\$16,448
	Annual cost of Real Losses:	\$112,972 Valued at Customer Retail Unit Cost
		Return to Reporting Worksheet to change this assumption
Performance Indicators:		
	Non-revenue water as percent by volume of Water Supplied:	24.3%
Financial:	Non-revenue water as percent by cost of operating system:	79.9% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service connection per day:	7.78 gallons/connection/day
	Real Losses per service connection per day:	N/A gallons/connection/day
Operational Efficiency:	Real Losses per length of main per day*:	1,164.62 gallons/mile/day
	Real Losses per service connection per day per psi pressure:	N/A gallons/connection/day/psi
	the action per service comments and per per procession	- Taragamente and adaption
	From Above, Real Losses = Current Annual Real Losses (CARL):	11.06 million gallons/year
	Infrastructure Leakage Index (ILI) [CARL/UARL]:	
* This performance indicator applies for syste	ems with a low service connection density of less than 32 service of	connections/mile of pipeline
provide a series of the series		- Fikamia

AWWA Free	Water Audit So	oftware:		3850 TE		WAS v5.0
	rting Workshee				American Water Vopyright © 2014, Al	
Click to access definition Water Audit Report for: Wilkes-Barre Click to add a comment Reporting Year: 2014	Scranton (District 9 1/2014 - 12/2014	10)				
Please enter data in the white cells below. Where available, metered values should be used; if me input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input					e accuracy of the	
All volumes to be enter						
To select the correct data grading for each input, determine the the utility meets or exceeds <u>all</u> criteria for that grade an			Master Mete	r and Suppl	ly Error Adjustr	ments
WATER SUPPLIED <	Enter grading	in column 'E' and 'J'	> Pont:		Value:	
Volume from own sources: 9	16,784.510		9 -0.809			MG/Yr
Water imported: 2 n/a	0.000		7	0 0		MG/Yr
Water exported: ? n/a	0.000	MG/Yr			ue for under-re	MG/Yr
WATER SUPPLIED:	16,919.869	MG/Yr			e for under-regis	and the second second
AUTHORIZED CONSUMPTION		1 - 28 77	11.22.1	Cli	ck here:	
Billed metered: 2 10	10,287.285			for	help using optio	n
Billed unmetered: n/a	0.000			bu	ttons below	
Unbilled metered: * ? 10	196.058		Pcnt:	0.	Value:	
Official distriction.	265.472			100	265.472	MG/Yr
Unbilled Unmetered volume entered is greater th				Us	e buttons to sele	ect
AUTHORIZED CONSUMPTION:	10,748.815	MG/Yr			otage of water su OR value	
WATER LOSSES (Water Supplied - Authorized Consumption)	6,171.054	MG/Yr		1	value	
Apparent Losses			Pont:		Value:	
Unauthorized consumption:	42.300	MG/Yr	0.259	. 0	T dido:	MG/Yr
Default option selected for unauthorized consumption - a gr						Tanada
	213.946		2.00%			MG/Yr
Customer metering innecuracios:			1 / Intr			
Customer metering inaccuracies: 7 7 Systematic data handling errors: 7 7			1157-0	0.0	154 309	
Customer metering inaccuracies: 7 Systematic data handling errors: 7 7	154.309		0.259	0.0	154.309	MG/Yr
		MG/Yr	0.259		154.309	
Systematic data handling errors:   Apparent Losses:   ?	154.309	MG/Yr	0.280		154.309	
Systematic data handling errors:   2 7	154.309	MG/Yr	0.289	0 0	154.309	
Systematic data handling errors:   Apparent Losses:   Real Losses (Current Annual Real Losses or CARL)	154.309 410.555	MG/Yr MG/Yr	0.259		154.309	
Systematic data handling errors:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:	154.309 410.555 5,760.499	MG/Yr MG/Yr	0.250		154,309	
Systematic data handling errors:   Apparent Losses:   Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:   WATER LOSSES:	154.309 410.555 5,760.499	MG/Yr MG/Yr MG/Yr MG/Yr	0.250		154,309	
Systematic data handling errors:   Apparent Losses:   Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:   WATER LOSSES:   NON-REVENUE WATER  NON-REVENUE WATER:   2	154.309 410.555 5,760.499 6,171.054	MG/Yr MG/Yr MG/Yr MG/Yr	0.250		154.309	
Systematic data handling errors:   Apparent Losses:   Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:   WATER LOSSES:   NON-REVENUE WATER  Parallel Metered + Unbilled Unmetered	154.309 410.555 5,760.499 6,171.054	MG/Yr MG/Yr MG/Yr MG/Yr	0.250		154.309	
Systematic data handling errors:   Apparent Losses:   Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:   WATER LOSSES:   WON-REVENUE WATER  NON-REVENUE WATER:   Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA	154.309 410.555 5,760.499 6,171.054 6,632.584	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr			154.309	
Systematic data handling errors:    Apparent Losses:    Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:    WATER LOSSES:    WON-REVENUE WATER  NON-REVENUE WATER:    Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:    2 7	154.309 410.555 5,760.499 6,171.054	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr			154.309	
Systematic data handling errors:    Apparent Losses:    Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:    WATER LOSSES:    WON-REVENUE WATER  NON-REVENUE WATER:    Water Losses + Unbilled Metered + Unbilled Unmetered  SySTEM DATA  Length of mains:    2	154.309 410.555 5,760.499 6,171.054 6,632.584	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr			154.309	
Systematic data handling errors:    Apparent Losses:    Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:    WATER LOSSES:    WATER LOSSES:    NON-REVENUE WATER:    Water Losses + Unbilled Metered + Unbilled Unmetered  System Data  Length of mains:    Length of mains:    Service connections:    Service connection density:    Service connection density:    2	154.309 410.555 5,760.499 6,171.054 6,632.584 1,824.3 151.193 83	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles			154.309	
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	154.309 410.555 5,760.499 6,171.054 6,632.584 1,824.3 151,193 83	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service)	line, beyond the pro			
Systematic data handling errors:    Apparent Losses:    Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:    WATER LOSSES:    WATER LOSSES:    NON-REVENUE WATER:    E Water Losses + Unbilled Metered + Unbilled Unmetered    SySTEM DATA    Length of mains:    Length of mains:    Page 1	154.309 410.555 5,760.499 6,171.054 6,632.584 1,824.3 151.193 83	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service)	0.359			
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  WON-REVENUE WATER  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Number of active AND inactive service connections:  Service connection density:  Are customer meters typically located at the curbstop or property line?	154.309 410.555 5,760.499 6,171.054 6,632.584 1,824.3 151,193 83	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the respons	line, beyond the pro			
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line:  Average operating pressure:  Average operating pressure:  7  Average operating pressure:  9  4  7  8	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the respons	line, beyond the pro			
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  PAUTON - REVENUE WATER:  PAUTON - REVEN	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the respons	line, beyond the pro			
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  PWater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Particle AND inactive service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating pressure:  Total annual cost of operating water system:	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the respons	line, beyond the pro			
Apparent Losses:  Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  NON-REVENUE WATER  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses):  7  9  Customer retail unit cost (applied to Apparent Losses):  9  7  9  Customer retail unit cost (applied to Apparent Losses): 9  7  9  7  7  8  7  8  7  9  9  9  9  9  9  9  9  9  9  9  9	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the response) s/Year \$/1000 gallons (US)	line, <u>beyond</u> the probibility of the utility)	perty bounda	ary.	
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Average operating pressure:  7  8  COST DATA  Total annual cost of operating water system:	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the response) s/Year \$/1000 gallons (US)	line, beyond the pro	perty bounda	ary.	
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line? Average length of customer service line:  Average operating pressure:  Total annual cost of operating water system: Customer retail unit cost (applied to Apparent Losses):  7  9  Customer retail unit cost (applied to Apparent Losses):  7  9  Customer retail unit cost (applied to Apparent Losses): 7  9  7  9  7  7  8  7  8  7  9  9  9  9  9  9  9  9  9  9  9  9	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the response) s/Year \$/1000 gallons (US)	line, <u>beyond</u> the probibility of the utility)	perty bounda	ary.	
Apparent Losses:  Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  Avater Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains:  * 2 9  Service connection density:  Parallel Costomer service connections:  * 2 9  Average length of customer service line:  * 2 8  Average operating pressure:  * 7 8  COST DATA  Total annual cost of operating water system:  * 2 9  Customer retail unit cost (applied to Apparent Losses):  * 7 9  Variable production cost (applied to Real Losses):  * 7 9  Variable production cost (applied to Real Losses):  * 7 9  WATER AUDIT DATA VALIDITY SCORE:	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21	MG/Yr MG/Yr MG/Yr MG/Yr MG/Yr miles conn./mile main (length of service that is the response) s/Year \$/1000 gallons (US)	line, <u>beyond</u> the probibility of the utility)	perty bounda	ary.	
Apparent Losses: 7  Apparent Losses: 7  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: 7  WATER LOSSES:	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151.193 83  No 25.0  97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	
Apparent Losses: 2  Apparent Losses: 2  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: 2  WATER LOSSES:  NON-REVENUE WATER  WATER LOSSES: 2  WATER LOSSES: 4  NON-REVENUE WATER: 2  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: 4 2 9  Number of active AND inactive service connections: 4 2 9  Number of active AND inactive service connection density: 2  Are customer meters typically located at the curbstop or property line?  Average length of customer service line: 4 2 8  Average operating pressure: 4 2 9  Customer retail unit cost (applied to Apparent Losses): 4 2 9  Variable production cost (applied to Real Losses): 4 2 9  WATER AUDIT DATA VALIDITY SCORE: 4 9  WATER AUDIT DATA VALIDITY SCORE: 4 9  WATER AUDIT DATA VALIDITY SCORE: 4 9  WATER OF The Components of consumption and water locations are consumptions are consumption and water locations are consumptions are consumptio	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151.193 83  No 25.0  97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	
Apparent Losses: 2  Apparent Losses: 2  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses: 2  WATER LOSSES: 2  WATER LOSSES: 4  Length of mains: 4  Particular Losses + Unbilled Metered + Unbilled Unmetered System DATA  Length of mains: 4  Particular Losses + 2  Average connection density: 2  WATER LOSSES: 4  Particular Losses + 2  Particular Loss	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	
Apparent Losses: 2  Apparent Losses: 2  Apparent Losses: 2  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses: 2  WATER LOSSES: 2  WATER LOSSES: 4  WATER LOSSES: 4  NON-REVENUE WATER: 2  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	
Apparent Losses:  Real Losses (Current Annual Real Losses or CARL) Real Losses = Water Losses - Apparent Losses:  WATER LOSSES:  WATER LOSSES:  NON-REVENUE WATER  WATER LOSSES:  NON-REVENUE WATER:  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA  Length of mains: + 2 9  Number of active AND inactive service connections: Service connections: Service connection density:  Are customer meters typically located at the curbstop or property line?  Average length of customer service line: + 7 8  Average operating pressure: + 7 8  COST DATA  Total annual cost of operating water system: + 7 9  Variable production cost (applied to Apparent Losses): + 7 9  Variable production cost (applied to Real Losses): + 7 9  WATER AUDIT DATA VALIDITY SCORE:	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	
Apparent Losses: 2  Apparent Losses: 2  Real Losses (Current Annual Real Losses or CARL)  Real Losses = Water Losses - Apparent Losses: 2  WATER LOSSES: 2  WATER LOSSES: 4  NON-REVENUE WATER: 2  Water Losses + Unbilled Metered + Unbilled Unmetered  SYSTEM DATA	154.309 410.555 5,760.499 6,171.054 6,632.584  1,824.3 151,193 83  No 25.0 97.0  \$40,310,310 \$10.21 \$180.31	MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  MG/Yr  miles  conn./mile main  (length of service that is the respons)  psi  \$/Year  \$/1000 gallons (US)  \$/Million gallons	line, <u>beyond</u> the probability of the utility)	perty bounda	ary.	

	AWWA Free Wat System Attributes and		American Water Works Associa
			Copyright Control to the Control of
	Water Audit Report for: Wilkes-Barre_Scrar		
	Reporting Year: 2014 1/20	)14 - 12/2014	
	*** YOUR WATER AUDIT DATA VA	LIDITY SCORE IS	: 87 out of 100 ***
ystem Attributes:	A		440.555
	Ap	parent Losses: Real Losses:	410.555 MG/Yr
		Water Losses:	5,760.499 MG/Yr
		water Losses:	6,171.054 MG/Yr
	Unavoidable Annual Real L	osses (UARL):	1,342.47 MG/Yr
	Annual cost of Ap	parent Losses:	\$4,193,406
	Annual cost of	of Real Losses:	\$58,837,739 Valued at Customer Retail Unit Cost
		Tank to the second	Return to Reporting Worksheet to change this assumption
erformance Indicators:			
Financial:	Non-revenue water as percent by volume of V	Vater Supplied:	39.2%
T manoan.	Non-revenue water as percent by cost of open	erating system:	168.1% Real Losses valued at Customer Retail Unit Cost
	Apparent Losses per service conn	ection per day:	7.44 gallons/connection/day
	Real Losses per service conn		104.38 gallons/connection/day
Operational Efficiency:	Real Losses per length of	_	N/A
	Real Losses per service connection per day per		1.08 gallons/connection/day/psi
	From Above People occors - Correct Assess Devices	(CABL)	5,700,50
	From Above, Real Losses = Current Annual Real L		5,760.50 million gallons/year
	Infrastructure Leakage Index (ILI)	[CARL/UARL]:	4.29
This performance indicator applies for syste	ems with a low service connection density of less th	nan 32 service conr	nections/mile of pipeline