

Audit Information:

Utility: Cambria Community Services District

PWS ID: CA4010014

System Type: Potable

Audit Period: Calendar 2018

Utility Representation: Melissa Bland (Analyst), Jim Green (Distribution Supervisor)

Validation Date: 9/24/2019

Call Time: 14:30

Sufficient Supporting Documents Provided: Yes

Validation Findings & Confirmation Statement:

Key Audit Metrics:

Data Validity Score: 60 Data Validity Band (Level): Level III

ILI: 0.43

Real Loss: 8.74 (gal/conn/day)

Apparent Loss: 2.94 (gal/conn/day)

Non-revenue water as percent of cost of operating system: 4.8%

Certification Statement by Validator:

This water loss audit report has been Level 1 validated per the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34.

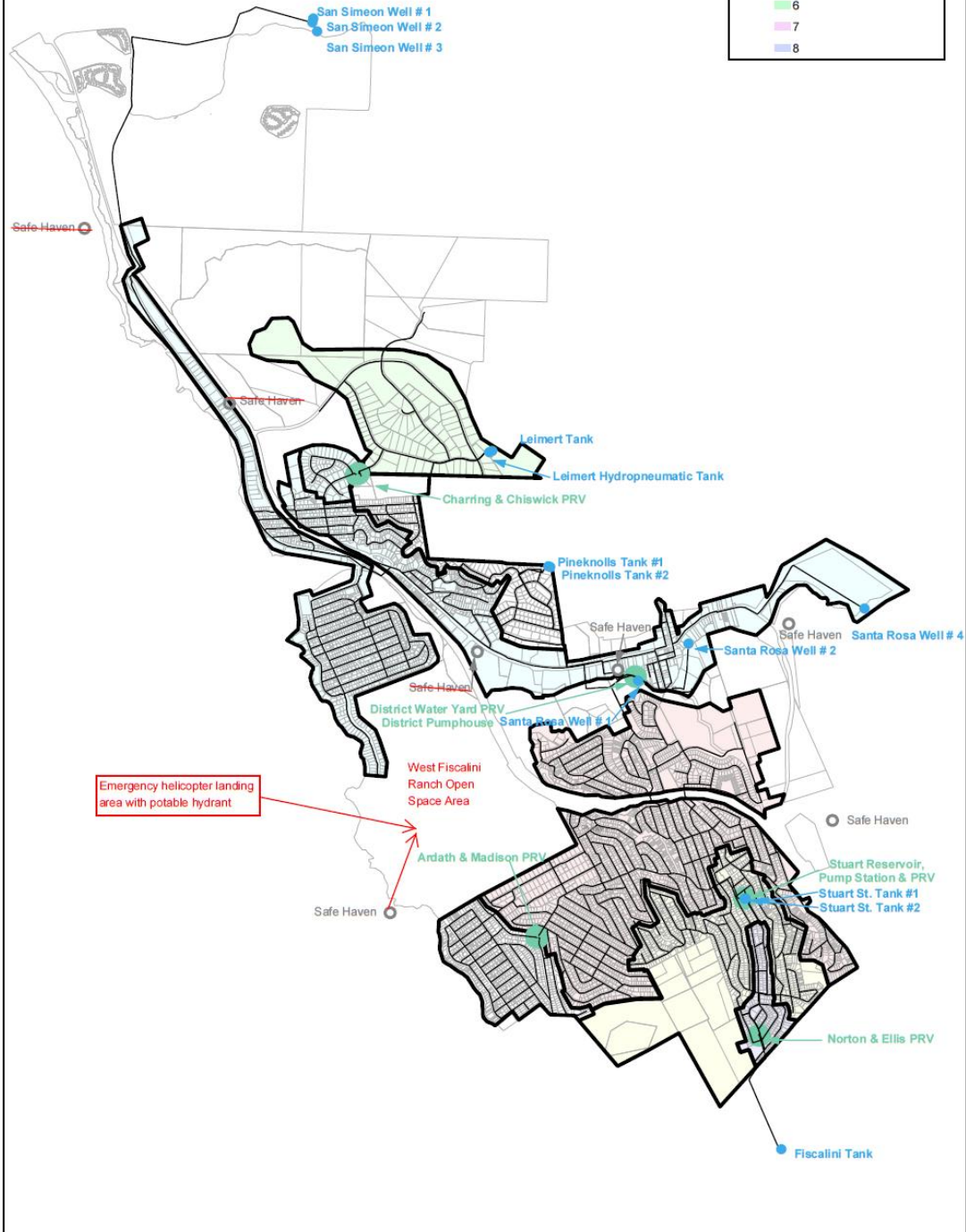
Validator Information:

Water Audit Validator: Bryan Chen

Validator Qualifications: AWWA California Water Audit Validator



Legend	
Pressure Zones	Pipes
1	— Existing Pipes
2	
3	
4	
5	
6	
7	
8	



Emergency helicopter landing area with potable hydrant

Revisions by R Greens for SLO Co.
 Fire info request, 8-10-2009
 East-West ranch pipeline not shown
 across open space from end of
 Madison to Windsor Blvd.



Kennedy/Jenks Consultants
Engineers & Scientists
 Cambria Community Services District
 Task 3: Potable Water Distribution System Analysis
Existing Potable Water System and Pressure Zones
 KJJ 024602.00
Figure 4-1

#	AWWA Water Audit Input	Code	Final DVG	Basis on Input Derivation	Basis on Data Validity Grade
1	Volume from Own Sources	VOS	5	<p>Supply meter profile: San Simeon Well (1,2,3), Santa Rosa Well (1,3,4)</p> <p>VOS input derived from: Data is recorded manually daily, monthly hand written data logs.</p> <p>Comments: Potable volumes only. No testing data submitted</p>	<p>Percent of own supply metered: 100</p> <p>Signal calibration frequency: Every three years.</p> <p>Volumetric testing frequency: N/A</p> <p>Volumetric testing method: N/A</p> <p>Percent of own supply volumetrically tested:</p> <p>Comments: Meters last calibrated in 2017</p>
2	VOS Master Meter & Supply Error Adjustment	VOS MMSEA	10	<p>Input derivation: Left Blank</p> <p>Comments:</p>	<p>Supply meter read frequency: Daily</p> <p>Supply meter read method: SCADA</p> <p>Frequency of data review for trends & anomalies: Continuously recorded and reviewed daily.</p> <p>Storage levels monitoring frequency: SCADA system online.</p> <p>Comments: Daily log submitted with supplemental docs.</p>
3	Water Imported	WI	n/a	Comments:	
4	WI Master Meter & Supply Error Adjustment	WI MMSEA	n/a	<p>Adjustment Basis:</p> <p>Comments:</p>	
5	Water Exported	WE	n/a	<p>Export meter profile:</p> <p>Comments:</p>	<p>Percent of export supply metered:</p> <p>Signal calibration frequency:</p> <p>Volumetric testing frequency:</p> <p>Volumetric testing method:</p> <p>Percent of export supply volumetrically tested:</p> <p>Comments:</p>

#	AWWA Water Audit Input	Code	Final DVG	Basis on Input Derivation	Basis on Data Validity Grade
6	WE Master Meter & Supply Error Adjustment	WE MMSEA	n/a	Input derivation: Comments:	Export meter read frequency: Export meter read method: Frequency of data review for trends & anomalies: Comments:
7	Billed metered	BMAC	5	Customer meter profile: Age profile: 11-12 years old Reading system: AMR/Manual Read frequency: Monthly Comments: All customer meters replaced at same time 11-12 years ago. Individual reading/customer account information exists, not submitted. No testing data. AMR has not been reliable, about 300 meters are manually read.	Percent of customers metered: 100 Small meter testing policy: Upon request or consumption flag Number of small meters tested/year: Large meter testing policy: Upon request or consumption flag Number of large meters tested/year: Meter replacement policy: Upon failure Number of replacements/year: Billing data auditing: Volumes separated by customer type. Annual internal and CPA review Comments: No bench testing has been done in 2018
8	Billed unmetered	BUAC	n/a	Profile: All customers metered Comments:	Comments:
9	Unbilled metered	UMAC	10	Profile: The Equestrian Ranch, The Schoolhouse Input derivation: Digital monthly log for "The Schoolhouse", Hand written monthly log for "Clyde Warren (Equestrian)", facilities included in monthly reads. Comments: Only partial meter reads submitted, clear policy is explained. Potable volumes only	Policy for billing exemptions: Per 2006 settlement agreement, district provides 20 afy of potable supply to the Equestrian Center, 1.5 afy of potable water to Schoolhouse. Comments:

#	AWWA Water Audit Input	Code	Final DVG	Basis on Input Derivation	Basis on Data Validity Grade
10	Unbilled unmetered	UUAC	5	<p>Profile: Fire department and training water usage estimates.</p> <p>Comments: CCSD plans to have written procedures for logging usage starting 2019.</p> <p>Default input</p>	<p>Comments: CA default grade applied 0.25% = 1.3118 af/y</p>
11	Unauthorized consumption	UC	5	<p>Comments: Default input</p>	<p>Comments: Default grade applied</p>
12	Customer metering inaccuracies	CMI	4	<p>Input derivation: Estimated</p> <p>Comments: Accuracy test triggered by request and consumption flag, volume is inferred, replacement upon failure.</p> <p>Based on age profile, 2.25% estimated inaccuracy entered</p>	<p>Characterization of meter testing: Upon customer request, AMI flag.</p> <p>Characterization of meter replacement: Upon failure</p> <p>Comments:</p>
13	Systematic data handling errors	SDHE	5	<p>Comments: Default input</p>	<p>Comments: Default grade applied</p>
14	Length of mains	Lm	2	<p>Input derivation: Third-party analysis conducted 2004</p> <p>Hydrant leads included: Yes, estimated 15 ft per hydrant.</p> <p>Comments:</p>	<p>Mapping format: GIS (Google earth based)</p> <p>Asset management database: GIS (Google earth based)</p> <p>Map updates & field validation: By work orders.</p> <p>Comments:</p>
15	Number of service connections	Ns	7	<p>Input derivation: Total number of customers reported by utility billing. Not exact match, large development with multiple meters per connection, error is within 3%</p> <p>Basis for database query: Number of billed customers</p> <p>Comments: 112 customers are on shared service connections</p>	<p>CIS updates & field validation: Normal meter reading process</p> <p>Estimated error of total count within: 3%</p> <p>Comments:</p>
16	Ave length of cust. service line	Lp	10	<p>Comments: Default input and grade applied, customer meters are typically located at the property boundary.</p>	
17	Average operating pressure	AOP	3	<p>Number of zones, general profile: 8 pressure zones according to K-J map legend. 85psi</p> <p>Typical pressure range: No range specified</p> <p>Input derivation: Average of hydrant pressure</p> <p>Comments: No pressure gauging or datalogging equipment</p>	<p>Extent of static pressure data collection: Average pressure</p> <p>Characterization of real-time pressure data collection: None available</p> <p>Hydraulic model: Model exists but is outdated.</p> <p>Comments:</p>

#	AWWA Water Audit Input	Code	Final DVG	Basis on Input Derivation	Basis on Data Validity Grade
18	Total annual operating cost	TAOC	10	Input derivation: From official financial reports Comments: Cost from water only.	Frequency of internal auditing: Annual (Fiscal Year) Frequency of third-party CPA auditing: Annual (Fiscal Year) Comments:
19	Customer retail unit cost	CRUC	10	Input derivation: Total revenue divided by total billed units, sewer charges included in calculation. Sewer rate based on volumetric water use. Comments:	Characterization of calculation: Conservation based pricing as needed. Comments:
20	Variable production cost	VPC	5	Supply profile: Own sources only Primary costs included: Electric, chemicals Secondary costs included: None currently Comments:	Characterization of calculation: Primary costs only. Comments:

Key Audit Metrics

(~) VALIDITY

Data Validity Score:60

Data Validity Band (Level): Level III

(#) VOLUME

ILI: 0.43 Real Loss: 8.74 (gal/conn/day)

Apparent Loss: 2.94 (gal/conn/day)

(\$) VALUE

Annual Cost of Real Losses: \$31,638

Annual Cost of Apparent Losses: \$87,388

Utility Provided

Water Supplier Name: Cambria Community Services District **Water Supplier ID Number:** 4010014 **Water Audit Period:** CY 2018

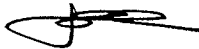
Water Audit & Water Loss Improvement Steps:

Utility to provide steps taken in preceding year to increase data validity, reduce real loss and apparent loss as informed by the annual validated water audit:

During calendar year 2018, the District successfully implemented a rate increase to provide revenue for capital improvement projects. Planned improvements include full replacement of residential customer meters, an upgrade from AMR to AMI metering technology, and replacement of a temporary reach of transmission main pipeline. Subzone metering and continuous logging of pressure throughout the District's distribution system are also included in the 10-year Capital Improvement Program. The District continues to improve upon internal record keeping and written procedures and processes. Staff attended the 2019 CalWEP Peer to Peer event and received important training and information relating to current and future water loss regulations, best practices, and conservation program management. At least one staff member will obtain the Grade I Water Use Efficiency certification by January 2020.

Certification Statement by Utility Executive:

This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audit and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5.

john F. Weigold, IV	General Manager		Digitally signed by John Weigold DN: cn=John Weigold, o, ou, email=jfweigold@gmail.com, c=US Date: 2019.09.27 16:06:06 -07'00'	9-27-2019
Executive Name (Print)	Executive Position	Signature		Date