Arizona Water Company’s Leak Detection Program

Tom Harrell
Arizona Water Company

March 10, 2009 Workshop
ARIZONA WATER COMPANY STATISTICS:

OVER 83,000 SERVICE CONNECTIONS

LOST & UNACCOUNTED FOR WATER LESS THAN 8%

MARCH 10, 2009 WORKSHOP
MOST LEAKS DO SURFACE
MOST LEAKS DO SURFACE
LEAK DETECTION EQUIPMENT

LC-2500 LEAK NOISE CORRELATOR
INPUT PIPE DATA INFORMATION

RESULTS OF CORRELATION

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LEAK DETECTION EQUIPMENT

ZCORR DIGITAL CORRELATING LOGGERS

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INPUT PIPE INFORMATION TO PINPOINT LEAK

RESULTS FROM LOGGERS

Municipal Conservation

System Audits, Metering, & Leak Detection

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LEAK DETECTION EQUIPMENT

GEOPHONES

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ADDITIONAL LEAK DETECTION EQUIPMENT/MEASURES

PERMALOG

UPDATED/IMPROVED SENSAPHONES

LEAK SURVEY COMPANY

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SYSTEMATIC EVALUATION OF A WATER SYSTEM

PI NEWOOD WATER SYSTEM

Municipal Conservation
System Audits, Metering, & Leak Detection

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SYSTEMATIC EVALUATION OF A WATER SYSTEM

WHERE TO START:

✓ AREA(S) OF KNOWN/PRI OR LEAKS

✓ OLDER PARTS OF THE SYSTEM

✓ AREA(S) WITH TERRAIN NOT CONDUCIVE TO SURFACING LEAKS
SYSTEMATIC EVALUATION OF A WATER SYSTEM

WHAT TO USE:

✔ SYSTEM MAPS
SYSTEMATIC EVALUATION OF A WATER SYSTEM

WHAT TO USE:

✓ ¼-SECTION MAPS
SYSTEMATIC EVALUATION OF A WATER SYSTEM

WHAT TO USE:

✓ OTHER MAPS
SYSTEMATIC EVALUATION OF A WATER SYSTEM

HOW TO USE THE MAPS:

✓ GRID THE SYSTEM
SYSTEMATIC EVALUATION OF A WATER SYSTEM

UTILIZATION OF THE ZCORR LOGGERS

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SYSTEMATIC EVALUATION OF A WATER SYSTEM

DOWNLOAD DATA FROM LOGGERS
SYSTEMATIC EVALUATION OF A WATER SYSTEM

CONFIRMATION/PINPOINT WITH THE CORRELATOR

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SYSTEMATIC EVALUATION OF A WATER SYSTEM

REPAIR THE LEAK

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SYSTEMATIC EVALUATION OF A WATER SYSTEM

RESULTS:

✓ OVER 50 LEAKS DISCOVERED DURING AN 8 WEEK PERIOD

✓ 3 LEAKS >10 GPM

✓ LOST & UNACCOUNTED FOR WATER REDUCED BELOW 10%
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<th>DATE</th>
<th>APPROX LOCATION (INCLUDE SEC.)</th>
<th>LENGTH OF PIPE</th>
<th>SIZE OF PIPE</th>
<th>TYPE(S) OF PIPE</th>
<th>LEAK FOUND? (YES/NO)</th>
<th>LEAK VOLUME (GPM)</th>
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Tom Harrell
Arizona Water Company

March 10, 2009
Workshop

Tom Harrell is a 1995 graduate of Arizona State University with a B.S. from the School of Agribusiness and Environmental Resources. He worked 4 years for the Arizona Corporation Commission, handling customer complaints and meter testing.

Since 2001, he has worked for Arizona Water Company. His current title is Water Resources Coordinator. Some of his duties include overseeing the Company’s conservation and leak detection programs, reporting water usage information to the Department of Water Resources and the Groundwater Replenishment District, and managing the Company’s vehicles and equipment fleet.