

HAND DELIVERED

Board of Directors
International Affairs Committee

J. C. Jackson, President

June 5, 1984

Strategic Operational Plan
1984 Update

ACTION REQUIRED: Review and retention in SOP binder

Enclosed is the June 1, 1984 update to AACPP's Strategic operational Plan (SOP), including relevant committee minutes from the Association's 12th Annual Meeting in Scottsdale, Arizona. After review for revisions, the update should be inserted in your SOP binder and superseded sheets or sections of the plan discarded. This simple expedient will minimize misunderstandings and facilitate future Staff communications.

FY 84 revisions to the plan were scheduled originally for March 31, 1984. However, due to the volatility of proposed OSHA/EPA rulemaking, finalization of program strategies and priorities was delayed pending review and approval by the Board of Directors. The next update to the plan is scheduled for October 1, 1984.

JCJ/bwm

cc: A. Kahn, Esq.

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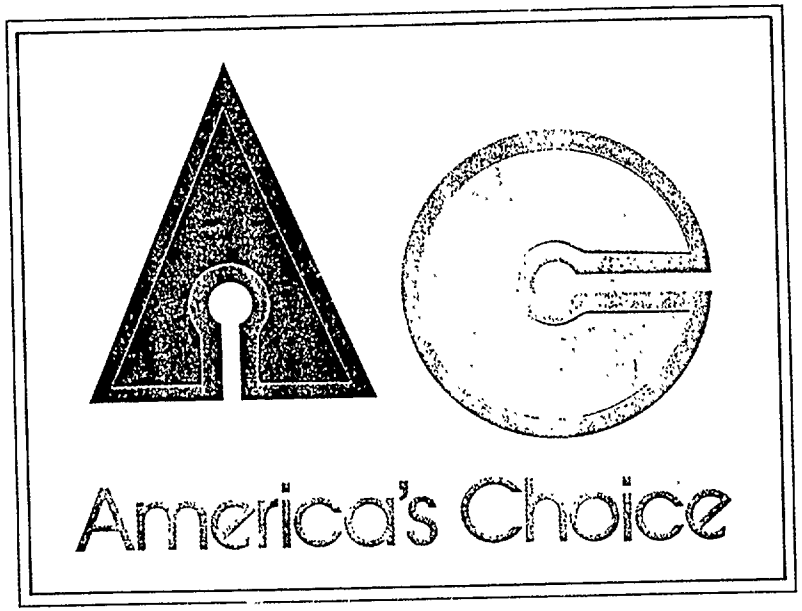

CAPCO JEN 0031666

"Till taught by pain
man really knows not
what good water's worth"

Don Juan (Byron)

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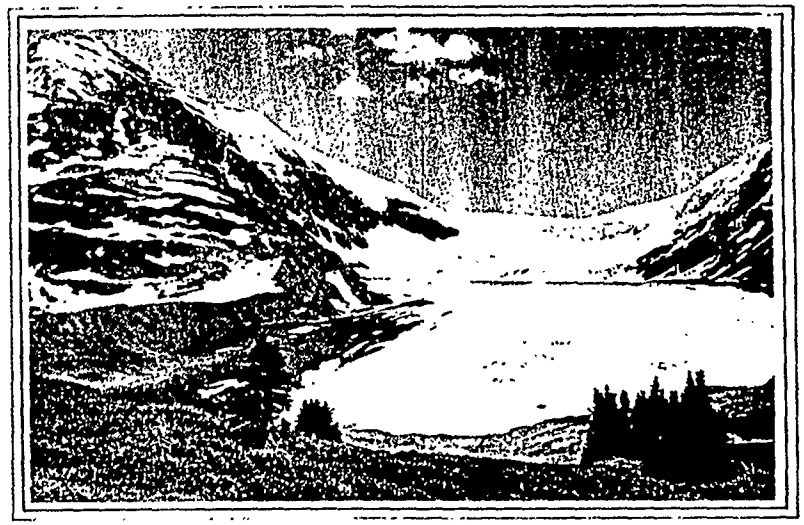
CAPCO JEN 00031667

An American Heritage



The history of man is the history of water.

Throughout the ages, great societies have risen and followed the course of water. Where water was pure and abundant, civilizations and nations flourished and grew. Where the water supply failed or became contaminated, the society dwindled or disappeared.

Water is the greatest natural resource of any nation. It is both the servant and master of man. Used wisely, it can shape the course of human events. The record of man's response to water preservation and supply constitutes much of the history of civilization.

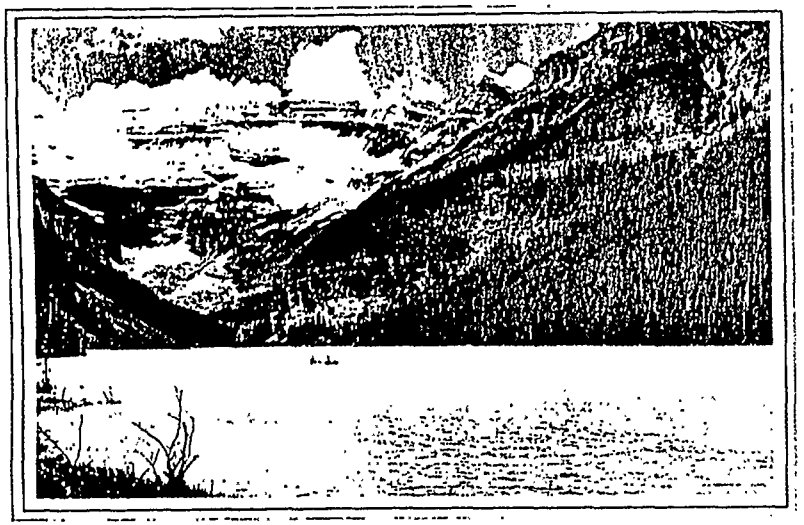
A thousand thousand years before the advent of man, tremendous glaciers predestined the magnificence and natural resources of our land.

Moving majestically from Arctic waters to the vast oceans, they formed a great land mass and a mighty inland sea.

Aided by erosion and the passage of tens of thousands of years, the inland sea gradually disappeared leaving behind sweeping plains, rugged mountains and sloping hills, fresh water rivers and lakes.

And so here, between the two mighty oceans was created the fertile land known today as America.

CAPCO JEN 0031668



The abundance of rainfall, long growing seasons and temperate climate provided an idyllic home for an Indian culture that ultimately reached a population of four million. Tribal communities stretched from coast to coast along the green valleys and swift flowing rivers of the great country.

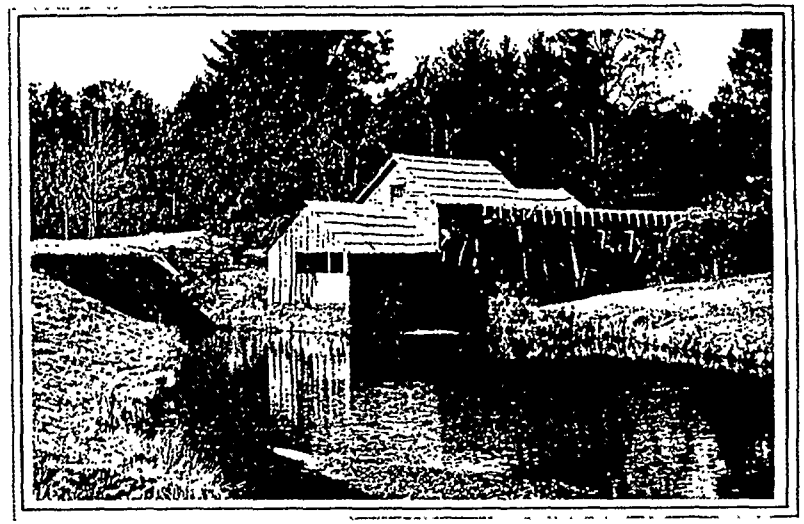
The Hudson. . . .St. Lawrence. . . .and Mohawk. The mighty Mississippi and its tributaries. . . .Ohio, Arkansas, Missouri. The cascading Colorado and Columbia. These and countless other waterways were the highways for the Indian tribes and the explorers who were to follow.

Champlain. de Soto. LaSalle. Cadillac. Jacques Cartier. Lewis & Clark.
Zebulon Pike. John Fremont. Jebediah Smith. Daniel Boone.
. . . .the river men who opened the wilderness for the settlers who built a nation.

And in less than four centuries, America, abundant in water resources, has become the home of more than 200 million people whose ancestry includes every race on earth.

Water. . . .the lifeblood of progress. It supported the American natives. It led early explorers into the vast reaches of our continent and sustained settlers who followed. It enabled great cities to grow, great industries to flourish. It is our most precious natural resource. . . .truly an American heritage. And it must be preserved.

CAPCO JEN 0031669



A land that is naturally poor in water can only survive by heroic measures.

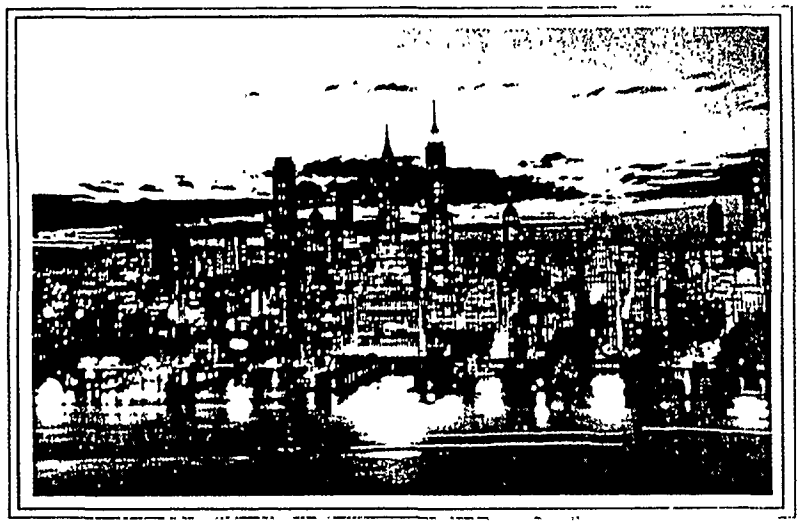
In many countries, the use of water for all purposes — domestic, agriculture, industry — is as low as 10 gallons per person per day.

The United States, blessed with an abundance of ground water and an average annual rainfall of 1500 cubic miles of water (7 trillion tons) has a per capita use of 1800 gallons per day — by far the greatest on earth.

Of the 1800 gallons per day, some 1650 gallons are required by industry and agriculture. For example, it takes about 15 tons of water to produce one pound of beef; nearly 20 tons of water to produce a bushel of corn. About one-third of the total electrical energy in this country is generated by water power.

For personal and domestic purposes — drinking, cooking, bathing, washing, etc. — we use about 150 gallons per person per day. This is 15 times more than all of the water used for all purposes in many countries of the world.

CAPCO JEN 00031670



Fortunately for all of us, water recycles itself by a process known as the hydrologic cycle and is used over and over again. . . .evaporating and then returning to earth as precipitation.

Indeed the world's water problem is not necessarily one of scarcity. The more than 9 million billion gallons of fresh water found on earth are sufficient to meet all present known and anticipated future needs.

Today's water problem is one of conservation, quality and distribution. Stewardship of our water resources must be everyone's concern. To this end we must, as a nation . . . .

- **practice conservation in use**
- **maintain high standards of water quality**
- **provide economic, reliable distribution**

CAPCO JEN 00031671

Water Supply...Progress In Perspective

The history of the United States is the history of water.

Not unlike ancient Egyptian and Roman civilizations, water supply in colonial America developed through an evolutionary process. Utilizing available materials, early systems reflected a common sense application of basic hydraulics plus a full measure of "Yankee ingenuity."

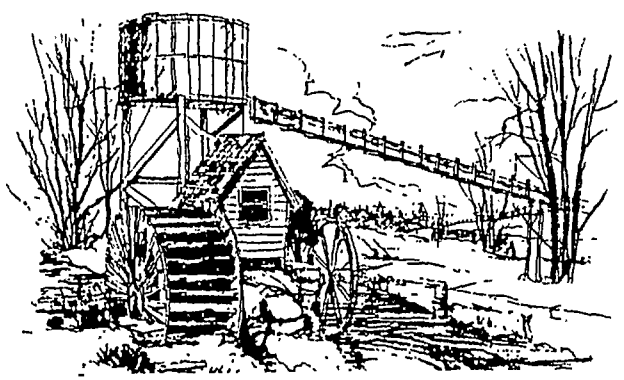


The first inhabitants settled along streams and rivers where the waters ran fresh and clear. Animal skins, dried gourds, clay pots and wood-stave buckets were primitive means to collect, transport and store water. As settlements multiplied and grew into villages and towns, captive springs and shallow wells became more convenient and protected sources of potable water.



In 1652, three decades after the landing at Plymouth Rock, the first "piped" water supply was built in Boston. Log conduits conveyed spring and well water to a crude wooden reservoir. Six years later the first public well was dug in New York City near Bowling Green. As the need for "public water" spread, wells appeared on other populous corners. Tea Water Pump in Chatham Square was said to be the most patronized well in the city.

CAPCO JEN 00031672



learly a century later in 1754, Danish millwright Hans
:hristiansen engineered the first coordinated water system
ı Bethlehem, Pennsylvania. An eighteen-foot water wheel,
wooden pump and a standpipe distributed spring water
:rough a simple network of bored hemlock logs to the
hurch, school and main street corners. Water service was
ıuch improved in 1764 with the installation of steam
ngines to pump water uphill.



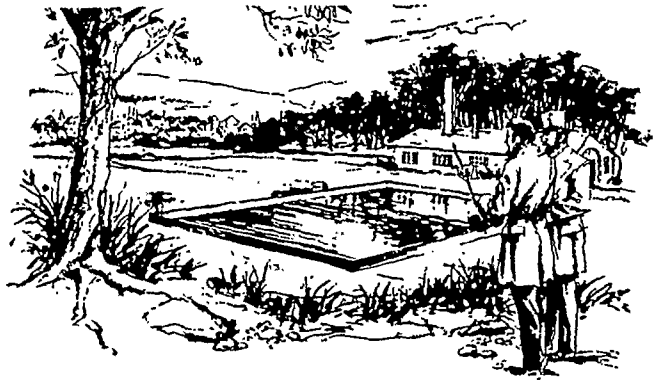
By 1800, history records only nine waterworks throughout the thirteen original colonies. New York, Philadelphia, Boston . . . bustling centers of commerce . . . were plagued by waterborne epidemics of cholera and typhoid. Fires frequently leveled entire city blocks, despite the increasing availability of water. Bucket brigades and hand pumpers remained the first line of defense in the absence of pressurized water systems.

CAPCO JEN 00031673

As the country made the transition from the American Revolution to the Industrial Revolution, the emerging waterworks industry confronted a steadily growing demand for more and safer water. The 19th century saw major advancements in water supply treatment and distribution. Increased reliance on new technology and more efficient power sources resulted in progressively higher operating pressures. Wooden pipe was gradually replaced by metal and cement products.



The Croton Aqueduct, completed in 1890, was one of the most ambitious waterworks projects of the period. Through a cavernous eight-foot subterranean channel, hundreds of millions of gallons of water were transported forty miles to thirsty New York City.



A major improvement was made in water quality in 1892 when James P. Kirkwood successfully constructed the first sand filtration plant in Poughkeepsie, New York.

By the turn of the century, the intrinsic contribution of water quality to life quality became increasingly evident. Mechanical filtration . . . chlorination . . . .water chemistry . . . step by step, over the past 75 years, water supply technology has developed into a complex science.

CAPCO JEN 00031674



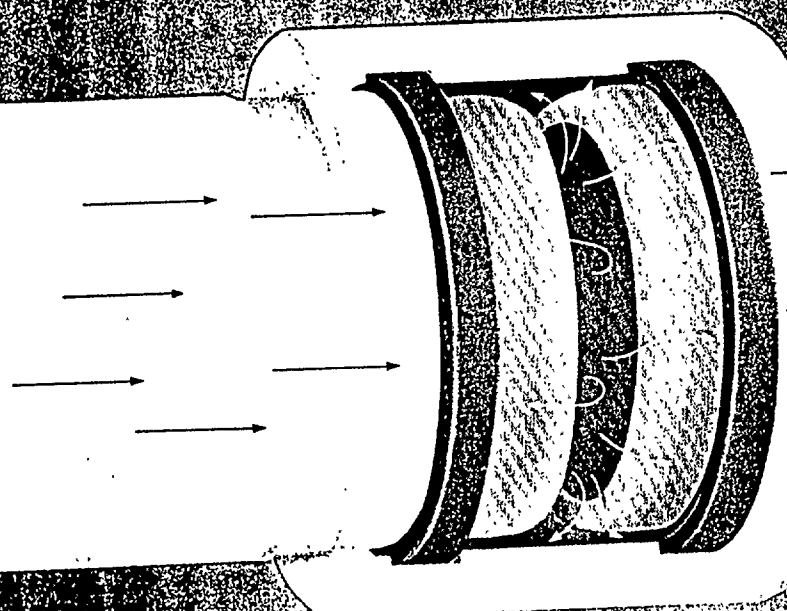
Today the 40,000 waterworks that collect, treat and distribute the prodigious quantity of water used in the United States represent an investment of more than $50,000,000,000. This is about $250 per person . . . a remarkably low premium for the assurance of quality water. This per capita figure will and must increase as water utilities wrestle with changing quality standards, double-digit inflation and the energy crisis. Compliance with the Safe Drinking Water Act, competing demands for invesment capital and high interest rates will add to the cost of water in the future.



Value engineering *must* become a prerequisite to the selection and specification of cost effective, long life, high performance materials. Initial costs, as well as operational and maintenance cost *must* be carefully analyzed during the life of the investment. Purchasing policies *must* be non-discriminating and *must* encourage open, competitive bidding. America demands quality water . . . quality water demands no less.

CAPCO JEN 0031675

Value Engineered Pipe



DURABILITY

Non-metallic asbestos-cement composition for wall-to-wall corrosion resistance.

High pressure steam-cured for maximum chemical stability.

High tensile strength asbestos fibers securely locked in for permanent reinforcement.

FLEXIBILITY

Dual rubber sealing rings for optimum joint flexibility.

Recessed sealing groove for positive, permanent, watertight seal.

Self-aligning bell-and-spigot coupling for rapid assembly.

Automatic take-up and expansion for pipe expansion and deflection.

Built-in resilience to absorb vibration and shock.

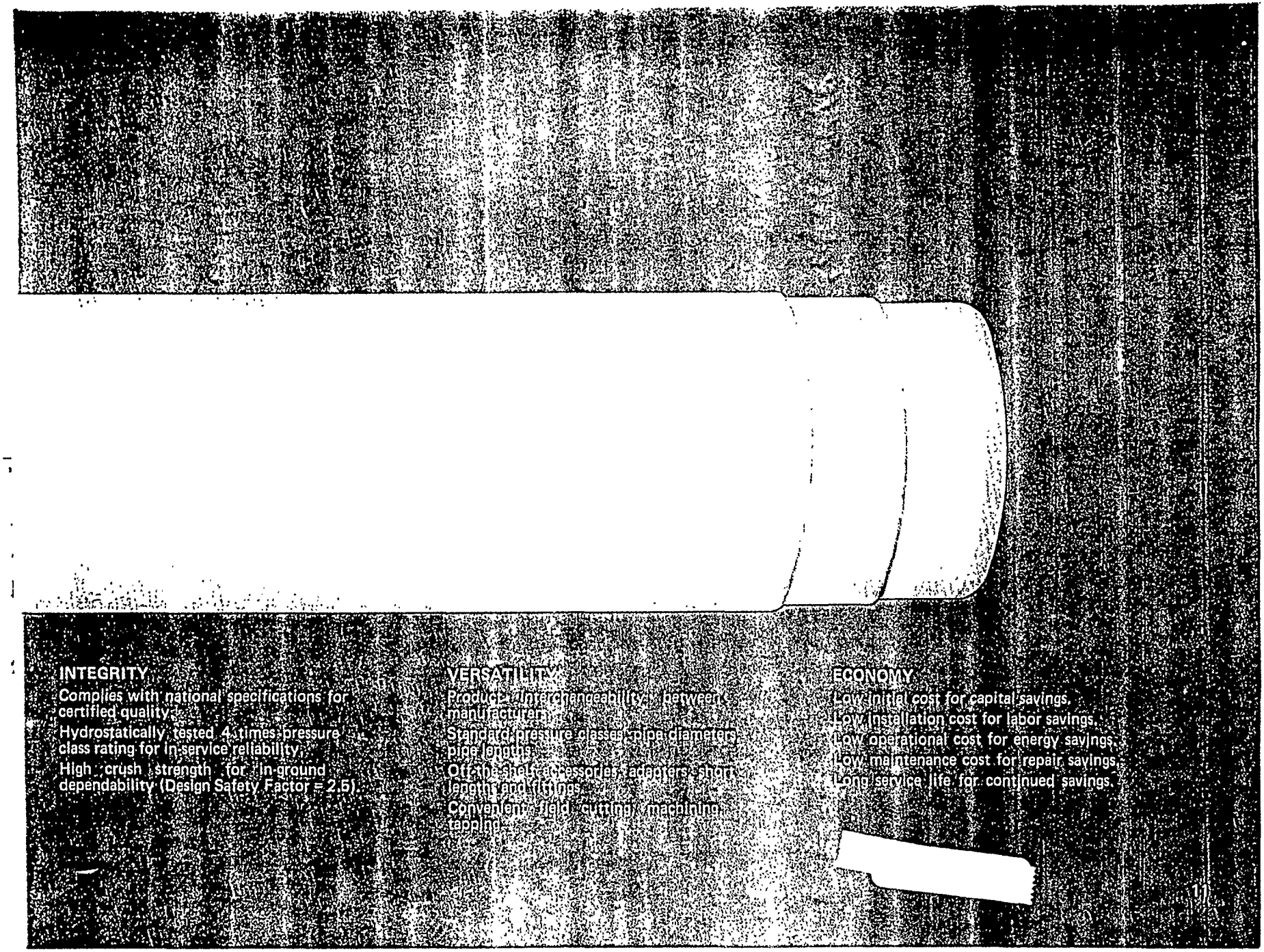
EFFICIENCY

Excellent flow coefficient (C=140) for maximum hydraulic capacity.

Permanently smooth bore for minimum friction loss.

Long lengths, fewer joints for lower water loss.

CAPCO JEN 00031676


INTEGRITY
Complies with national specifications for certified quality.
Hydrostatically tested 4 times pressure class rating for in-service reliability.
High crush strength for in-ground dependability (Design Safety Factor = 2.5).
VERSATILITY
Product interchangeability between manufacturers.
Standard pressure classes, pipe diameters, pipe lengths.
Off-the-shelf accessories, adapters, short lengths and fittings.
Convenient field cutting, machining, tapping.
ECONOMY
Low initial cost for capital savings.
Low installation cost for labor savings.
Low operational cost for energy savings.
Low maintenance cost for repair savings.
Long service life for continued savings.

CAPCO JEN 0031677

A/C America's Choice

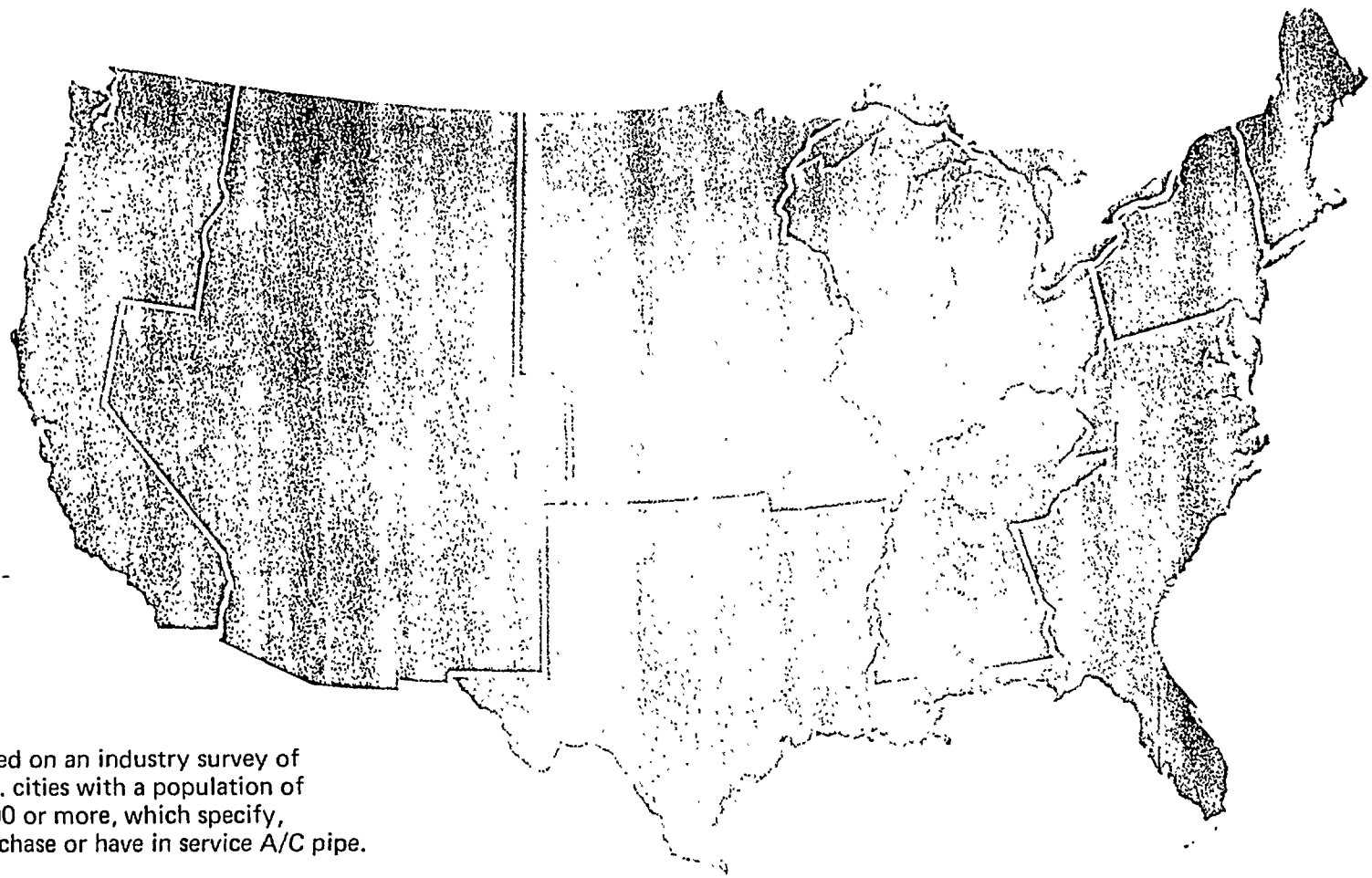
Of the total costs of developing a water supply system, distribution costs represent 50-75%. Water pipe is a major cost component. Thus, its selection is critical. Unlike 200 years ago, today's municipality can choose from a variety of piping materials . . . asbestos-cement (A/C), cast and ductile iron, concrete, PVC and steel. Nevertheless, the objective remains the same: *to choose that pipe which delivers the most quality water at the least cost commensurate with high system reliability.* Value engineering is the best assurance that the proper pipe will be chosen.

Providing water pipe of integrity at a cost the user can and will support is the commitment of the A/C pipe industry. How well has the industry honored this commitment? In less than half a century, A/C pipe has earned the reputation as "the value engineered pipe." A reputation built when and where it counts . . . during installation, in service and in the pocketbook. A reputation backed by national specifications . . . American Water Works Association, American Society for Testing and Materials, Underwriters Laboratories, National Fire Protection Association. A reputation confirmed whenever and wherever the right to compete has not been denied by restrictive specifications and traditional buying habits.

Year by year, installation after installation, A/C pipe has been the first choice of large and small municipalities alike. Why? *Very simply, A/C is today's best buy in water pipe.* One out of every three feet of distribution pipe currently being installed is asbestos-cement. Symbolic of its national acceptance is the increasing number of cities that specify, purchase or have in service A/C water pipe. Clearly, today's trend is towards A/C . . . America's Choice.

CAPCO JEN 00031678

A/C Cities*-A Survey



* Based on an industry survey of U.S. cities with a population of 1000 or more, which specify, purchase or have in service A/C pipe.

CAPCO JEN 00031679

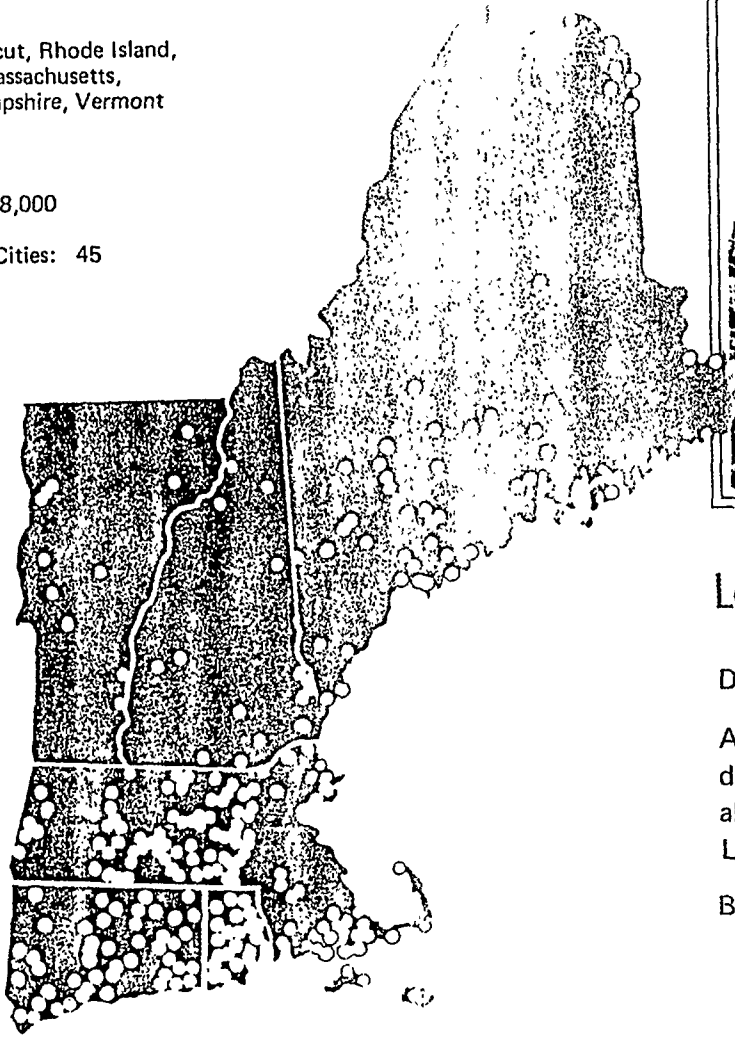
Northeast

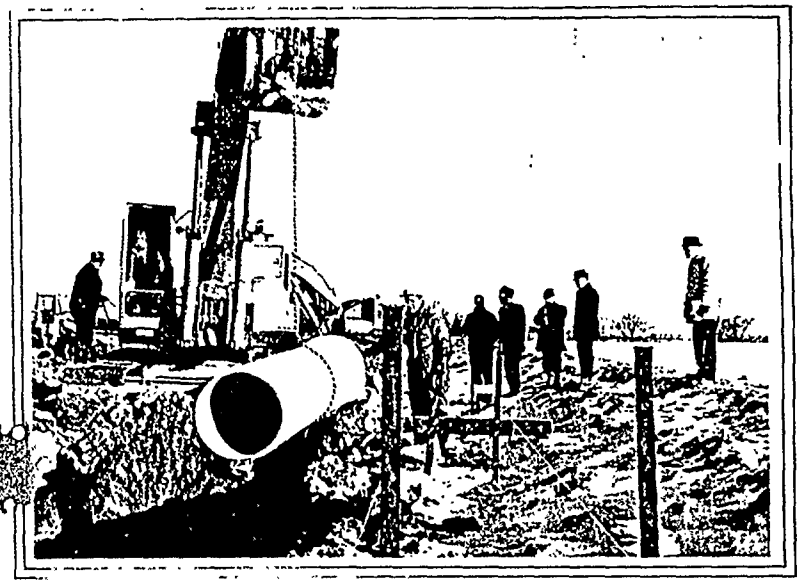
States: Connecticut, Rhode Island, Maine, Massachusetts, New Hampshire, Vermont

A/C Cities: 322

Population: 3,488,000

Percent of Total Cities: 45





Low Initial Cost

Designed for value. Engineered for performance.

A/C costs less than cast and ductile iron for practically all distribution pipe sizes. Invest dollars in pipe, not corrosion allowances and costly cathodic protection. Lower first costs. Lower bonded indebtedness. Lower long term interest charges.

Buy A/C . . . America's Choice.

CAPCO JEN 0031680

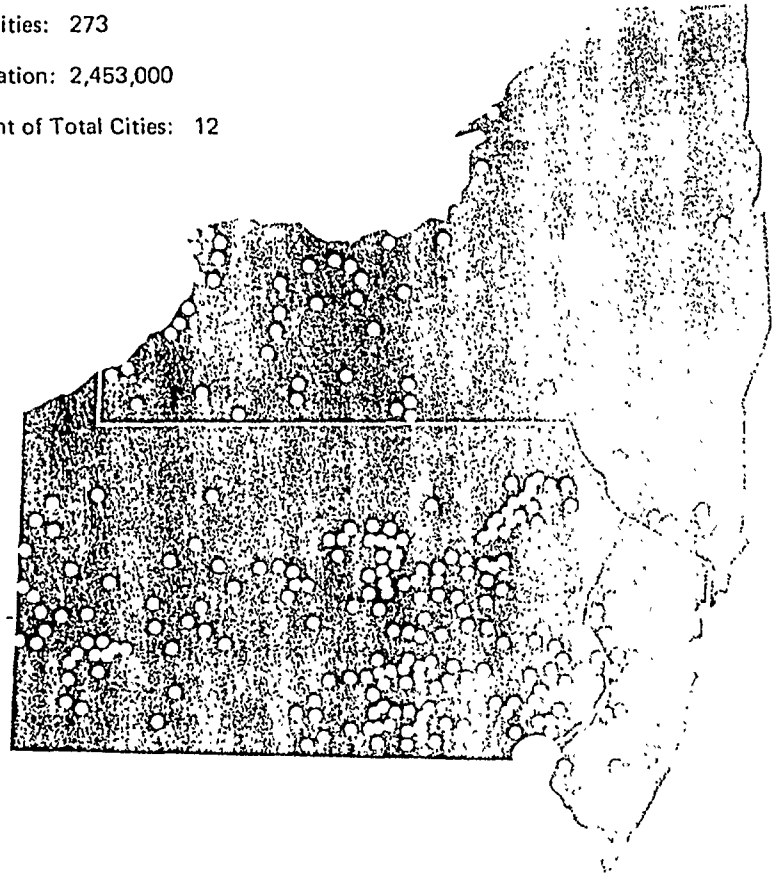
Middle Atlantic

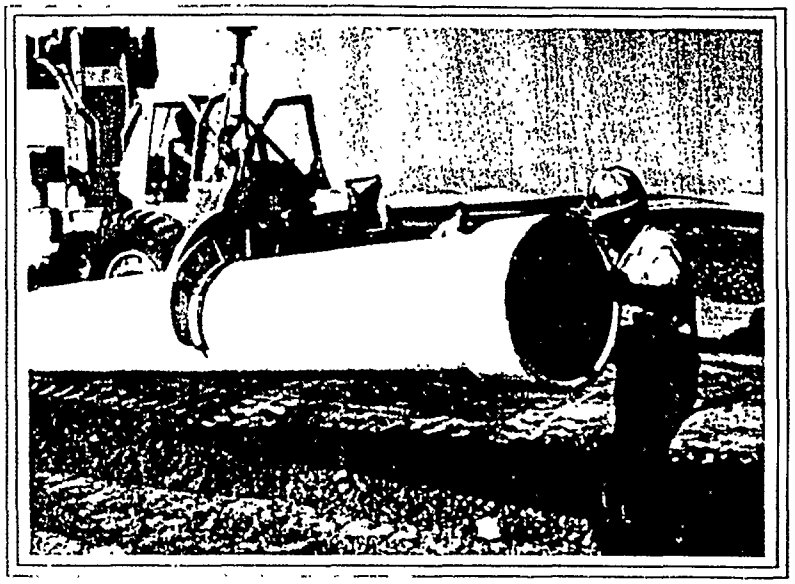
States: New Jersey, New York, Pennsylvania

A/C Cities: 273

Population: 2,453,000

Percent of Total Cities: 12





Low Installation Cost

Light in weight. Long in length.

A/C costs less to install. Quick connecting couplings installed at the factory or on the job site. From truck to trench, assembly is swift, sure, simple. No special requirements for trenching, bedding or testing. Pay less freight per foot. Lay more pipe per day. Cut construction time and costs.

Install A/C . . . America's Choice.

CAPCO JEN 0031681

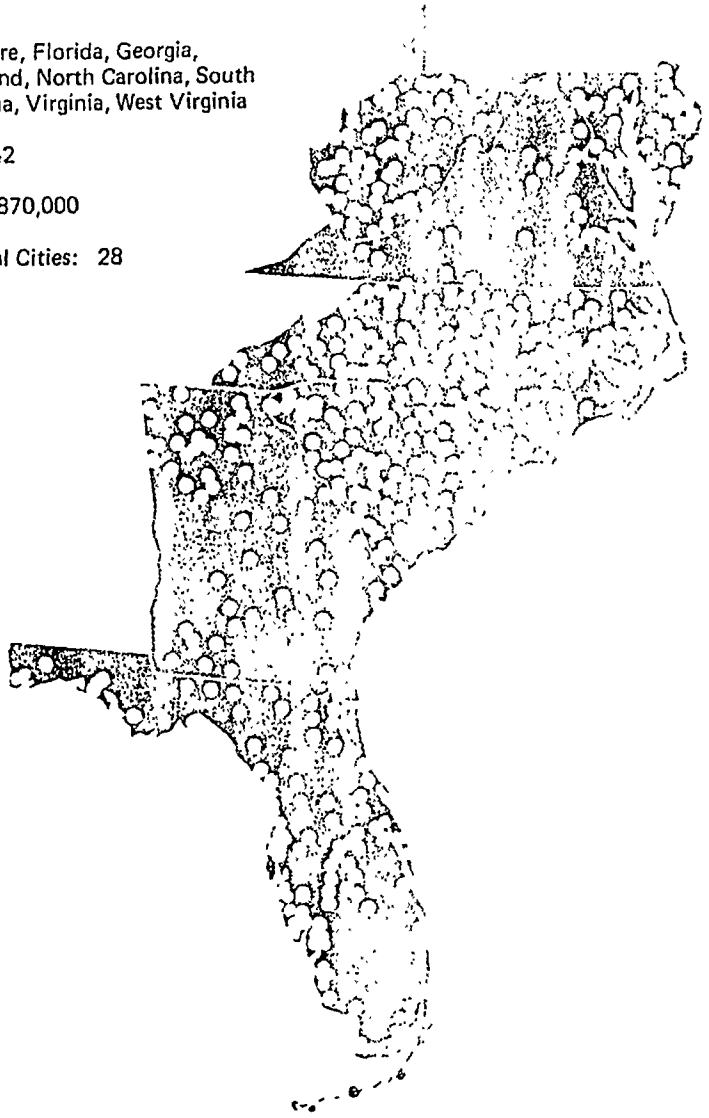
South Atlantic

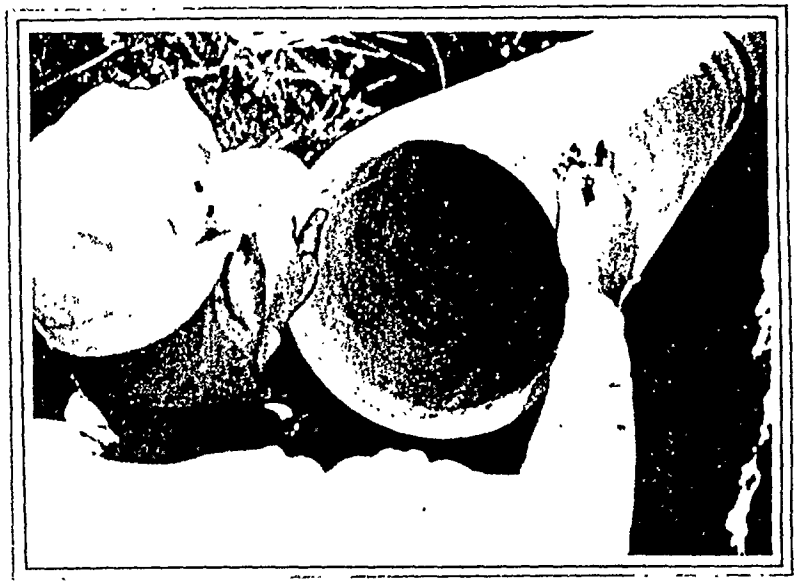
States: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia

A/C Cities: 542

Population: 4,870,000

Percent of Total Cities: 28





Lowest Operating Cost

Smooth bore today. Smooth bore tomorrow.

A/C moves more water for less dollars. No tuberculation to decrease effective pipe size. Permanent high flow characteristics maintain hydraulic efficiency, guarantee fire flow availability. Eliminate low pressure complaints. Reduce pumping loads. Minimize energy costs.

Specify [illegible] . . . America's Choice.

CAPCO JEN 0031682

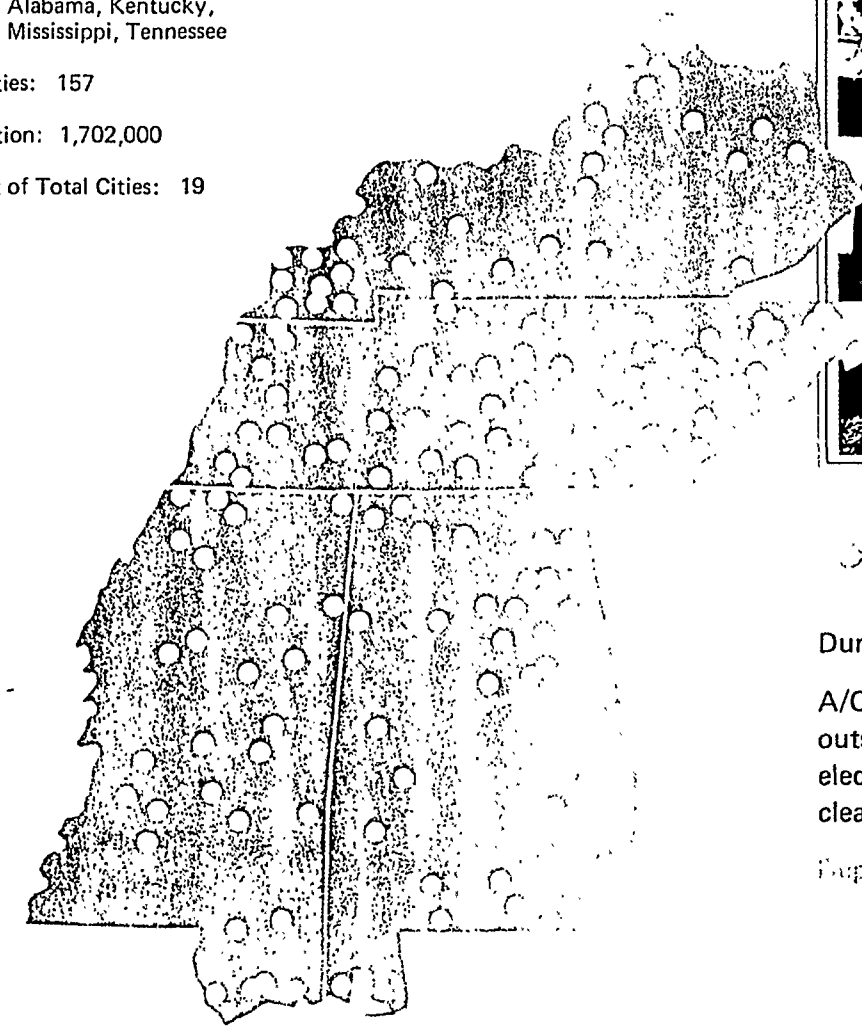
E.S. Central

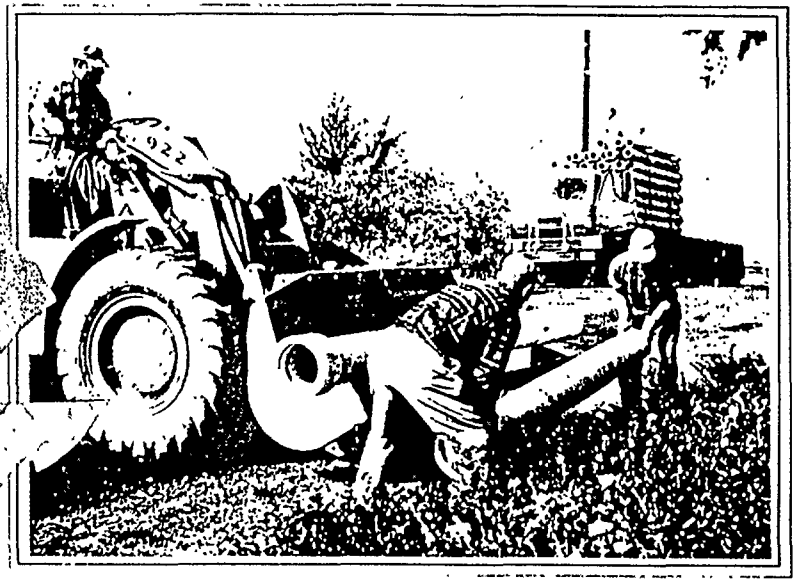
States: Alabama, Kentucky, Mississippi, Tennessee

A/C Cities: 157

Population: 1,702,000

Percent of Total Cities: 19





Maintenance Cost

Durability without cost. Lines without loss.

A/C is practically maintenance free. Built-in protection, inside, outside, all the way through to rust, electrolysis, galvanic and electrochemical types of corrosion. Put a stop to periodic cleaning. Decrease down time. Roll back repair costs.

Expand o... A... ...America's Choice.

CAPCO JEN 00031683

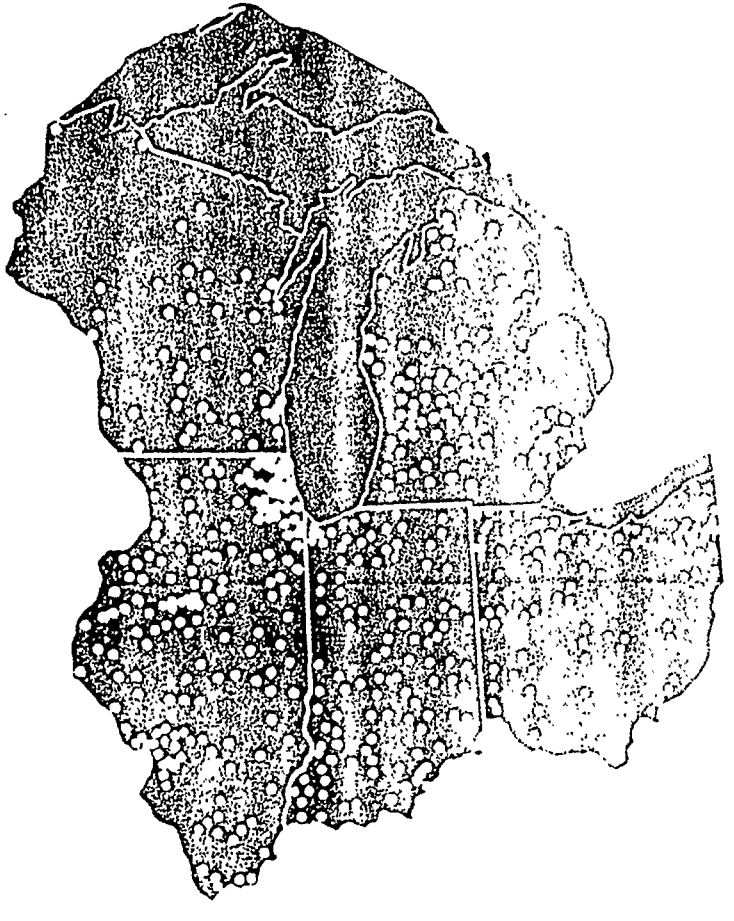
E.N. Central

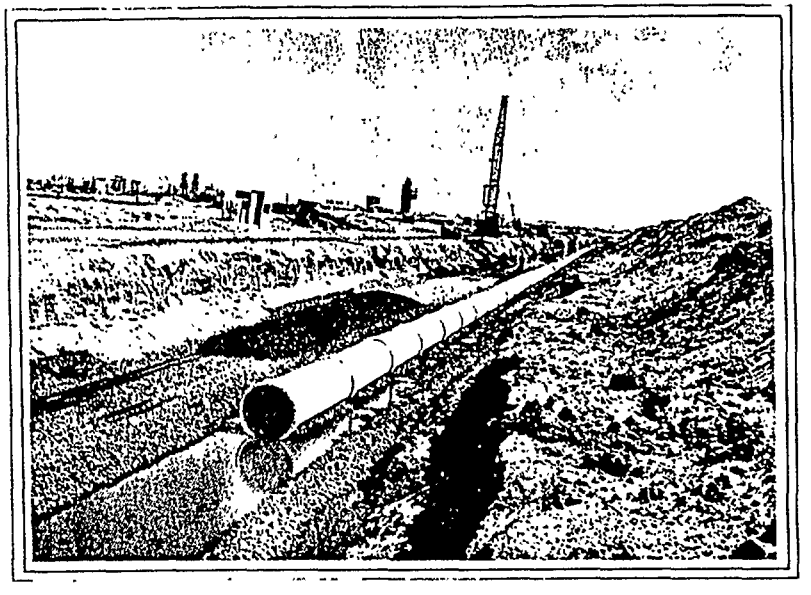
States: Illinois, Indiana, Michigan, Ohio, Wisconsin

A/C Cities: 614

Population: 13,922,000

Percent of Total Cities: 31





Structural Integrity

Factory-tested. Field-proven.

A/C is the optimum balance between high performance, long life and cost effectiveness. Quality control second to none in the pipe industry assures high pressure reliability with sensible factors of safety . . . consistently, inexpensively. Examine the alternatives. Analyze the costs. Pay only for performance.

Design for A/C . . . America's Choice.

CAPCO JEN 0031684

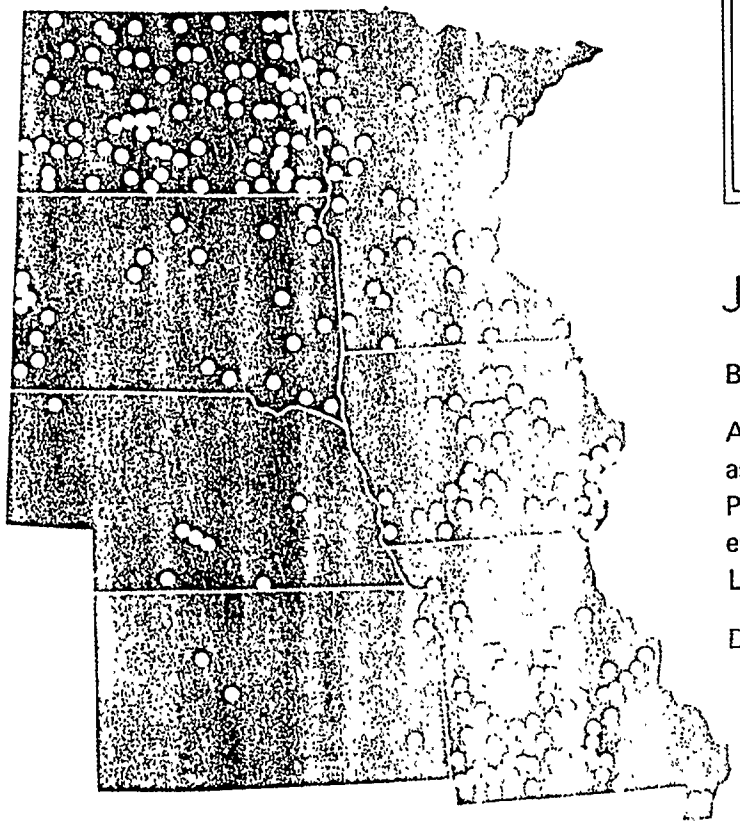
W.N. Central

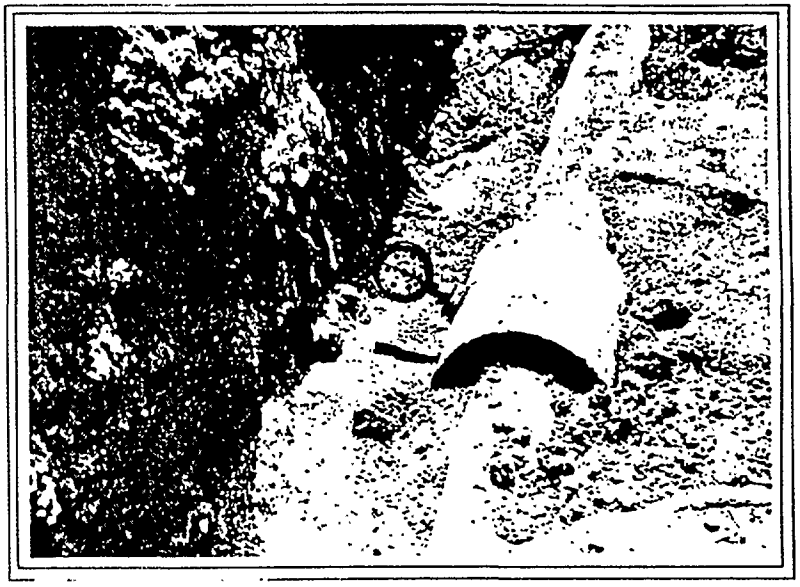
States. Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

A/C Cities: 278

Population: 2,318,000

Percent of Total Cities: 20





Joint Reliability

Built-in flexibility. Permanent bottle-tight seal.

A/C minimizes water loss, maximizes water revenue. Two easy assembly steps: Lubricate . . . Slide pipe in . . . That's all! Positive joint closure, immediately, automatically, permanently, even under adverse weather and ground conditions. Meter more. Lose less. Protect your treatment dollar.

Distribute with A/C . . . America's Choice.

CAPCO JEN 00031685

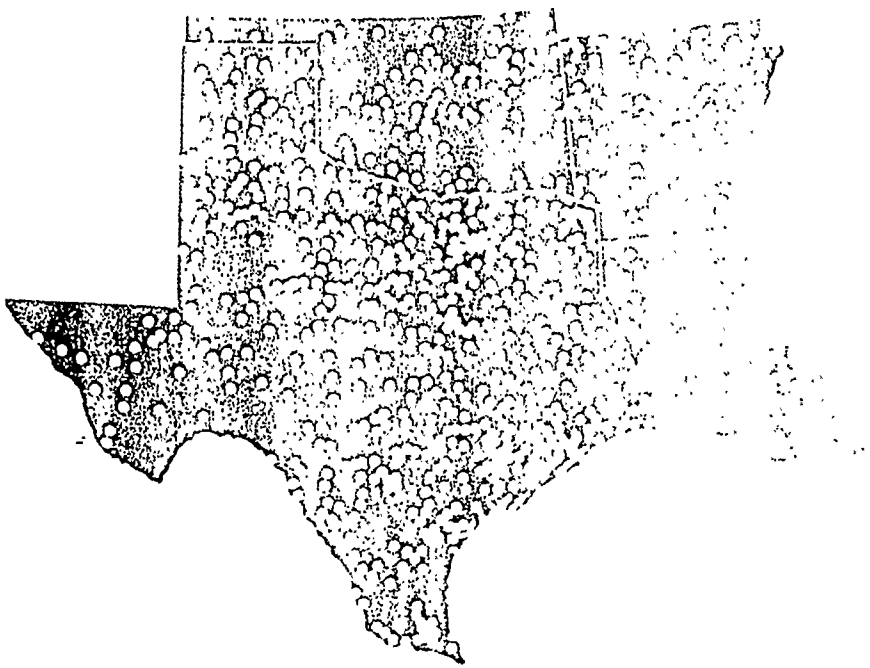
W.S. Central

States: Arkansas, Louisiana,
Oklahoma, Texas

A/C Cities: 1,033

Popultation: 14,914,000

Percent of Total Cities: 81





Fits the first time. Every time.

A/C connects with ease to hydrants, valves, bends and tees. Interchangeable pipe design and standard accessories make short work of add-ons, tie-ins, closures. Simplify service connections. Avoid adaptability problems. Make ends meet.

Standardize on A/C . . . America's Choice.

CAPCO JEN 00031686

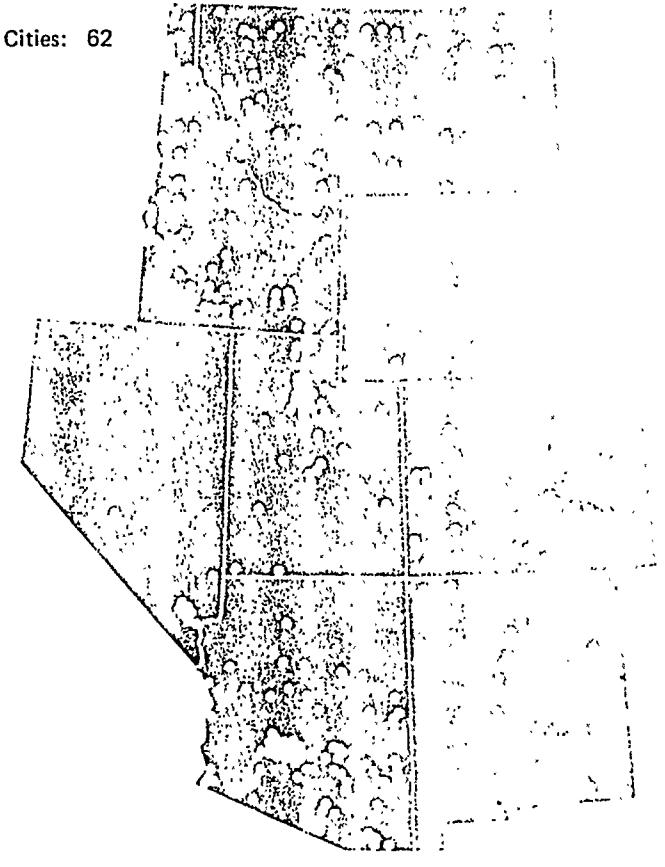
Mountain

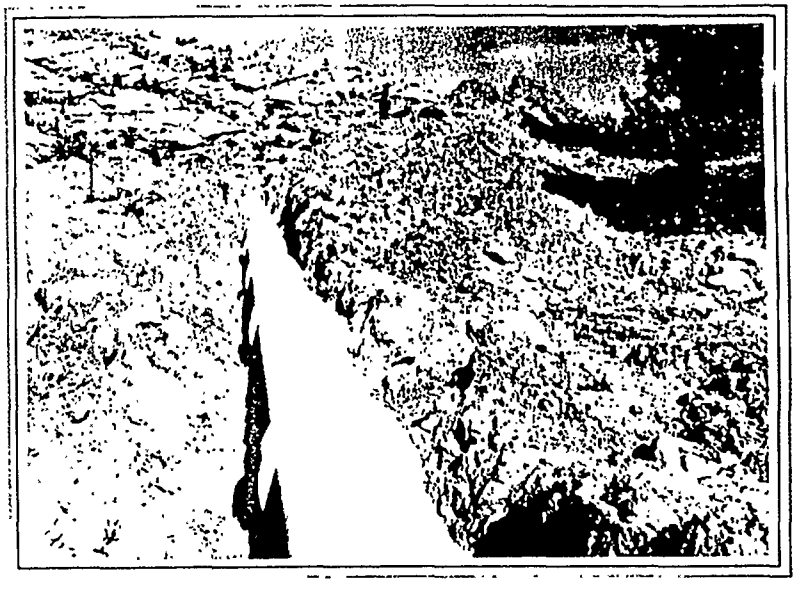
States: Arizona, Colorado, Idaho, Montana, Nevada, Utah, New Mexico, Wyoming

A/C Cities: 396

Population: 4,860,000

Percent of Total Cities: 62





Long Service Life

Top of the line durability. Bottom line savings.

A/C costs less over the long run. No other water pipe gives you so much built-in corrosion resistance for so little . . . wall to wall, water to water, soil to soil, year to year. Combat corrosion. Put an end to pipe replacement. Show better return on investment.

Protect with A/C . . . America's Choice.

CAPCO JEN 00031687

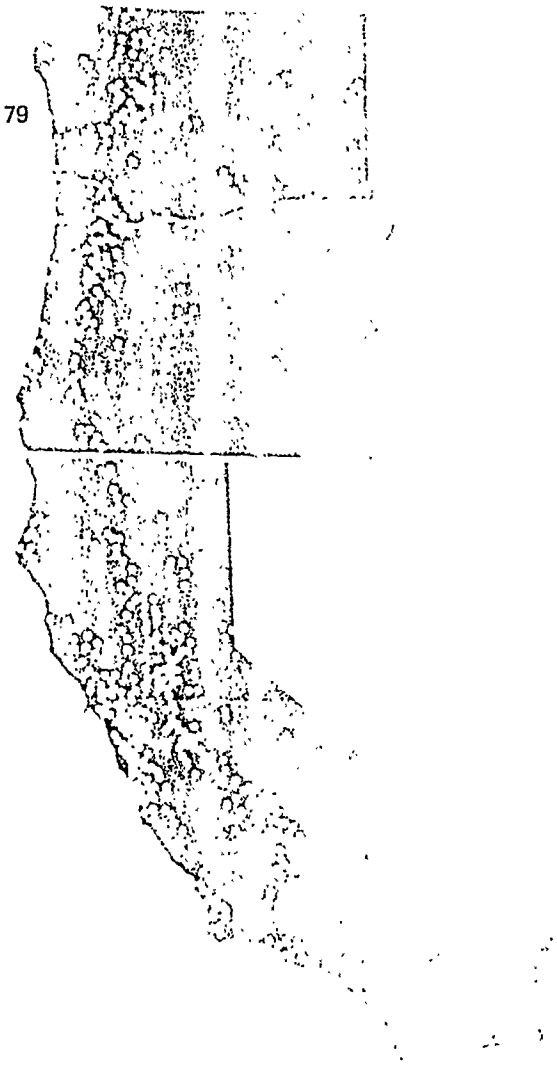
Pacific

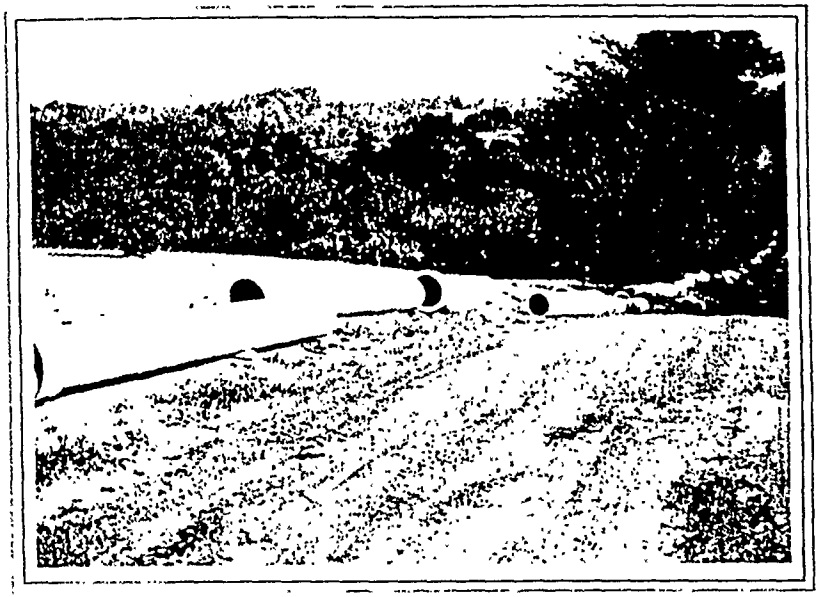
States: Alaska, California, Hawaii, Oregon, Washington

A/C Cities: 973

Population: 16,409,000

Percent of Total Cities: 79





[illegible] Quality

Committed to safe water. Pledged to public health.

A/C safeguards water quality from treatment to tap. *"No firm evidence shows that the proper use of asbestos-cement pipe poses a hazard to health by reason of ingestion of asbestos fibers."*** No focal point for bacterial growth. No odor. No discoloration.

[illegible] with A/C . . . America's Choice.

** A Study of the Problem of Asbestos in Water by the American Water Works Association Research Foundation.

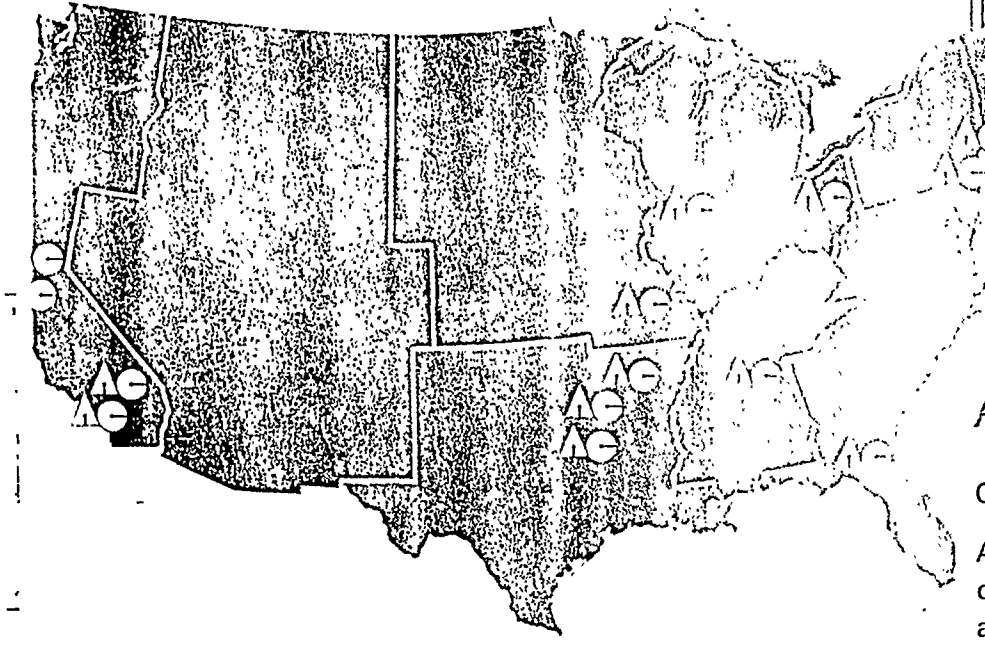
CAPCO JEN 00031688

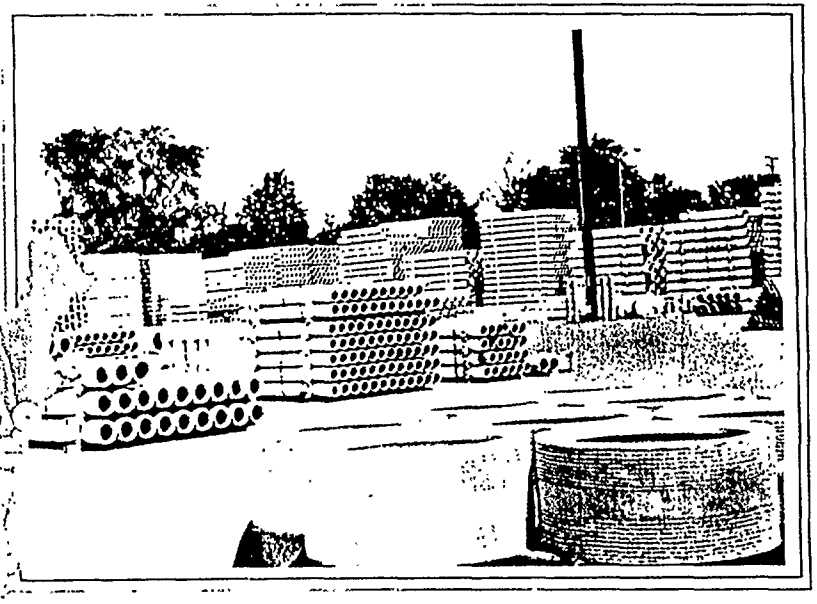
United States

A/C Cities: 4,587*

Population: 64,936,000

Percent of Total Cities: 38





Availability

Coast to coast. Four manufacturers, fourteen plants.

A/C delivers . . . when you want it, where you want it. New order, repeat order. Customer service on the phone or technical assistance in the field. The people behind A/C put you ahead. Expect service, not excuses. Plan on delivery, not delays. Count savings, not costs.

Order A/C . . . America's Choice.

* Based on an industry survey of U.S. cities with a population of 1000 or more, which specify, purchase or have in service A/C pipe.

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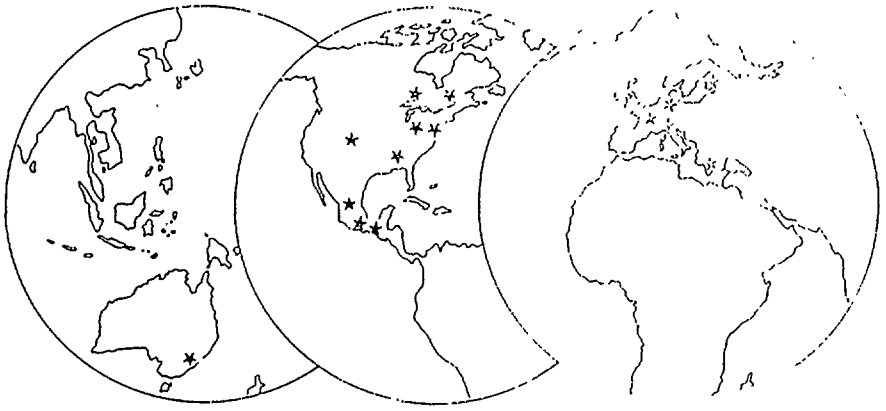
A/C Pipe Producers Association

The A/C Pipe Producers Association functions as a non-profit, non-partisan world-wide trade association on behalf of the A/C Pipe industry. Inquiries for information on specific products, their individual attributes and differences, should be directed to member companies.

The Statements contained in this document are those of the Association of Asbestos-Cement Pipe Producers and are not intended as a warranty.



Regular Members

Asbestos de Mexico, S.A.
Tlalnepantla, Mexico

Atlas Asbestos Company
Montreal, Canada

Canadian Johns-Manville Co., Ltd.
Ontario, Canada

Cement Asbestos Products Company
Birmingham, Alabama

Certain-teed Products Corporation
Valley Forge, Pennsylvania

The Flintkote Company
Akron, Ohio

Johns-Manville Sales Corporation
Denver, Colorado

Mexalit del Norte, S.A.
Mexico City, Mexico

Associate Members

Association de l'Industrie l'Asbeste-Ciment
Nyon, Switzerland

Amiantus Centre Export
Hamburg, Germany

Asbestos Monterrey, S.A.
Mexico City, Mexico

Eternit, S.A.
Kapelle-op-den-Bos, Belgium

James Hardie & Company Pty., Ltd.
Sydney, Australia

Hellenic Industry for Building Materials
Hellenit, S.A.
Athens, Greece

Paraisten Kalkki Oy
Pargas, Finland

TAC Construction Materials, Ltd.
Manchester, England

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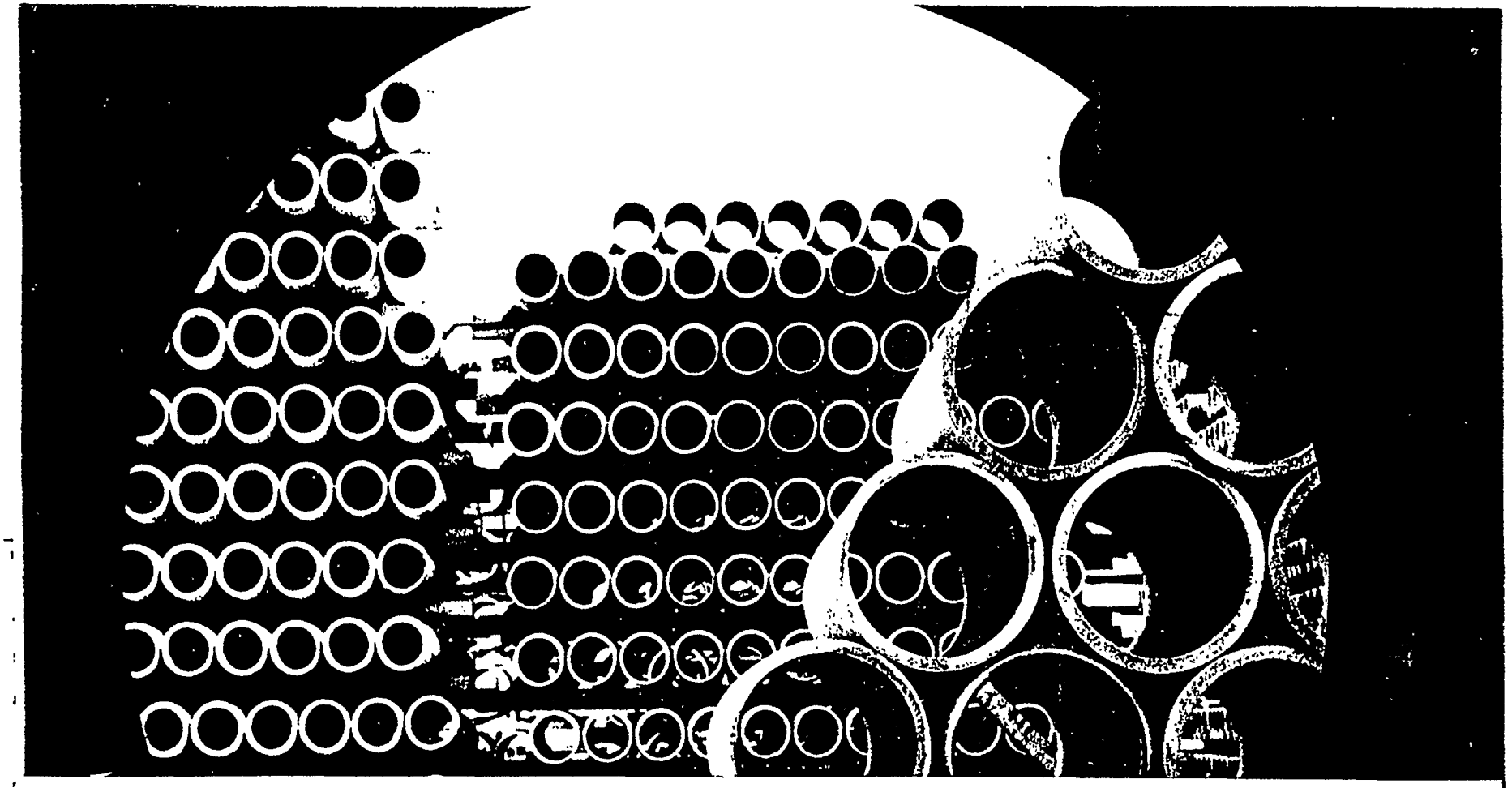

Prepared by the Association of Asbestos-Cement Pipe Producers as a salute to the American waterworks industry whose ingenuity, resourcefulness and hard labor has contributed so much to the health and prosperity of our nation.

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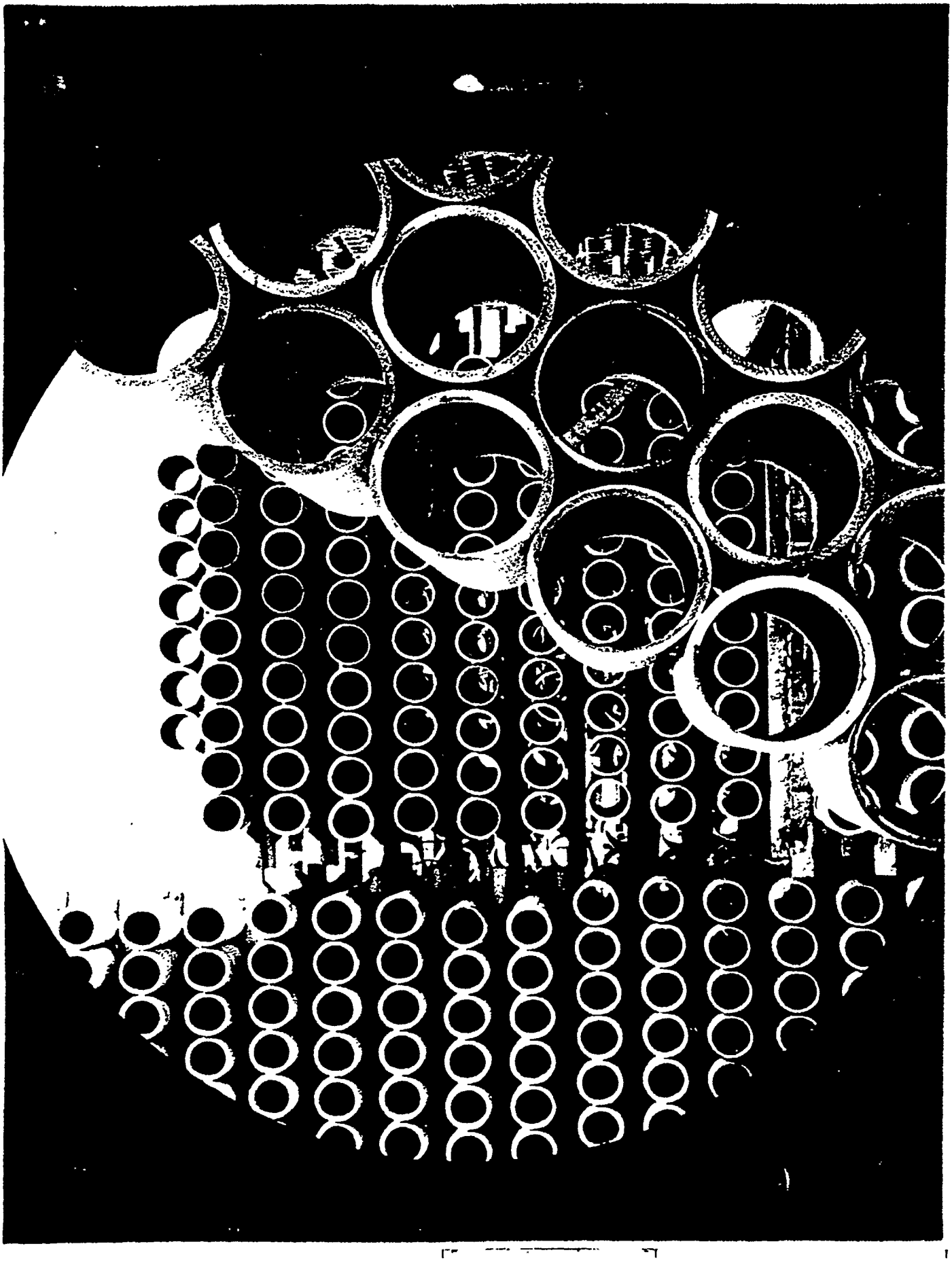

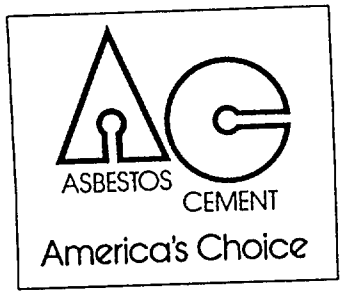

A/C Pipe Producers Association Suite 1113, 1875 Connecticut Avenue, N.W. Washington, D.C. 20009, Phone (202) 232-2100.

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