

# **NONMETALLIC PIPE**

# **IDENTIFICATION GUIDE**

## **January 2008**

- This guide is intended to serve as a general reference in order to help interested parties identify the various types of nonmetallic piping that are commonly found in UST systems.
- Not all of the nonmetallic pipe systems that are or have been manufactured are included.
  - Some have been discontinued.
  - Some have had various changes made.
  - All of the different models may not be represented.

# NONMETALLIC PIPE IDENTIFICATION GUIDE

- Sixteen different manufacturers are shown. These manufacturers are:
  - Advanced Polymer Technologies (APT)
  - Ameron
  - Brugg Pipe Systems
  - Buffalo Environmental Products\*
  - Containment Technologies\*
  - Environ Products, Inc. (Environ)\*
  - Innovative Petroleum Products (IPP)
  - Kungso Plast (KPS)
  - NUPI
  - OPW
  - Omegaflex
  - Petrofuse ZP
  - Petrotechnik (UPP)
  - Smith Fibercast (Smith)
  - Total Containment, Inc. (TCI)\*
  - Western Fiberglass, Inc. (Western)

\* No longer in business

# AMERON DUALOY 3000/L<sup>®</sup>

- Earlier Ameron fiberglass pipe was reddish-brown and later production (mid 2006 and later) is greenish in color.



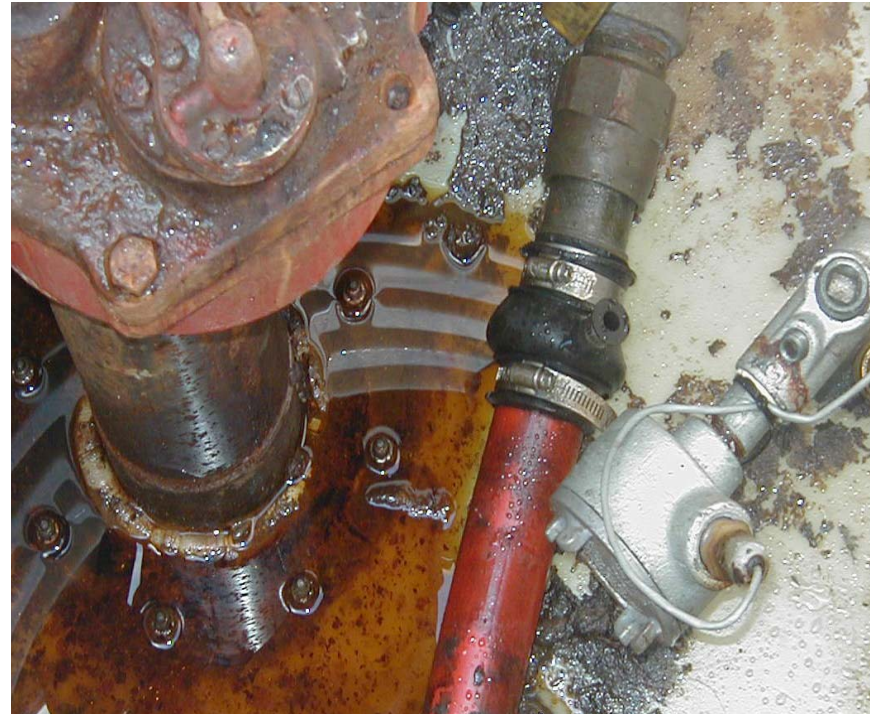
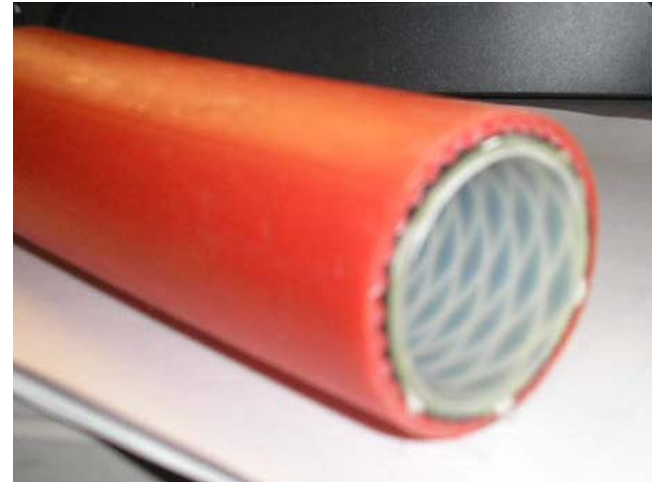
# AMERON DUALOY 3000/LCX<sup>®</sup>

- This is the coaxial version of Ameron fiberglass pipe (“LCX”) and it is greenish in color. The tight fitting secondary has the interstitial space filled with fine sand or beads.



# AMERON FLX<sup>®</sup>

- In the early to mid-1990's (approx. 92-97) Ameron offered a thermoplastic pipe.
- The primary pipe was black and the secondary was red in color.



# APT Poly-Tech<sup>®</sup>

- This is APT's double-walled (coaxial) pipe.
- APT uses a “clamshell” type fitting that is easily recognized by the bolts that hold it together (2 or 4 bolts - depending on pipe size). A swivel fitting that is swaged on is also available.
- The primary (inner) pipe is blue and the secondary jacket is a light bluish-gray.

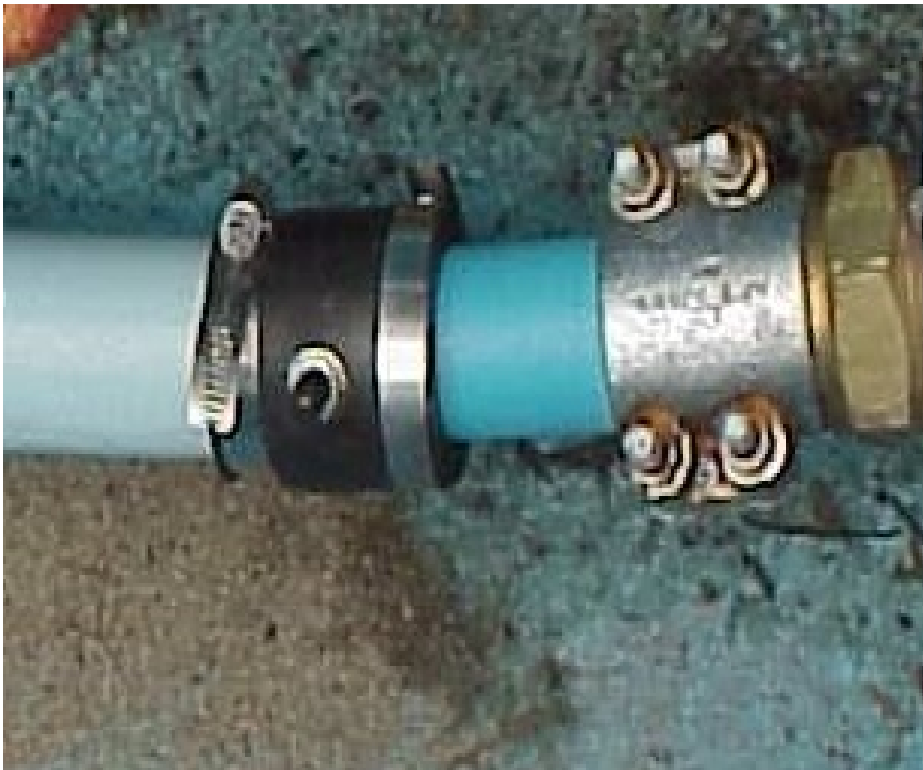


# APT POLY-TECH®



- This is an older single-walled version of APT's pipe intended for suction applications.
- It is easily recognized by the distinctive orange color.
- This pipe was discontinued in 1998.

# APT POLY-TECH®



- “Test” boots may or may not be present with coaxial APT piping systems.
- APT does not typically utilize “observation” tubes since the test boots are slid back after start-up testing is complete at installation.



# APT POLY-TECH XP®



- This is the “second generation” APT pipe. The colors have been reversed from what they were in 1<sup>st</sup> generation pipe. The primary pipe is light bluish-grey and the secondary is blue. The “scuff guard” is dark blue.



## APT POLY-TECH

### XP<sup>®</sup>

- APT XP pipe with the test boot loosened after installation and integrity testing. Note that the dark blue scuff guard has been removed (as is required) from the pipe within the containment sump. All clamshell fittings now have only 2 bolts, are painted blue and “XP” is stamped on the fittings.

# BRUGG PIPE SYSTEMS

## SECON-X<sup>®</sup>



- This pipe has a helically wound corrugated stainless steel primary and a polyethylene secondary.
- The fittings are stainless steel.

# **BRUGG PIPE SYSTEMS**

## **FLEXWELL SAFETY PIPE®**



- This pipe has a helically wound corrugated stainless steel primary and secondary. The secondary is covered with a protective polyethylene wrap.

# BUFFALO ENVIRONMENTAL BUFFLEX®



- This early generation thermoplastic pipe is red in color and was produced for a short time in the early 1990's.
- It is easily identified by the metallic wire helically wound around the pipe just underneath the outer layer.

# CONTAINMENT TECHNOLOGIES®



- This was a black polyethylene pipe that was produced for a short time in the 1990's. Typically, the termination fittings are compression type brass fittings. The containment sumps were orange in color.

# ENVIRON GeoFlex-D<sup>®</sup>

- All double walled (coaxial) Environ GeoFlex pipe can be identified by the green color of the outer jacket.
- The primary pipe may be “natural” (top), or white (bottom) - depending on the size of the pipe and the date of manufacture.



# ENVIRON GeoFlex-D®

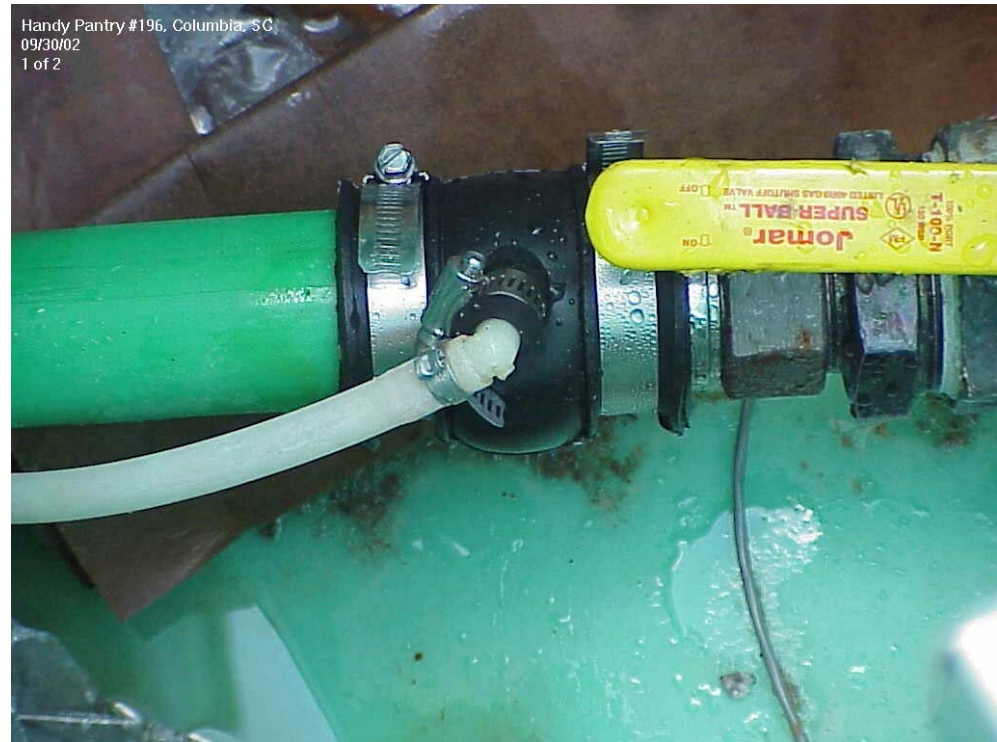
- Three different types of fittings were used.
- The top picture is a swivel fitting that is pinched or “swaged” onto the pipe.
- The bottom picture is a coaxial fitting.
- A “barb” fitting that is a bolted together clamshell was also available (not shown).





# ENVIRON GeoFlex-D®

- The “test” boot and “observation tube” shown are typically installed although they may not be present in all installations.



# ENVIRON GeoFlex-M<sup>®</sup>

- The marina version of Environ was produced by adding UV inhibitors (carbon black) to the secondary.



# ENVIRON GeoFlex+Plus®

- The last version of Environ pipe was designated as “GeoFlex+Plus” and was produced from mid-2006 until production ceased.
- The fittings and boots were the same as those that were used with the earlier versions of “GeoFlex”.
- The primary pipe is green and the secondary is clear in color.



# IPP PETROPLAS®



- This pipe is a fluorinated polyethylene that utilizes electrofusion fittings and brass or stainless steel mechanical termination fittings.
- The primary pipe is white and the secondary is yellow.

# KUNGSÖRS PLAST AB KPS PETROL PIPE SYSTEM®



- KPS is a polyethylene pipe with a permeation barrier.
- The primary pipe is black and the secondary is green.
- The pipe is UL 971 listed and is imported from Sweden.



# NUPI SMARTFLEX®

- This is a HDPE pipe with electrofusion fittings that are green in color.
- Both the primary pipe and the secondary are black.



# NUPI

## SUPER SMARTFLEX®



- “Super SmartFlex pipe has been produced since mid-2007.
- The primary pipe is green and the secondary (not shown) is black.
- The fittings are the same as for Smartflex.



# OMEGAFLEX DOUBLETRAC<sup>®</sup>

- This pipe has a corrugated stainless steel primary pipe and a black Nylon 12 secondary.
- The fittings are brass.





# OPW PISCES®



- The single walled version of OPW's pipe was designated Pisces SP.
- Pisces pipe utilized swivel type fitting.
- The primary pipe in the earlier versions of Pisces was black in color.

# OPW PISCES<sup>®</sup>

- One version of OPW's coaxial pipe ("Pisces CP-RB") had a secondary jacket that was lavender in color and was internally ribbed.
- The primary (inner) pipe was black.



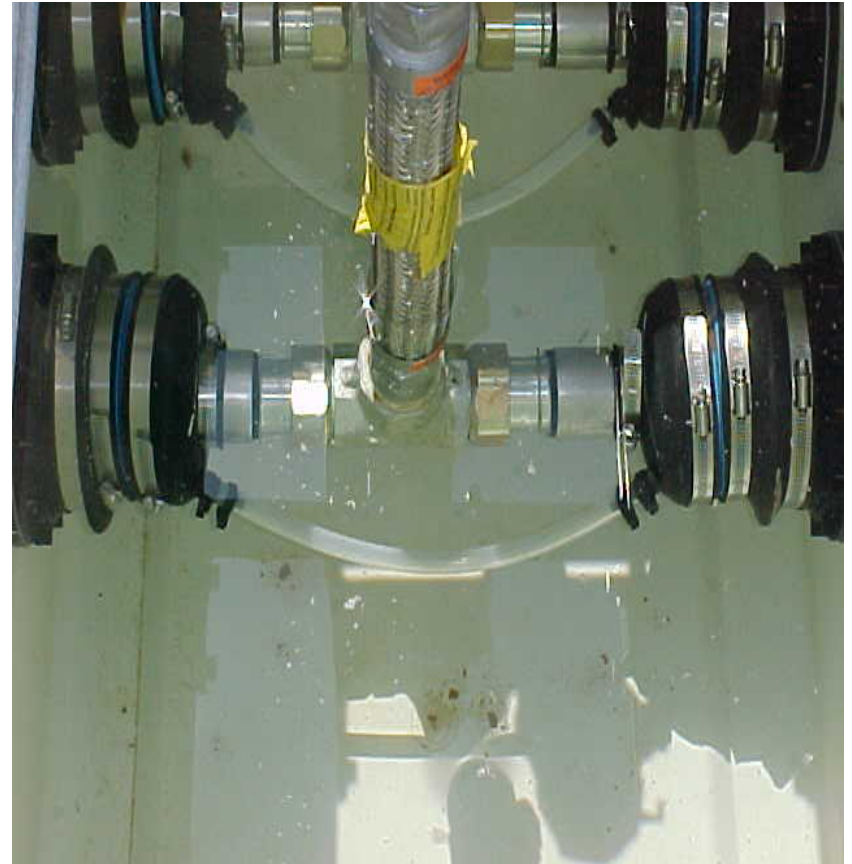
# OPW PISCES®

- Another version of OPW's coaxial pipe ("Pisces CP-DW") had a blue secondary jacket that was smooth on the inside.
- The primary (inner) pipe was black.



# OPW PISCES®

- Single walled Pisces pipe (installed within secondary “access” pipe) may or may not have the “cross-over” tubes shown here.
- Coaxial Pisces pipe may or may not have “test” boots and/or “observation” tubes (these boots and tubes are similar to those used in Environ/TCI systems).



# OPW PISCES®

- This version of “Pisces” pipe was made for only a few months in early 2006.
- Both the primary pipe and the secondary are the same blue color.



# OPW PISCES II / FLEXWORKS®

- In mid 2006, OPW began offering a new pipe designated “Piscus II”. In late 2007, the name was changed to “FlexWorks”.
- The primary pipe is blue and the secondary is clear in color.



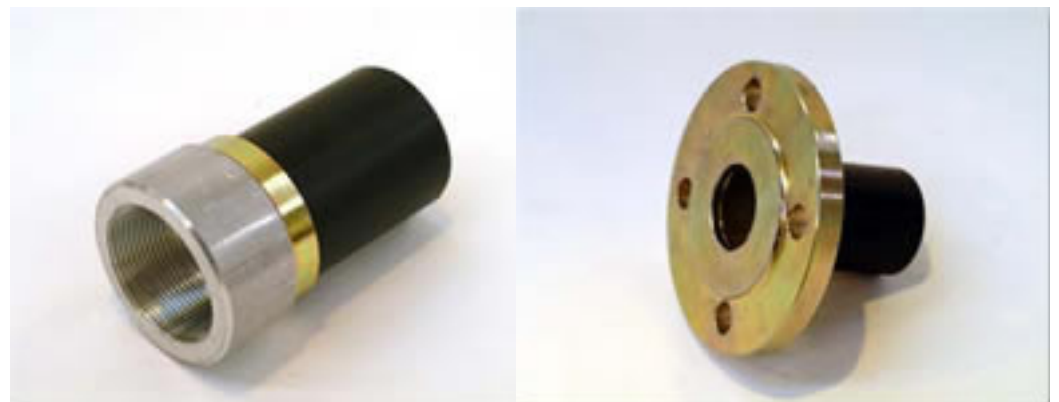
# PETROFUSE ZP<sup>®</sup>

- The primary pipe is smooth (non-corrugated) aluminum and the secondary is polyethylene.
- The primary pipe is fitted together with an insert referred to as a “bozzle<sup>®</sup>”.



# PETROFUSE ZP®

- The secondary is joined together with electrofusion couplings.
- The primary pipe terminations may be threaded or flange fittings.





# PETROTECHNIK

## UPP EXTRA®

- The first version of the pipe had a black primary pipe and a green secondary.
- This is a HDPE pipe with electrofusion fittings that are black in color.



# PETROTECHNIK

## UPP EXTRA®

- The current version has been produced since mid 2006.
- In this pipe, both the primary and the secondary are black in color.



# SMITH FIBERCAST RED THREAD®

- Smith fiberglass pipe has always been this yellow-gold color and may be identified by the red thread that winds through the pipe.



# TOTAL CONTAINMENT ENVIROFLEX®

- The single walled version of Total Containment's pipe was "Enviroflex"
- Shown here was their first generation (model 1500) pipe that was "recalled" in 1995.
- This pipe is easily recognized by the yellow color.



# TOTAL CONTAINMENT ENVIROFLEX®

- Show here was the “second generation” (model 1501) Enviroflex pipe - It may be white or bone in color.
- This white/bone colored pipe was made from 1995 to 1998.
- All Total Containment pipe will have a brass swivel fitting.



# TOTAL CONTAINMENT ENVIROFLEX®

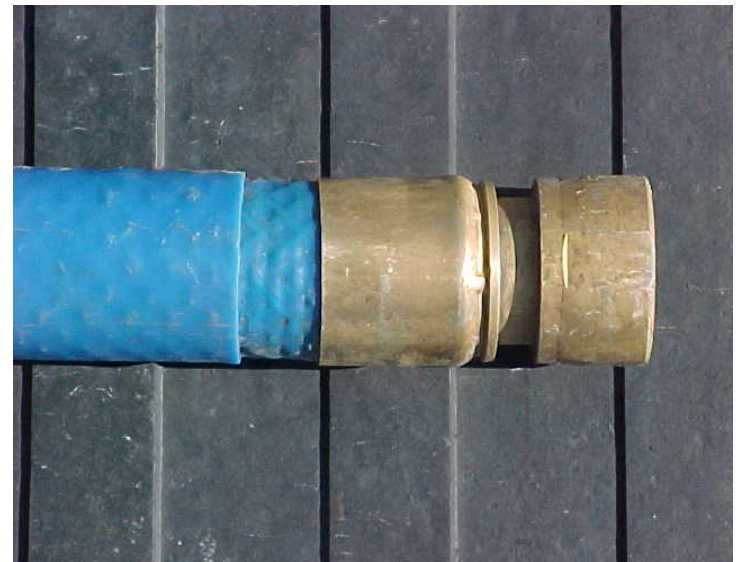
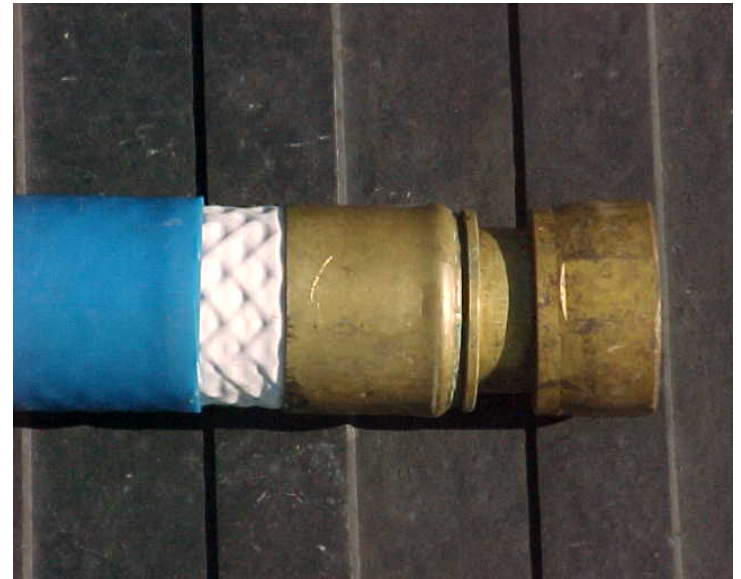
- The pipe color was changed to blue in 1998 and the model number was changed to “1503”
- The last model (“1503-F”) of TCI pipe was manufactured from May 2002 until production ceased. The color of this pipe was also blue.



# TOTAL CONTAINMENT

## OMNIFLEX<sup>®</sup>

- “Omniflex” pipe was built by adding a secondary jacket to “Enviroflex”.
- “Omniflex” always had a blue outer jacket.
- The primary (inner) pipe may be bone, white (top photo) or blue (bottom photo) in color - depending on the date of manufacture.



# TOTAL CONTAINMENT

## OMNIFLEX<sup>®</sup>

- Omniflex pipe may or may not be installed with the “test” boot shown in the top photo.
- Omniflex pipe with “test” boots may or may not have the “observation” tube shown in the bottom picture.





# TOTAL CONTAINMENT

## MARINAFLEX®

- Marinaflex (top photo) pipe was manufactured by adding carbon black to the secondary jacket of Omniflex pipe.
- “Amoco only” (model 1502) pipe may be distinguished by the smooth appearance of the primary pipe. Because the outer layers of the primary pipe were thicker, the reinforcing webbing could not be seen. The color of the primary pipe was “bone” or white.



# WESTERN FIBERGLASS CO-FLEX®

- The first Western Fiberglass pipe that was made has a “natural” primary pipe and the secondary is clear.
- This pipe was only offered for a short time until a black nylon outer layer was added to the primary and the jacket color was changed (see next slide). Shown is the swivel fitting that was available.



# WESTERN FIBERGLASS

## CO-FLEX<sup>®</sup>

- Shown here is the version with the black nylon outer layer on the primary pipe gray secondary jacket. This pipe was offered until early 2006.
- The coupling may be a swivel type or the clamped on “direct connection” type (shown in bottom photo).



# WESTERN FIBERGLASS CO-FLEX®

- The current Western Fiberglass pipe has been produced since mid-2006.
- The primary pipe is grey and the secondary is clear.
- The fittings remain the same as previous.

