

# Installations in Florida

## May 25, 2011

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# Start of Rule Revisions

- 12/10/1990 – separate UST Rule with phased future dates to upgrade system components “by year range of install.”
- By 12/31/2009 – all single wall systems to be upgraded or closed
  - 90 day extension in Rule (provided facility has construction permit or signed contract)
  - Option to place system out-of-service
  - Legislated extension to September 2011 provided facility has a Consent Order with the DEP and remains in-compliance.

# The Process

- No construction plan review is required by DEP
  - Local Programs may perform review.
  - Pinellas has a County Construction Licensing Board & the 24 individual cities/towns may issue permits.
  - We issue a "Proviso Letter" – no fee
  - DEP requires registration & the equipment must be listed on the "Equipment Approval" website.



**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
APPROVED STORAGE TANK SYSTEM EQUIPMENT  
62-761.850, and 62-762.851 F.A.C**

The following is a list of manufacturers of approved storage tank system equipment. The list contains equipment that has been approved after December 10, 1990, and does not include equipment approved under Chapter 17-61, F.A.C. The Florida Department of Environmental Protection does not specifically endorse any particular manufacturer nor is it responsible for any failure or malfunction of the product or equipment.

For corrections or questions about the list, please e-mail Farid Moghadam at [farid.moghadam@dep.state.fl.us](mailto:farid.moghadam@dep.state.fl.us) or call 850/245-8848. The list is as follows:

Page Number	Category Name
2.	Tanks/ UST With Secondary Containment
6.	Tanks/ UST with Internal Upgrade System
8.	UST System/ These tanks are total systems equipped with spill containment overfill protection, release detection, MPDs, and canopy
9.	Tanks/ UST Secondary Containment Systems Only
10.	Tanks/ AST With Enclosed Secondary Containment Equipped with Overfill, Spill Containment, and Interstitial Release Detection Tanks, AST/ Secondary Containment Only
16.	AST/ AST with Secondary Containment only, AST/ Vault System, , AST/ AST with Secondary Containment and Spill containment and AST/ Single-Wall Only
52.	Tanks/ Field Erected AST with Release Prevention Barriers
53.	Piping/ Double Wall, Over Water, and Bulk Product Piping
62.	AST Liners/ Synthetic, or Concrete Coating
75.	Leak Detection/ Vapor Detector
76.	Leak Detection/ Liquid Detector
81.	Leak Detection/ Automatic Tank Gauging (ATG) , and Continuous ATG
88.	Leak Detection/ Statistical Inventory Reconciliation (SIR)
92.	Leak Detection/ Line Leak Detector With Automatic Shut-OFF
94.	Leak Detection/ Mechanical Line Leak detector With Flow Restrictor
95.	Leak Detection/ Single Wall AST and UST, Breach of Integrity
99.	Tank and Line Tightness Tester Manufacturers/ UST
108.	Tank Testers, API 653 Inspection / AST
109.	Piping Testers/ Bulk Product Piping Testing; API 1110 Testing or Equivalent
110.	Spill Containment Devices and Overfill Protection
126.	Dispenser Liners, Sump Liners, and Hydrant Pits
134.	Miscellaneous/ Foams, Inventory, Pump Accessories, Flex Connector Cover Material, Monitoring Wells accessories, Aboveground Valve Cover, Internal Inspection, Overfill Retention, Hydrostatic Testing, and Double-Walled UST System Tightness Testing



# The Contractor

- UST systems require use of Pollutant Storage System Contractor (PSSC).
- However, DEP does not regulate the contractor.
- Division of Business & Professional Regulation licenses the PSSC.

# Trends

- Remove 3 or 4 USTs and install 1 or 2 multi-compartmented tanks.
- Blend for mid-grade at the dispenser.
- Install internal secondary containment "liner."
- Remove USTs and install new in same location. Pipe upgrade occurs later in system sequence.

# Facility/Tank Population

- 2008-2009 Statewide UST data: 9,841 facilities with 26,132 tanks.
- Pinellas has 774 facilities (AST/UST)

# Installation 1

- Visits:
  - When the tank arrives, to observe any required integrity testing. With USTs the installation instructions are usually laminated onto the side of the tank.
  - Observe the excavated box, tie-down, ballast, and start of backfill.
  - Observe completed backfill.
  - Observe air pressure/soap testing of primary line.
  - Observe air pressure/soap testing of secondary line.



# Installation 2

- Observe 3-hour hydrostatic test of sumps.
- Observe integrity test of spill containment units. (vacuum or hydrostatic)
- Following receipt of printed copies of tank & line tightness tests and function test of LLD we will perform a final inspection. Expect to observe shear valve anchoring, and a function test of any electronic sensors.
- Inspection mailed to owner/operator.



Why you visit the facility when the tank arrives on-site.





ID#9806522  
damaged 15K UST  
kwall



4.16.2004



15K UST

ID#9806522  
kwall

4.16.2004





ID#9806522  
16K UST  
kwall

4. 30. 2004





ID#9806522  
16K UST  
kwall



4. 30. 2004

# Backfill Condition

- Clean, washed sand
- Pearock or Crushed Rock
  - #89 Stone
- Whatever is available



























## 89 Stone with or without shell?











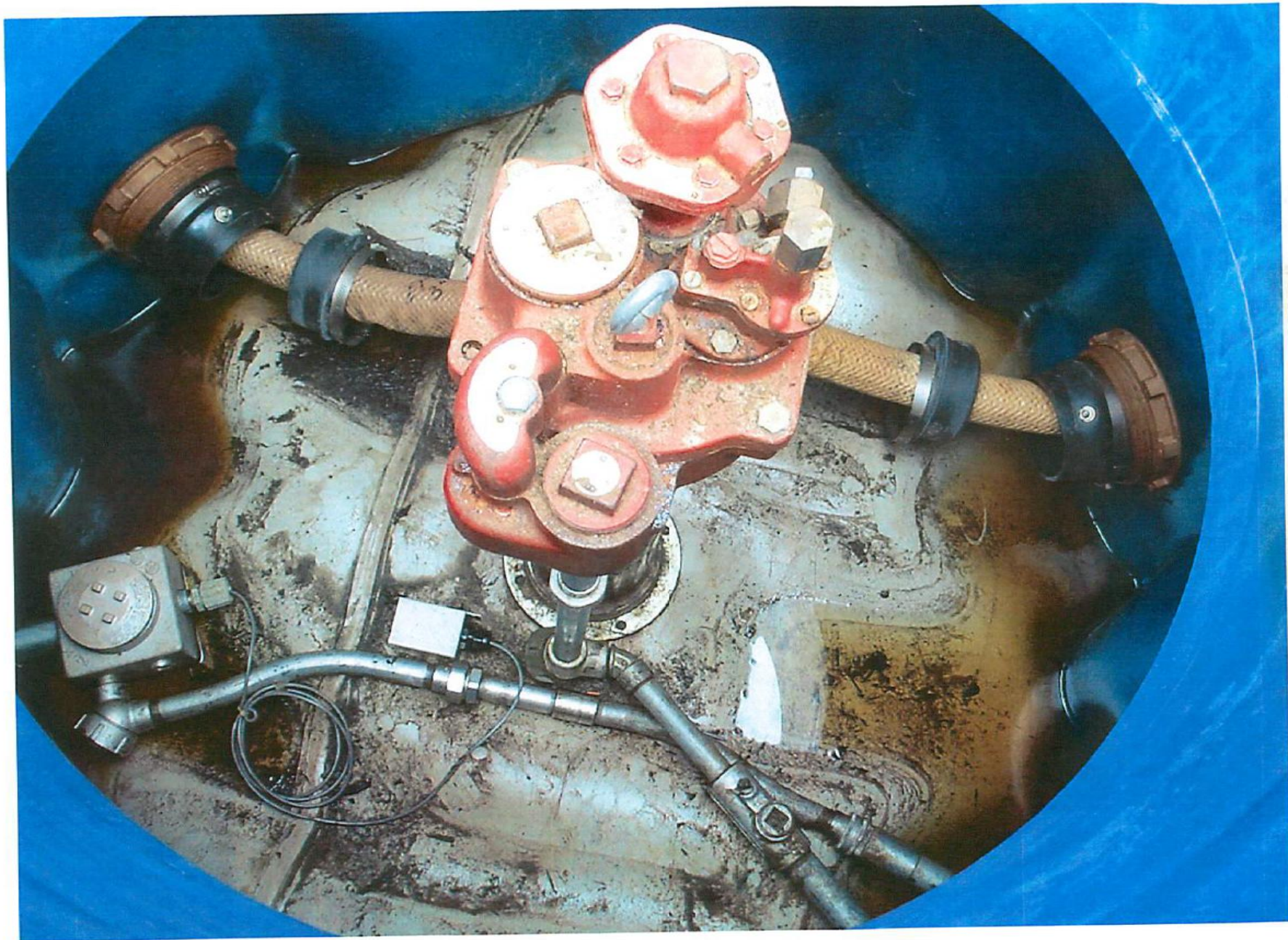
# TANK TYPES

# Total Containment









# Permatank





# Highland TITAN





HIGHLAND TANK  
GREENSBORO, NC

EFFICIENT  
PRODUCT

# Former Southeast Tank

- Original manufacturer of Permatank and Titan (based in Tampa).
- Permatank was equipped with Permatel – a combination of vacuum and liquid sensor. DEP FL approved vacuum as a tightness test equivalent based on Ken Wilcox 3<sup>rd</sup> party data.
- Inspectors have issues with inability of the facility to function test the sensors – cannot be removed from the tank. Titan may have a Permatel unit too.





# Modern Welding Glasteel II





JIGHEK WELDING COMPANY  
OF FLORIDA, INC.  
ORLANDO, FLORIDA

Glosteel II

MADE IN FLORIDA  
MADE IN FLORIDA  
MADE IN FLORIDA  
MADE IN FLORIDA

# Metal Products Co (MPC) Plasteel & Elutron





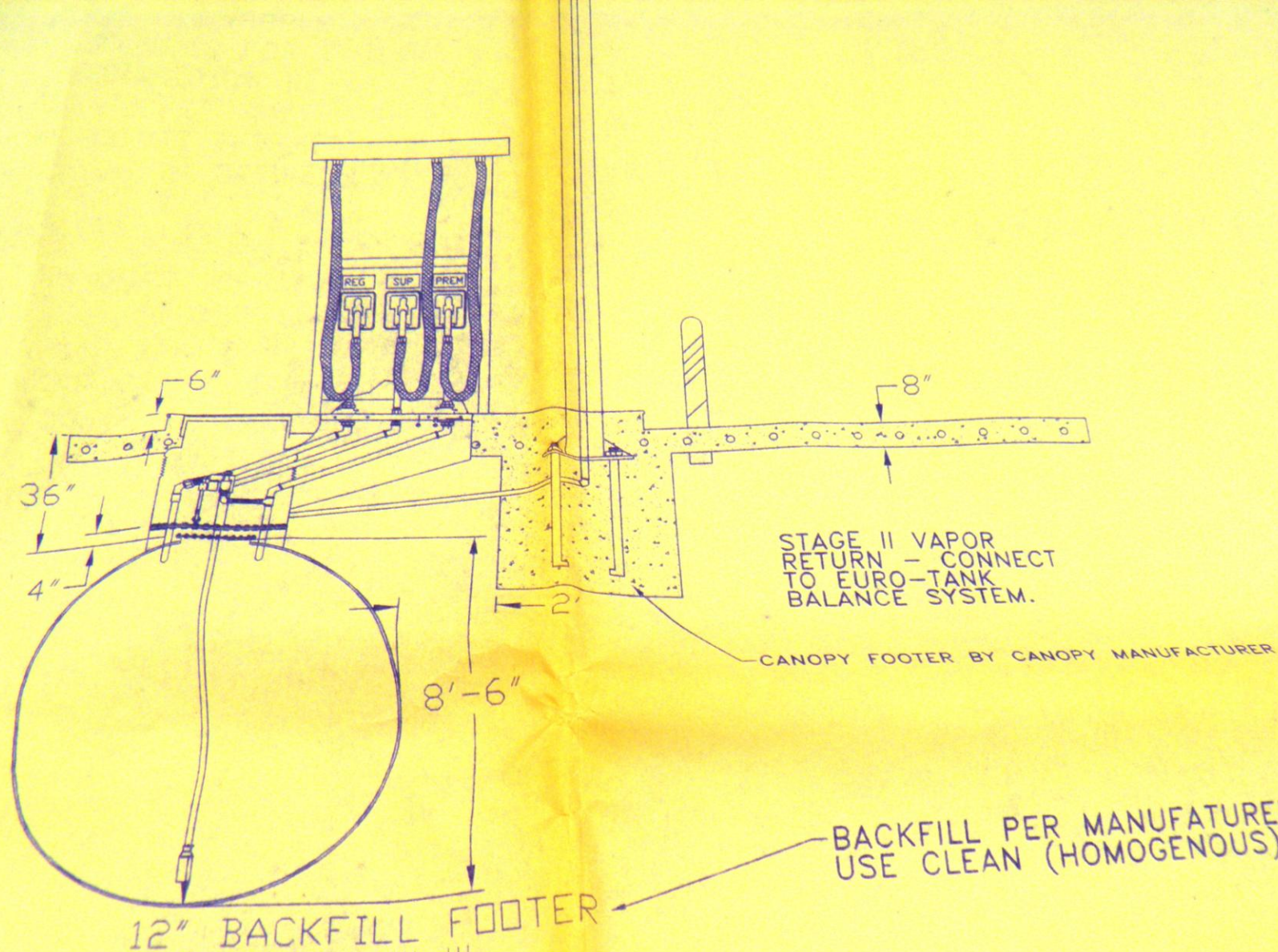
# Eurotank











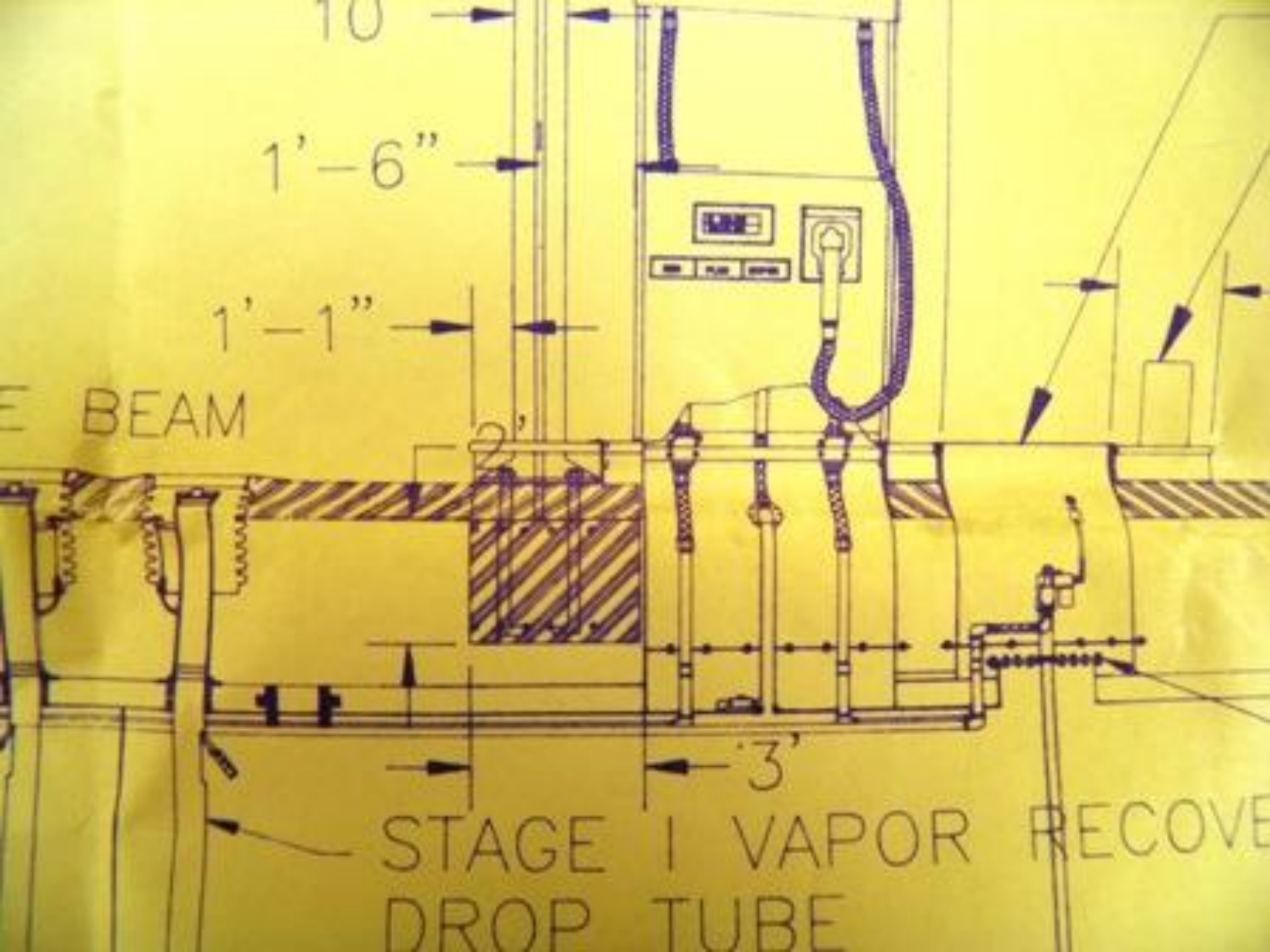
BACKFILL PER MANUFACTURER'S REQUIREMENT  
USE CLEAN (HOMOGENOUS) BACK FILL

A FINAL INSPECTION BY OUR DEPARTMENT  
IS REQUIRED TO DOCUMENT THE PROPER  
INSTALLATION OF THE COMPONENTS OF THE  
POLLUTANT STORAGE SYSTEM.

STA

These pla  
Concern  
have be  
EAC S







# Petro-First

TANK I

GLASTEEL II

<b>GLASTEEL II CAUTION</b> 1. Do not approach fuel valves. 2. Do not approach fuel valves when fuel is flowing or when the engine is running. 3. Do not touch the engine or fuel lines when the engine is running. 4. Do not touch the engine or fuel lines when the engine is running. 5. Do not touch the engine or fuel lines when the engine is running.	<b>NOTICE</b> 1. Do not touch the engine or fuel lines when the engine is running. 2. Do not touch the engine or fuel lines when the engine is running. 3. Do not touch the engine or fuel lines when the engine is running. 4. Do not touch the engine or fuel lines when the engine is running. 5. Do not touch the engine or fuel lines when the engine is running.
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Steril Inc  
Orange State  
UL# P 441265  
Job# 16457  
12,500 gal  
Seminole Fla.

Tank ①

MODERN WELDING COMPANY  
OF FLORIDA, INC.  
ORLANDO, FLORIDA







TANK I

GLASTEEL







XERXES

**XERXES®**  
CORPORATION  
a subsidiary of ZOL Corporation, Inc.

HL NO-133201  
DW

119-122811227



# Containment Solutions





# Petrofuse



















# Phoenix (Parabeam)

















# In-Situ (Tank-in-Tank)





PIPE

# Guardian (Ameron + Welded Steel)







# Smith Red Thread II A











Ameron Dualoy 3000

"L" Red 3/2

"L" Green 3/2

LCX

MCX

Bondstrand

Flexible (FLX)



























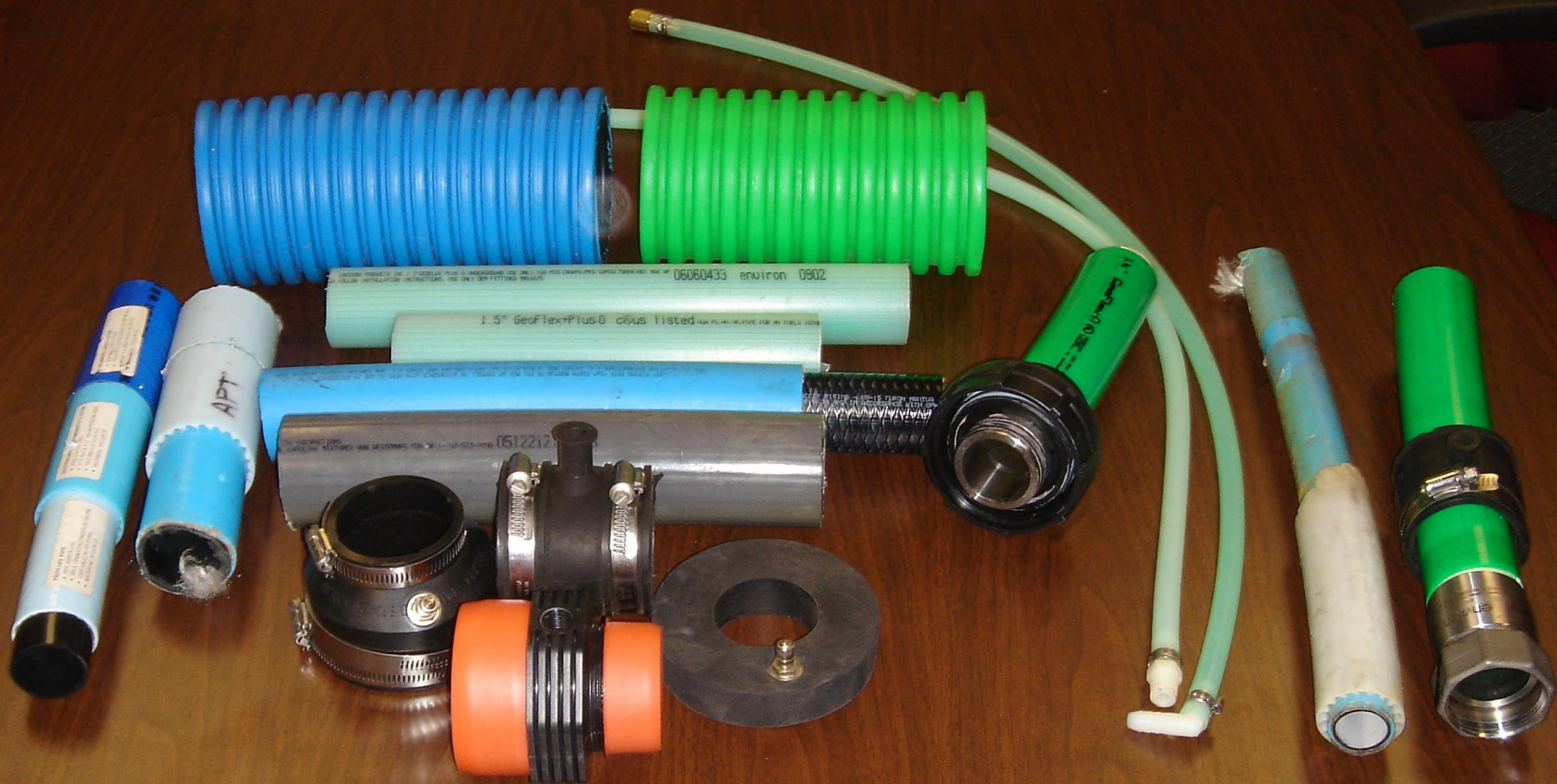




## FLEX PIPE IDENTIFICATION GUIDE

-  APT Poly-Tech – double-walled, “clamshell” fittings used.
-  APT Poly-Tech – single-walled, “clamshell” fittings used, discontinued 1998.
-  ENVIRON GeoFlex – double-walled, 3 types of fittings used.
-  OPW Pisces SP – single-walled, swivel-type nut fitting.
-  OPW Pisces CP-RB – double-walled, swivel-type nut fitting.
-  OPW Pisces CP-DW – double-walled, swivel-type nut fitting.
-  RECALLED Total Containment Enviroflex – single-walled, 1<sup>st</sup>-generation, recalled in 1995.
-  Total Containment Enviroflex – single-walled, 2<sup>nd</sup>-generation, produced 95-98.
-  Total Containment Enviroflex – single-walled, 2<sup>nd</sup> & 3<sup>rd</sup>-generation, prod. >98.
-  Total Containment Omniflex – double-walled, sec. jacket over Enviroflex.
-  Total Containment Omniflex – double-walled, sec. jacket over Enviroflex.
-  Western Fiberglass Co-flex – double-walled, swivel or clamp fittings.





# Total Containment (TCI)

- Pipe Jacket
- Enviroflex
  - Yellow
  - White, Bone, Blue
  - Marine (Black)
- Omniflex
  - Blue/White
  - Blue/Blue





# Environ

- Swage
- Coaxial
- Version 2 – striped
- Purchase by OPW
  - Gray striped
  - Blue striped
  - The Loop System



















# OPW

- Pisces CP Blue/Black
- Pisces CP Fuscia/Black
- Loop System





# Western Fiberglass



THE INSTRUCTIONS

FOR THE WESTERN AND MOUNTAIN CO. CO. 1-707-523-2100

05122121 0078

# Omega Flex







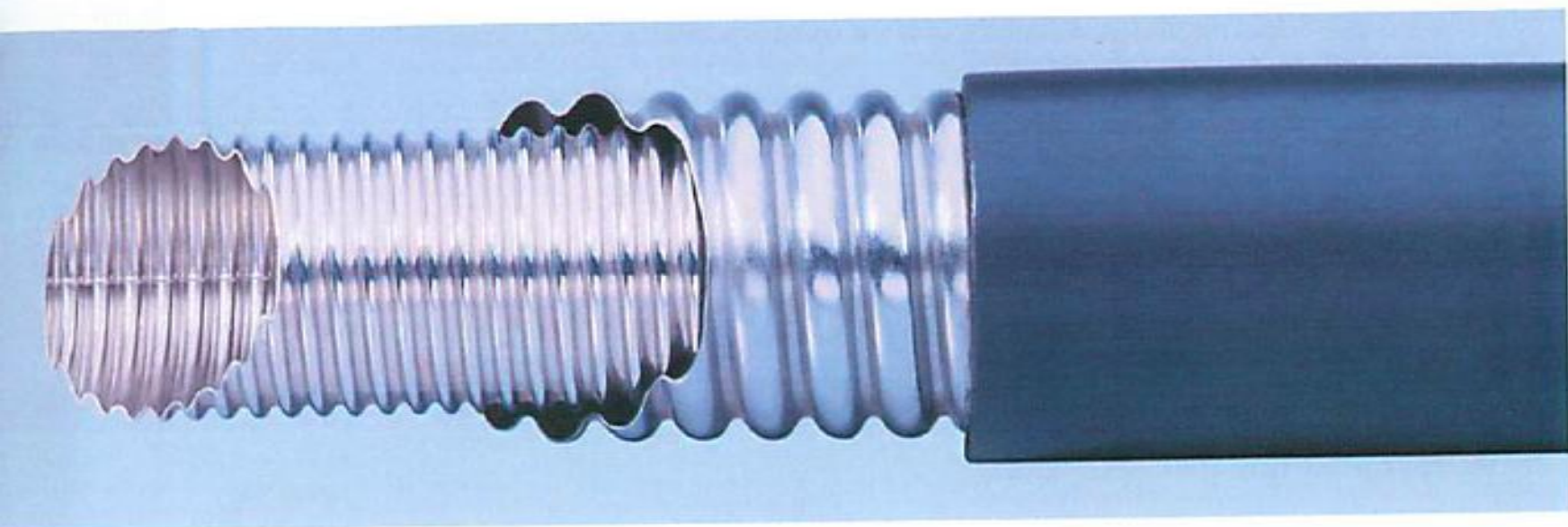


# Petrofuse





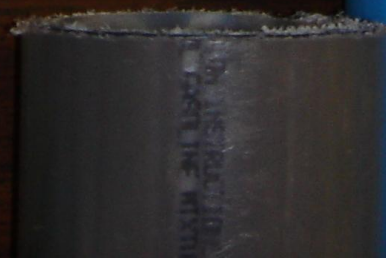
# Brugg





# APT

- Version 1
- Version 2







# PetroTechnik (UPP)



 UPP EXTRA PIPEWORK SYSTEM - PN10 - 63





# IPP





ALING. ALL LISTED UGN NY PIPE FOR LHV, HE, CT AND ASM FUELS. 0971-0







PLASMEC PETROPLAS FR 50/63MM OD PRODUCT OF SOUTH AFRICA

NUPI



03 - 11

NUOI SMALLER TSMAXS

## Setting

218

9 NUPI SMARTFLEX Y 50x4.7 c(UL)us



CF-19F

U.S.A

on. Fabriqué au Japon

Guinness  
Whisky  
Bottled by  
Guinness  
Bottling  
Co. Ltd.  
Dublin  
Ireland

# Dispenser Sumps

- Unit Liner
- TCI
- Petroleum Containment
- Bravo
- OPW
- Environ



# Transition Sumps

- APT
- OPW













# Tank/Pipe Sumps

- Mated to Tank
- Free-Standing
- Not Required – Provide a Means of Release Detection

# Spill Containment

- OPW (1.5-inch nut)
  - 500 Series
  - 700 Series
  - 7111ss Series
  - 1C-3100 The Edge
- Emco Wheaton
  - A1004-210S
- Fairfield (1.25-inch nut)
- Bravo (Hess facilities)



















































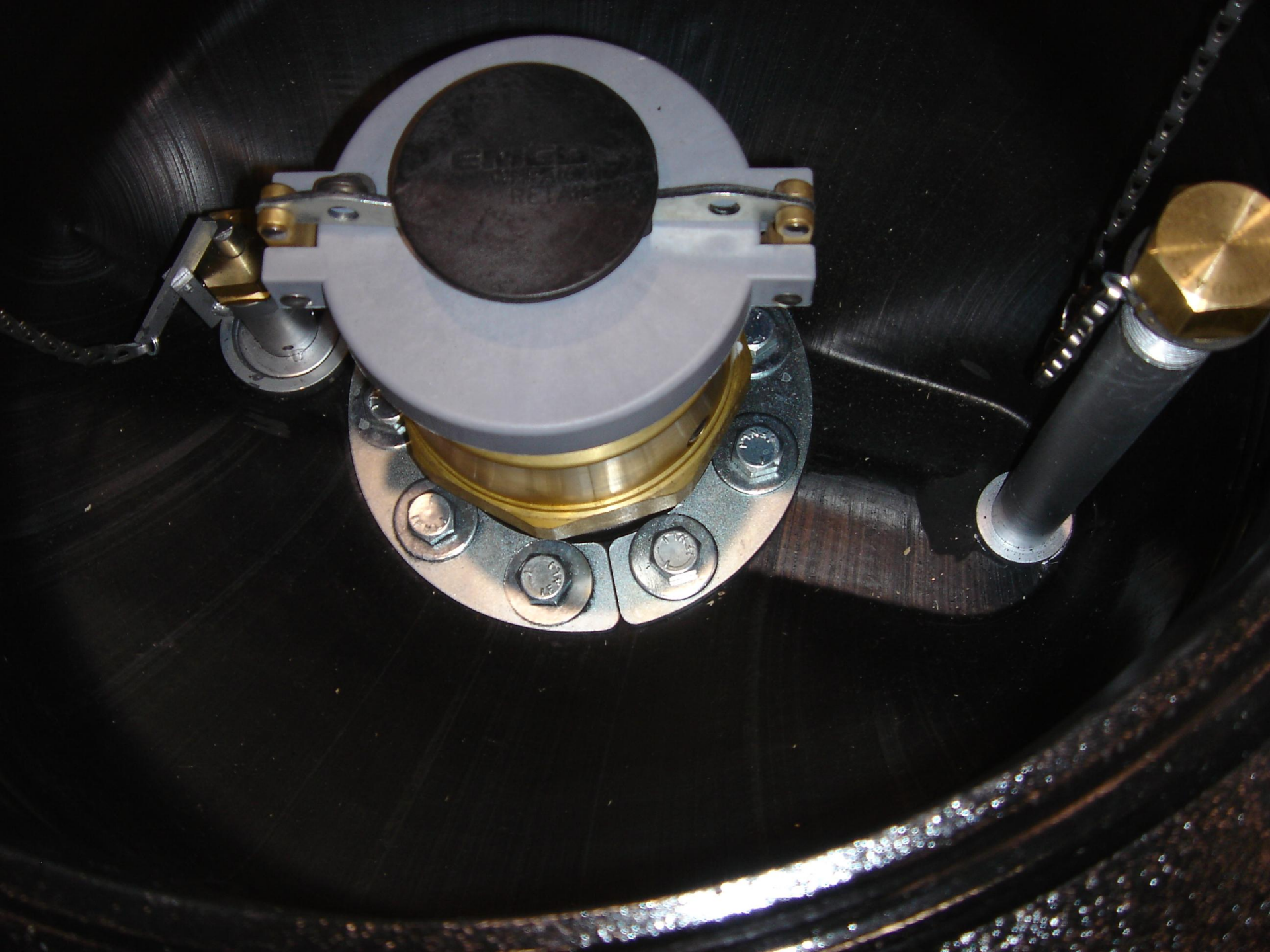




~~STATION~~  
11/4/05  
GUR.

↑  
"false floor"











# Flexible Connector





**WARNING**  
USE WRENCH OR VISE ON HEX ONLY!

**WARNING**  
USE WRENCH OR VISE ON HEX ONLY!







A Little Glue is a Good Thing















# GW location

- From “near surface” to greater than 70 feet.
  - Sheet pile and dewater
    - Use of mobile stripper
  - Just dig













# Facility #1





































**METAL  
PRODUCTS  
COMPANY**

# Facility #2



15,000

8-18-09

VAC-24

UL-489156

10'x25'9"

6,000



16'1"

4,000



10'9½"











SUNOCO



3.99

































# Facility #3















# Facility #4



15,000

2 comp

18,000

2) 7,000

VAC. 4'

UL # R-234156

12-23-09































# Facility #6



























# Facility #7















# Facility #8































# Facility #9























Other









PEMCO  
HIALEAH, FL. 640

PEMCO  
HIALEAH, FL. 640



# Thoughts

- Owner/Operators rarely visit construction site.
- Select low bid.
- Contractor is key.