



**ENVIRO JET  
TECHNOLOGIES**



**NATURAL GAS  
SYSTEM  
DECONTAMINATION**

# Miller Environmental Group Inc.

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- 40+ industries & client types:
  - Federal, State & Local Agencies
  - Utilities
  - Food and Beverage Manufacturing
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# Enviro Jet Technologies

- DIVISION OF MILLER ENVIRONMENTAL GROUP, INC.
- PRIMARY DRIVER WAS THE PCB MEGA RULE
- PCB DECONTAMINATION SERVICES
- DEVELOPED INNOVATIVE CLEANING SYSTEMS
- WIDE VARIETY OF PIPELINE SERVICES



# US EPA National Permit

- NATIONWIDE APPROVAL TO REMOVE PCB'S FROM METALLIC PIPE & PIPING SYSTEMS
- RESULTS IN ABILITY TO ABANDON AND DISPOSE OF PIPE AS "CLEAN"
- CLEANED PIPE IS "NON-PCB" OR LESS THAN 10 UG / 100 CM2 & 50 PPM
- CONFIRMATORY WIPE SAMPLING IS NOT REQUIRED
- PITS MAY BE BACKFILLED IMMEDIATELY
- ENVIRO CLEAN SOLUTION CAN BE RE-USED OR DISPOSED AS "OILY WATER WASTE"
- REDUCES LONG TERM LIABILITY



# Spray Cleaning Process

- PCB DECONTAMINATION IN NATURAL GAS PIPELINES
- PROPRIETARY PATENTED DESIGN
- DUAL PURPOSE JET & VAC UNIT
- CLEAN UP TO 500' IN ONE DIRECTION
- JET PUMP OPERATES AT 2000 psi & 40 gpm
- VACUUM PULLS 27" Hg
- TWO SEGREGATED 1000 GAL TANKS
- FLUID TRANSFER BETWEEN TANKS
- MULTIPLE SEDIMENT FILTERS



# Enviro Jet PCB Decontamination via Spray Cleaning – Step by Step

- Gas Pipe is slated for retirement
- Perform wipe samples or use historical data for characterization.
- Locate the ends via GPS and log for record keeping.
- Enviro Jet Pre-Project Site Visit and System Drawing Review
- Coordinate project date(s), street permits, and dig contractor to open holes.
- Project Notification to US EPA, State Environmental Authority, Local Fire.
- Dig Contractor opens holes ahead of the Enviro Jet crew.
- Set Up OSHA Required Work Zones.
- Install Spill Protection and Counter Measures.
- Install Enviro Jet Pipe Receptacles.
- Triple Rinse All Pipe with Jet Vac Truck.
- 95% Liquid Recovery via H.P. Vacuum or Foam Pigging Of Pipe
- No wipe sampling is required when using the US EPA Permitted Enviro Jet process
- Project, Compliance & Analytical Documentation



# ENVIRO JET SPRAY CLEANING PROCESS



# ENVIRO JET SPRAY CLEANING PROCESS

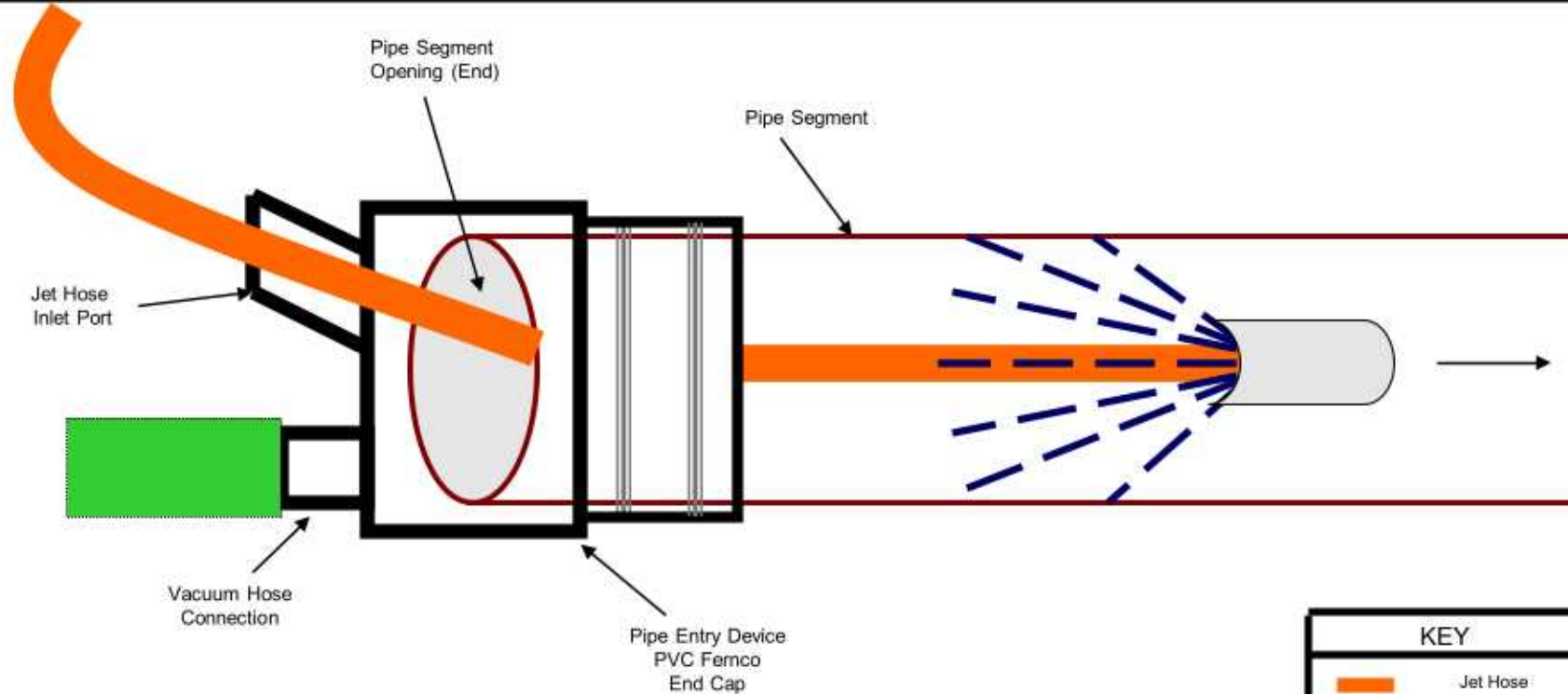




# ENVIRO JET SPRAY CLEANING PROCESS








**PROCESS ENGINEERING SCHEMATIC**  
**JET CLEANING PROCESS & PIPE ENTRY DEVICE**  
**PVC END CAP WITH JET AND VACUUM CONNECTIONS**



**ENGINEERING DATA**

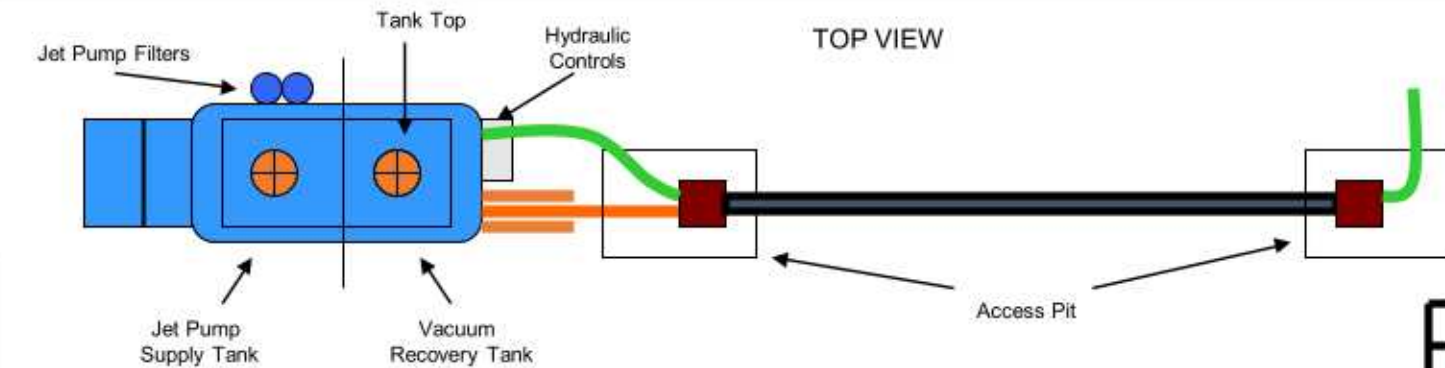
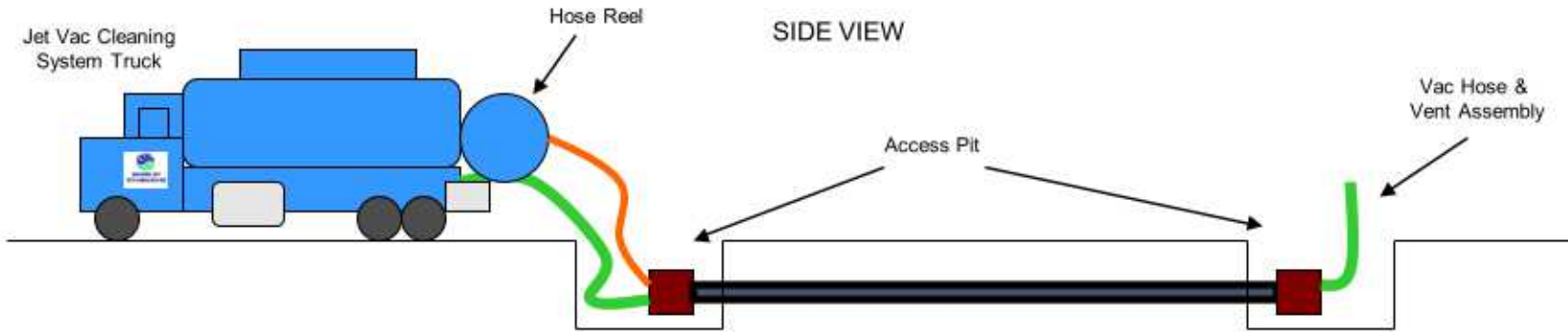
Operating Pressure (Jet Pump)	2,000 psi
Nozzle Output - PODF Application	40 gpm
High Performance Vacuum Capacity	27" Hg
Liquid Storage Capacity (2 Tanks On Truck)	2,200 gals
Hydraulic Hose Reel Capacity	500 feet

**KEY**

-  Jet Hose
-  Vacuum Hose
-  Radial Vortex Nozzle
-  PODF Spray
-  Band Clamp



# PROCESS ENGINEERING SCHEMATIC SPRAY CLEANING SYSTEM & SITE SET UP



KEY	
	Jet Hose
	Vacuum Hose
	Pipe Entry Device (PED)
	Pipeline Segment

ENGINEERING DATA	
Operating Pressure (Jet Pump)	2,000 psi
Nozzle Output - PODF Application	40 gpm
High Performance Vacuum Capacity	27" Hg
Liquid Storage Capacity (2 Tanks On Truck)	2,200 gals
Hydraulic Hose Reel Capacity	500 feet



# Enviro Jet Soaking Process

- TANK SIZES TO MEET DEMAND
- WILL CUSTOM DESIGN & BUILD SYSTEMS
- PIPE MUST SOAK FOR 2 HOURS
- SOLUTION TEMP RANGE 39 TO 99 F
- CAN TREAT UP TO 30 CUBIC YARDS PER DAY
- PIPE MAY BE DISPOSED OF AS SCRAP METAL AFTER SOAKING PROCESS WITHOUT CONFIRMATORY SAMPLING
- HELPS MEET WASTE MINIMIZATION GOALS



# EJT PCB Decontamination via Soaking – Step by Step

- Gas Pipe and components are slated for retirement and will be removed.
- Perform wipe samples or use historical data for characterization.
- Separate contaminated pipe and store following 40 CFR 761.65 (c)
- Coordinate and schedule the Enviro Jet soaking process based on the volume of pipe stored.
- Project Notification to US EPA, State Environmental Authority, Local Fire.
- Install Spill Protection and Counter Measures.
- Load pipe and components into Soaking Container then Submerge & Soak for 2 hours.
- Unload pipe and components in Scrap Recycling Container.
- Confirmatory testing on pipe and components is NOT required.
- Confirmatory testing on the post-cleaning solution IS required.
- Waste disposal consists of EnviroClean Solution “Non-PCB Oily Water Waste”.
- Project, Compliance & Analytical Documentation.
- **DUAL BENEFITS: REDUCES PCB WASTE & COST SAVINGS**



# Enviro Jet Soaking Process



# Small / Large Collection Hoppers – Satellite Locations



## Soaking Operations – Satellite Locations





# Enviro Jet Soaking Process Developments

- HDPE/MDPE Pipe is now considered '**non-porous**' as per the US EPA.
- MEG can soak HDPE/MDPE for 15 hours to decontaminate PCBs.
- MEG makes process accommodations to soak any 'non-porous' metal within 2-hour windows.
- HDPE/MDPE pipe is left soaking overnight to reduce service costs.
- HDPE/MDPE pipe can then be recycled/shredded.
- Coal Tar Wrapped pipe can be laser scored and removed to allow for scrap. Costs have not been proven by the existing model; however, we continue to offer solutions where the pipe would have been disposed of in a landfill.



Questions?

Thank you!

