Introduction.
Rehabilitation of aging water distribution and waste water infrastructure is a major problem world wide. In the United States alone there is greater than 1,000,000 miles of cast and ductile iron watermain nearing the end of reliable service life as a result of sub surface corrosion. Efficient decision making for the asset management plan requires accurate information on the existing condition of the buried pipe, and the means to determine remaining service life. In line inspection using an RFT tool addresses this need, and has been deployed successfully world wide since 1996.

The HydraSnake System.
The HydraSnake is a strong, flexible “smart tool”, which measures the remaining wall thickness and corrosion defects of cast and ductile iron pipe. As the tool travels through the pipe, it continuously records the wall thickness and stores the information on board. Data can be sent to an aboveground computer in real time during deployment by tether. The diameter of the tool is significantly smaller than the ID of the pipe, to allow for protrusions, lining and scale. The smaller diameter in combination with its flexibility allows the tool to negotiate Tees and short radius elbows.

Hydrasnake technology provides direct measurement of water main wall thickness, continuously along the length of the waterline; it detects corrosion, wall thinning and graphitization.

The HydraSnake Advantage.
The HydraSnake system saves asset managers time and costs in dealing with maintenance, capital expenditures, and third party liability. Key benefits:

• Finds leaks before they happen.
• Enables Proactive Point Repair (“Targeted Maintenance”)
• Extends Service Life
• Prioritizes Pipe Replacement
• Identifies Optimal Rehabilitation Methods
• Prevents unexpected line breaks
• Avoids consequential damages of pipeline failure.
• Enhances Water Conservation.
• Provides Pipe condition baseline surveys
• Permits Effective Asset and Risk Management.
HydraSnake tools measure the condition of buried 6” and 8” water mains without excavation:

1. First, the section of water main to be evaluated is isolated and swabbed to remove tubercles.
   (The pipe is not cleaned to bare metal)

2. The HydraSnake tool is inserted into the watermain through a hydrant or a special adapter.

3. Water in the line is circulated to propel the inspection tool, then a wireline winch is (optionally) used to retrieve the tool.

4. After the tool has been retrieved, the line is flushed and returned to service.

**Key benefits:**

- Easy Access through hydrant or tee adapters.
- Detects graphitisation, pitting, erosion and cracks.
- Non Contact: cleaning to bare metal not required.
- Tests through scale, cement, epoxy and plastic liners
- Sensitive to internal and external flaws.
- Flexible and rugged
- Fast, reliable and repeatable.

**World Wide Track Record:**
Montreal, Calgary, Edmonton, Vancouver, Winnipeg, Severn Trent, Oslo, Kingston, Sydney, Quebec, Houston, Colorado Springs, Des Moines, DuPont, Prince Albert, Brossard, Lloydminster, Longueil, and many more...

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