Welcome
WWW.PIP360.COM

Managing Pipe Remotely Using Remote Automatic Ultrasonic (AUT) Measurement

Managing Pipe Remotely

Using Remote AUT And

The Five "D's"

What Are The Five "D's"?

- **Deployment** (of permanently mounted UT sensors, the collectors)
- **Delivery** (data by wireless, daily deliveries)
- **Decipher** (using PIPVIEW, provides the graphical detail)
- **Decide** (on your maintenance prescription)
- **Do it**! (ensure the prescription is followed)

Effective, Remote Management

Carbon Steel Spools (CSS) are by far the most common material used for pipe lines throughout the world. The problem with CSS and other materials, is that managing them is a manually intensive business.

Up to now…

What is Required?

PIP360
Pipes in Profile

When Profiles are the Problem

In order to safely manage pipe life remotely, we need two things:

- •   Accurate data

- •   Continuous data.

Neither of these are possible with MUT.

Let's see why…

Data Collection

MUT...

Remote AUT!

Understanding the Data

The way it was…

Last Reading Date	Last Read Min Thick	Min Short Loss	Min Long Loss
6/17/2013	11.850 mm	-5.019 mm	2.866 mm
6/17/2013	14.990 mm	-5.247 mm	1.505 mm
6/17/2013	17.230 mm	-11.178 mm	0.555 mm
6/17/2013	12.340 mm	-5.019 mm	2.620 mm
6/17/2013	17.220 mm	-5.019 mm	-0.390 mm
6/17/2013	17.390 mm	2.053 mm	0.029 mm
6/17/2013	18.740 mm	-4.106 mm	-1.051 mm
6/17/2013	13.980 mm	48.819 mm	1.558 mm
6/17/2013	16.070 mm	7.528 mm	0.043 mm
6/17/2013	17.090 mm	-33.534 mm	-0.091 mm
2/5/2013	0.000 mm	0.000 mm	8.862 mm
6/1/2013	17.560 mm	-55.253 mm	-3.092 mm
6/1/2013	17.450 mm	-117.949 mm	-1.923 mm
6/17/2013	15.690 mm	10.494 mm	5.804 mm
6/17/2013	14.110 mm	8.897 mm	0.037 mm

The way it can be!
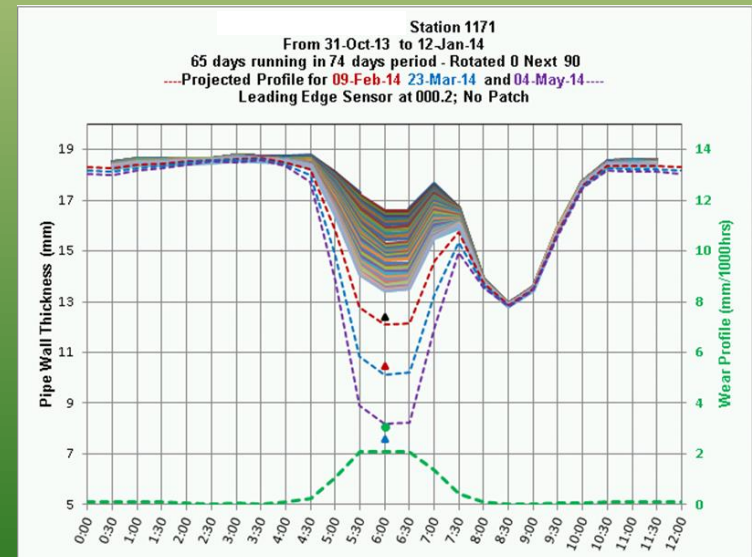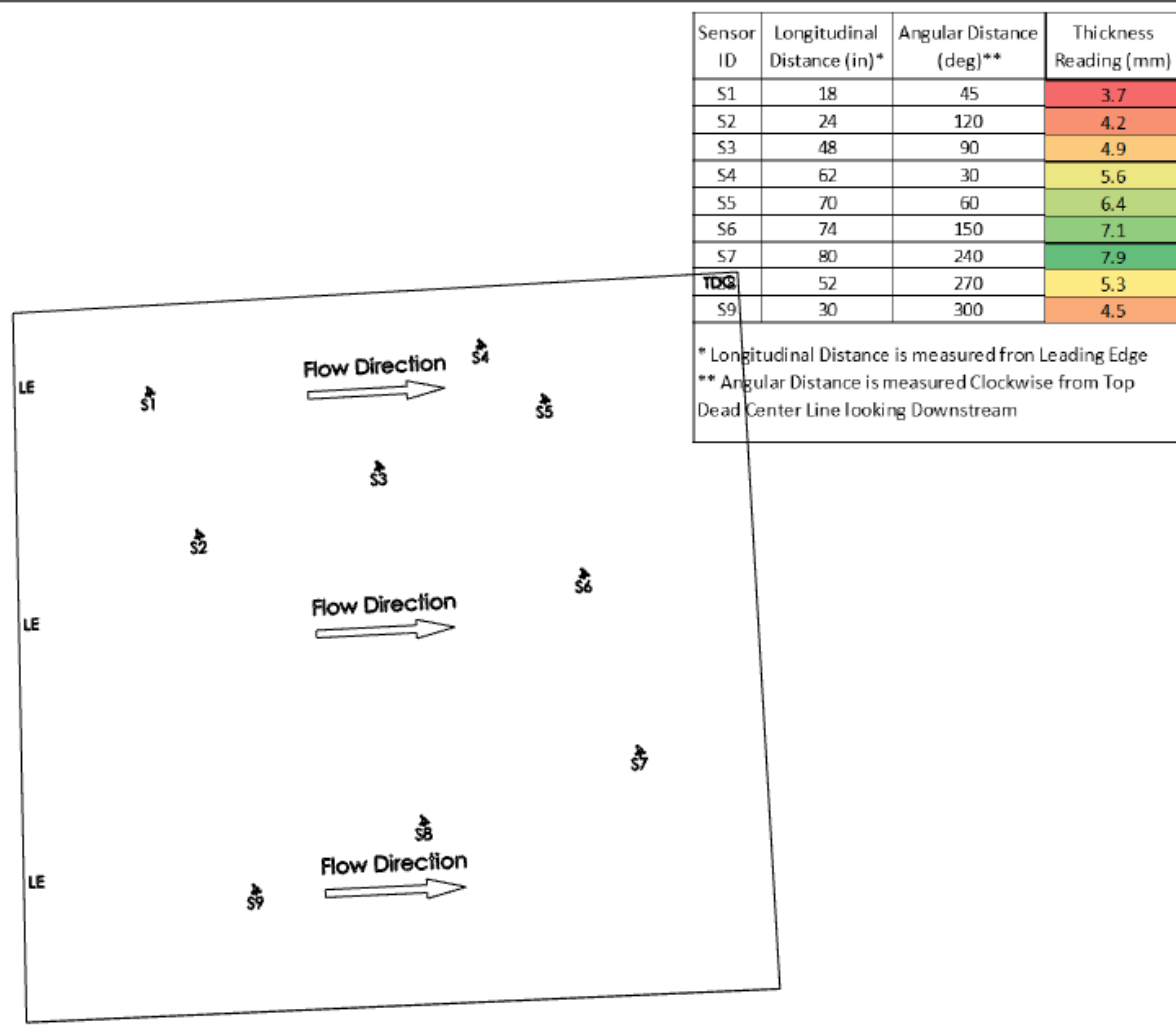
Station 1171
From 31-Oct-13 to 12-Jan-14
65 days running in 74 days period - Rotated 0 Next 90
----Projected Profile for 09-Feb-14 23-Mar-14 and 04-May-14----
Leading Edge Sensor at 000.2; No Patch

TML ID's Flat View

Sensor ID	Longitudinal Distance (in)*	Angular Distance (deg)**	Thickness Reading (mm)
S1	18	45	3.7
S2	24	120	4.2
S3	48	90	4.9
S4	62	30	5.6
S5	70	60	6.4
S6	74	150	7.1
S7	80	240	7.9
TD8	52	270	5.3
S9	30	300	4.5

* Longitudinal Distance is measured from Leading Edge
** Angular Distance is measured Clockwise from Top Dead Center Line looking Downstream

LE

Flow Direction

S4
S1
S5
S3
S2
S6
LE
Flow Direction
S7
S8
LE
Flow Direction
S9

Man Versus Machine

There are three inherent weaknesses with MUT:

- Repeatability
- Accessibility
- Safety

These weaknesses will derail any attempt to deliver effective remote management from MUT.

With AUT you are guaranteed repeatability, accessibility and once installed, safety is never an issue.
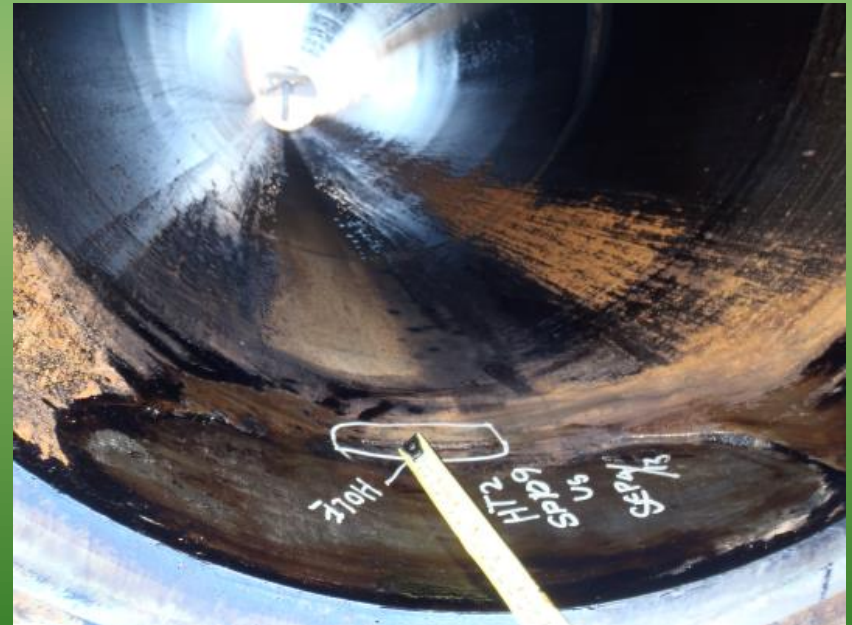
Background

Pipe wear is usually concentrated in the bottom quadrant. Once the area has been identified, permanent sensors can be installed to monitor the rate of metal loss.

Continuous data provides actual metal loss rates, enabling the pipe to safely remain in service longer.

How Often Do You Want To Do This?

With MUT you will be required to excavate on an on-going basis.

With Remote AUT... Only when you have to!

The Five "D's" Uses

- Precision AUT data from PIP360 permanently installed sensors

- Wireless or other remote connectivity

- PIPVIEW analysis software to generate graphical metal loss profile

The Result

- Review daily/weekly /monthly or other updates on actual metal loss rates

- Automatically get updates to predicted service life based on selected maintenance dates

- Automatically calculate end of service life for the sensor location

Travel Requirements
To Get Your Data

Grab a Coffee and type....
(Maybe put the coffee down first)

www.pip360.com

PIP360
Pipes in Profile

When Profiles are the Problem

For More Information or Clarification, Please Contact PIP360™ 780-433-6860