

Water Leak Detection at Temco

12 Months with the LDS



Operational Aspects of Water leak detection

- **Absolute improvements**
- **Process success – noise**
 - Winter vs Summer in Tasmania
 - Speed of detection
 - Redundancy
 - Raw materials
- **Process success – actual events at Temco**
 - Where it worked
 - Why we are confident
- **Process shortfalls**
 - Physical
 - Human

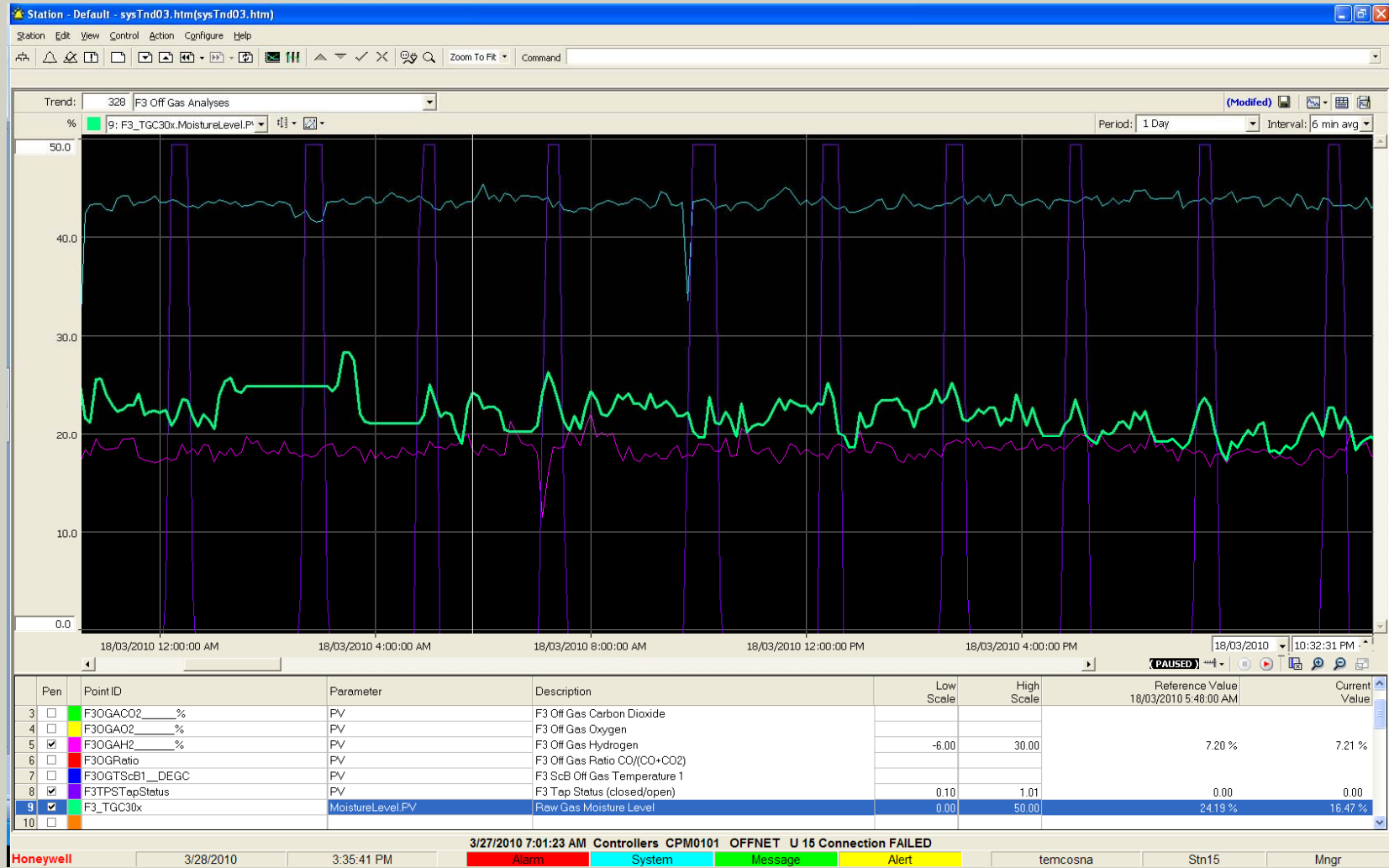
How well did it work?



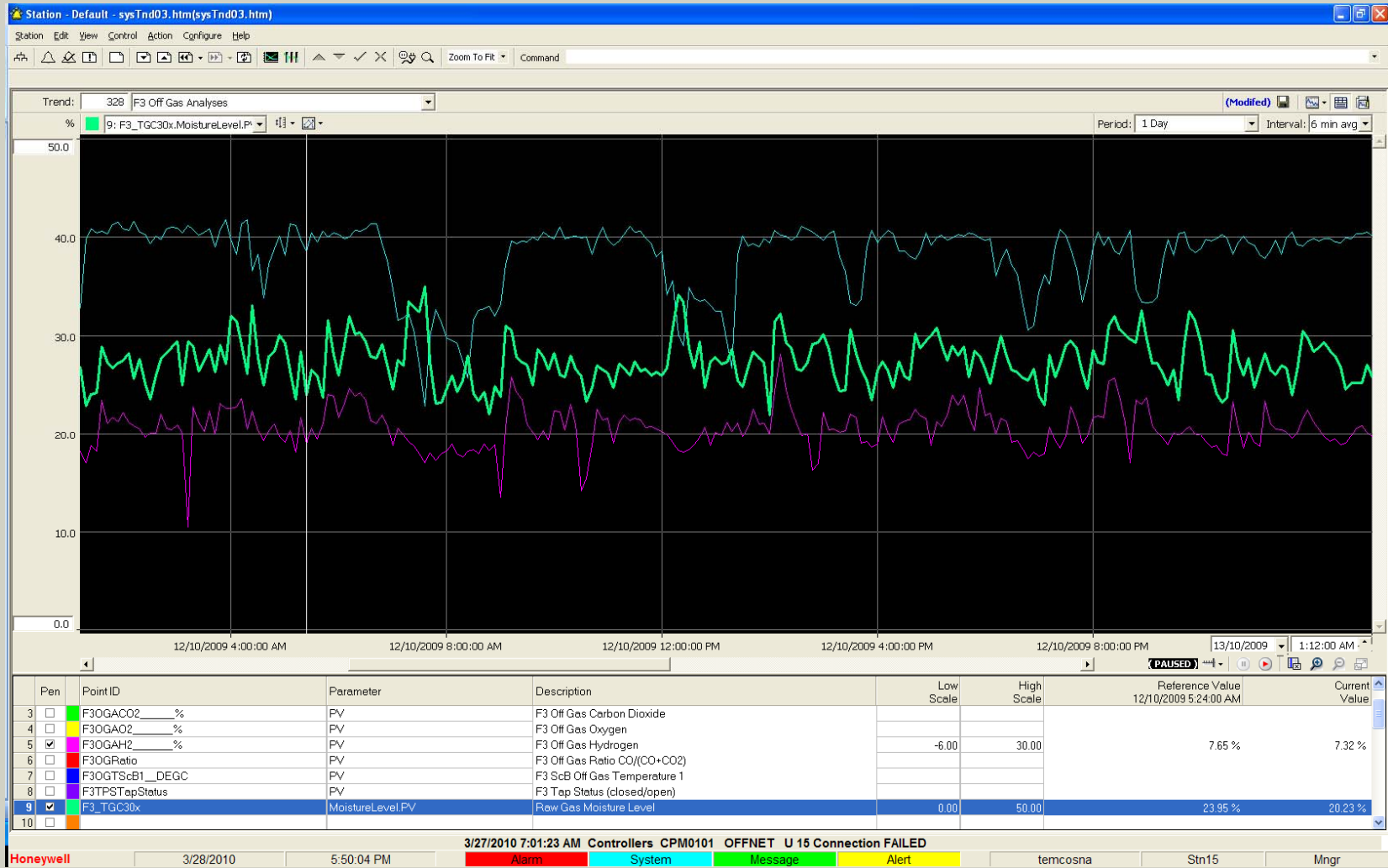
Timely detection of real leaks

- Winter vs Summer in Tasmania
- Speed of detection
- Redundency
- Raw materials
- Tapping cycle

Summer 2010



Winter 2009



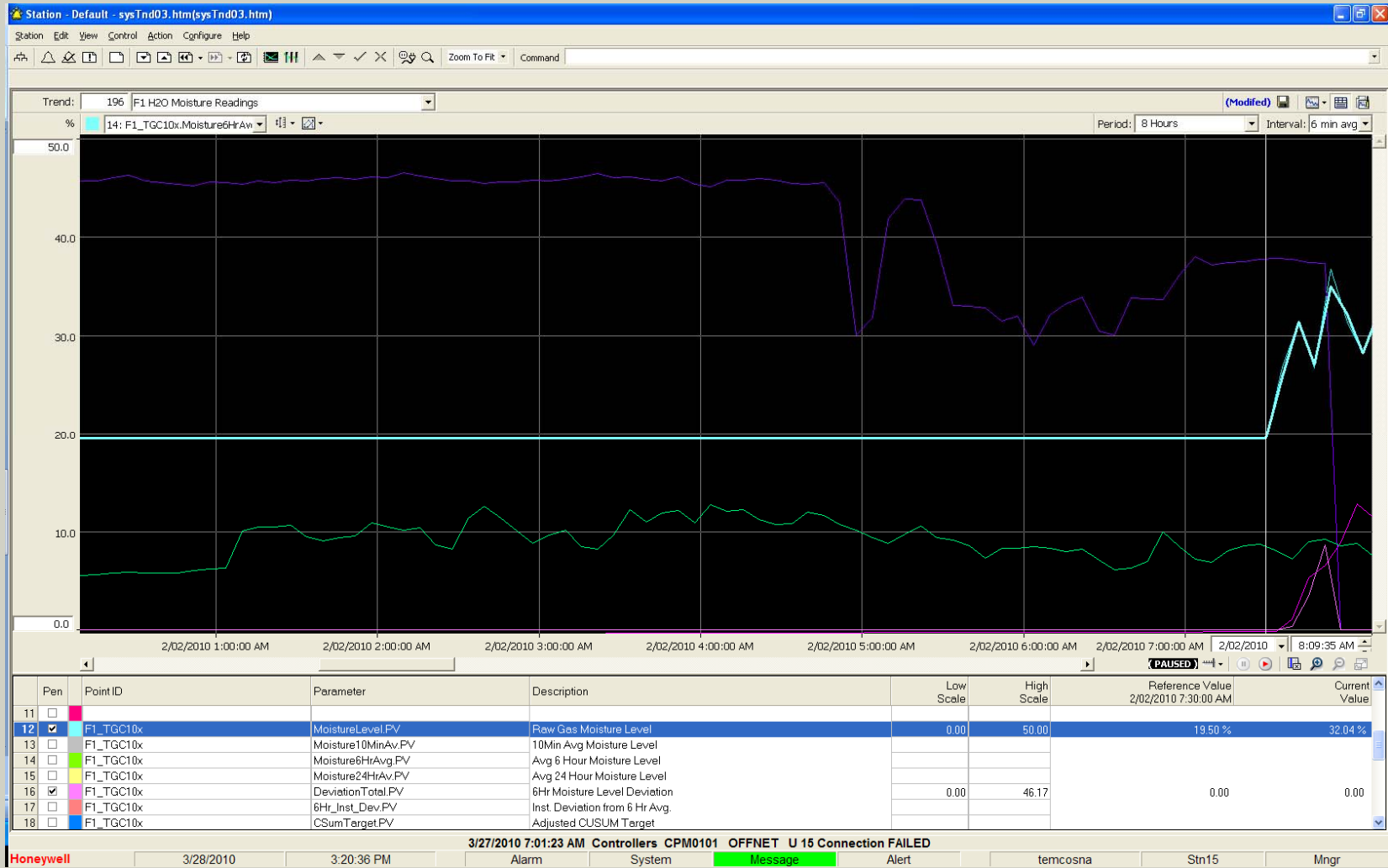
A measurement that Does account for:

- Material moisture
 - Moving 6 hourly averages
- Furnace Tapping
 - Statistical calibration by adding offset to trip values
- Offgas excursions
 - Radiosity calibration as described by paul

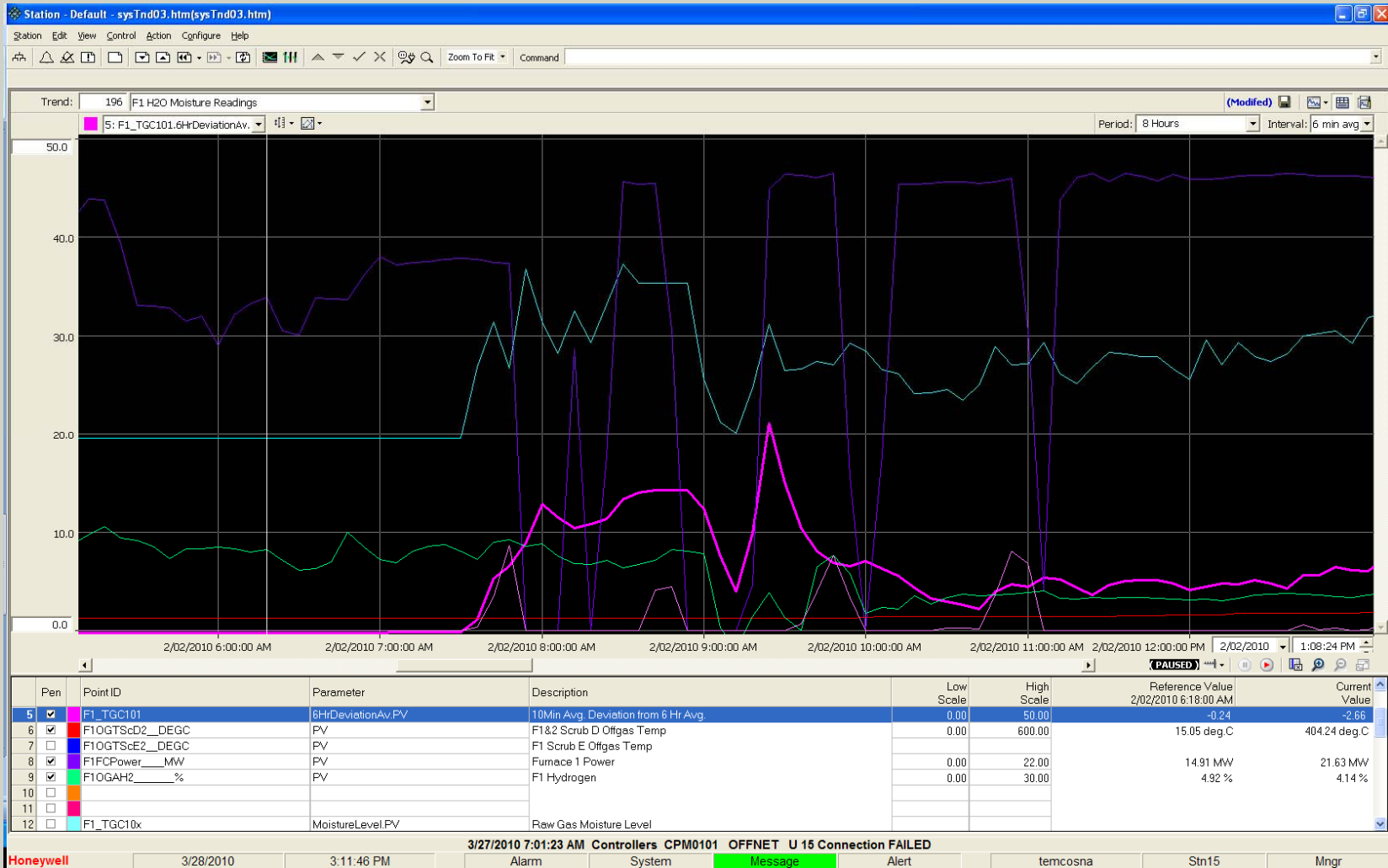
What didn't work.



Abnormal Operation.



Abnormal Operation.



What have we gained?

- More reliable
- Moving the interpretation away from human into a statistically sound regime.
- Step change, improvements in:
 - lag time
 - Direct measurement
 - Dynamically adapting
 - Seasonal
 - Raw material

What is left to be gained?

- The biggest gains remaining are:
 - Not from Hardware
 - Alarming and management
 - Operator information training – buy-in

– Safety