



Ambient Water Treatment Consulting, Inc.

Water Treatment Monitoring
Cooling and Boiler Water Analyses
Water Treatment Bid Evaluations
Equipment Inspections
Pipe Analyses

50 Jericho Turnpike
Suite 108
Jericho, New York 11753
Tel: (516) 342-1964
Fax: (516) 908-6470

METALLURGICAL ANALYSIS OF PIPING

Ambient Water Treatment Consulting, Inc. has developed a practical and unique format that greatly enhances the readability and understanding of metallurgical analysis of pipe samples. This format relies on photographs, color graphical presentation and easy to understand text supported by laboratory data. Ambient's in house capabilities include sample preparation, photo-microscopy, electron microscopy, stereo-optic examination and microbiology laboratory. Outside experts are consulted as needed for special projects.

Pipe samples are generally obtained from building water systems for forensic determination of pipe failure and for determination of useful remaining life. In the case of treated water systems the pipe samples are virtually the only means to determine the effectiveness of the treatment program.

Corrosion coupons only indicate the treatment program's ability to control corrosion on clean metal surfaces over short periods under ideal flow conditions. By contrast, the actual pipe samples are generally obtained from areas of low flow and horizontal orientation where the conditions are ideal for under-deposit and microbiologically-influenced corrosion (MIC).



Most pipe failures occur due to severe localized pitting where metal loss is highly concentrated underneath randomly spaced deposits. It can be difficult and time-consuming to locate these pits using non-destructive testing such as ultrasonic probes or borescopic examination.

The use of borescopic examination in conjunction with destructive pipe analysis provides the ideal combination of available field techniques to assess the internal condition of piping. In some instances, ultrasonic testing may be the only available option if non-destructive testing is required due to the inability to obtain actual pipe samples.



When to Consider Metallurgical Pipe Analysis

- Forensic Determination of Pipe Failure
- Opportunistic Removal of Piping (for Renovations)
- Suspected Corrosion Problems Due to Water Chemistry
- New Management – Why inherit old problems?
- Due Diligence on Purchase or Lease
- New Water Treatment Vendor or Program
- Installation of Critical Equipment – Computer Cooling/Trading Floors/Executive Areas
- Age of Piping

Regardless of the reasons for obtaining the samples, the report must be generated in a professional format that addresses all the background issues relating to the condition of the piping and at the same time provide useful recommendations for maintaining the piping in the future. **Ambient Water Treatment Consulting, Inc.** has the resources, expertise and the experience to serve this vital need.

Ambient Water Treatment Consulting, Inc. is a full-service consulting firm staffed with water treatment professionals who are dedicated to providing you with **unbiased, independent information** on the state of your critical heat-transfer equipment. **We do not sell treatment products.** We perform a variety of testing and inspection services that determine the effectiveness of your existing water treatment program.

Since 1998, we have provided essential services to some of the best-known property management firms in the country, as well as health care facilities, data centers, museums and industrial complexes.

For more information on this subject and for answers to all of your water treatment questions, please visit our website www.awtconsulting.com and/or contact us at:

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