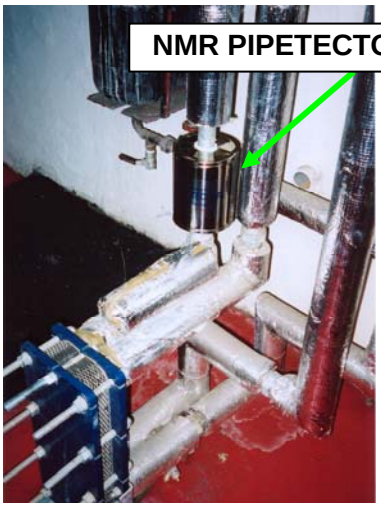
NMR PIPETECTOR Installation Report

Anti-Corrosion Application, Fenchurch Building, located in London, UK

NMR Corporation

*Appearance of Building and Installation Place

Appearance of the building



Outlet pipe of plate heat exchanger

*Installation Purpose and result

Fenchurch Buildings which is approximately one hundred years old is owned by Land Securities Plc, who are one of the largest property owners and developers in the United Kingdom.
A refit of the major services in this office block took place 30 years ago, however, the domestic hot water pipework has become contaminated by corrosion due to the high Fe content in the water, resulting in pipework deterioration and discolored water coming from the hot taps throughout the office building.
For the protection of hot water pipework against corrosion, one NMR Pipetector was installed on the outlet pipe from the plate heat exchanger.
Before the installation of the NMR unit, water samples were taken from the hot taps on the sixth floor ladies toilet, these samples were analyzed for the Fe content, which was found to be **5.2mg/l**, the NMR unit was installed on the 19th May 2004, and jus 9 days after the installation, the Fe content was reduced to **0.4mg/l**, and discoloured water stopped coming out of the hot taps. 43 days after the installation, the Fe content was **0.5mg/l** and now the condition of decreased Fe content has been maintained, which means that the corrosion (FeO(OH)) inside the pipework has been terminated and reduced to magnetite (Fe_3O_4) which is not dissolved into the water.

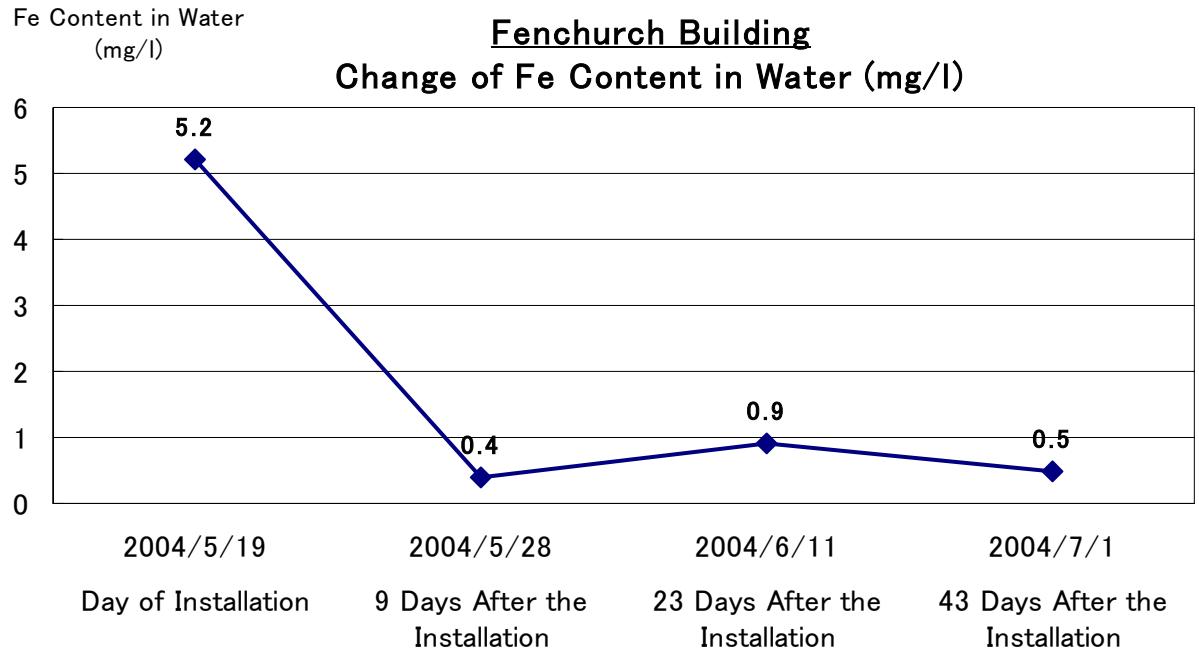
* Installation Summary

Name of Building:Address	Fenchurch Buildings, London, United Kingdom
Building Summary	Approximately one hundred years old building Refit of the major services in this office block took place 30 years ago.
Kind of Pipe	Steel Galvanized Pipe
Installation Day	May 19 in 2004
Installation Place Number of installed NMR PIPETECTOR	Outlet pipes of plate heat exchanger in the boiler room PT-30DS×1unit

*Fe Content in Hot Water (mg/l)

	Day of Installation May 19, 2004	9 Days After Installation May 28, 2004	23 Days After Installation June 11, 2004	43 Days After Installation July 1, 2004
Fe content in water	**5.2mg/l**	**0.4mg/l**	**0.9mg/l**	**0.5mg/l**

* Fe Content in Hot Water(mg/l)



All Fe contents were detected by portable (or handy) analyzer, so it cannot detect the number of less than 0.4mgl, and it shows the number of 0.4mg/l when Fe ion content is 0.4mg/l or less.