

NMR Pipetector Installation on Water Main

Anti-corrosion device at Huong Canh District in Vinh Phuc Province, Vietnam

Japan System Planning Co., Ltd.

◆ Appearance



Huong Canh District, Vinh Phuc Province



Water main supply pipe underground

◆ Summary

Huong Canh District's water main, constructed in 2001, was seriously damaged with internal corrosion as discolored water was continually coming out from taps. In this circumstance, Japan System Planning Corp. proposed the district install its anti-corrosion device NMR Pipetector. The maker intended to provide Japanese innovative technologies and products to developing countries, mainly in Southeast Asia, by having the device adopted as one of Japan's Official Development Assistance projects led by the Japanese government.

The company sampled water from three different locations on the pipework before the installation. All the samples were discolored in muddy yellow and red. Water analysis revealed iron contents at 7.0, 8.0 and 23.0 mg/L from North, West and South locations. Those results indicated serious progress of red rust corrosion inside the pipeline.

Fifteen weeks after the installation, we sampled water in the same conditions as before. Iron contents in the water sampled from North, West and South locations dropped to 1.5, 0.5, and 2.5 mg/L. Water discoloration caused by internal corrosion was also rectified. The West location's iron content significantly decreased to 0.4 mg/L, almost the same level as raw water.

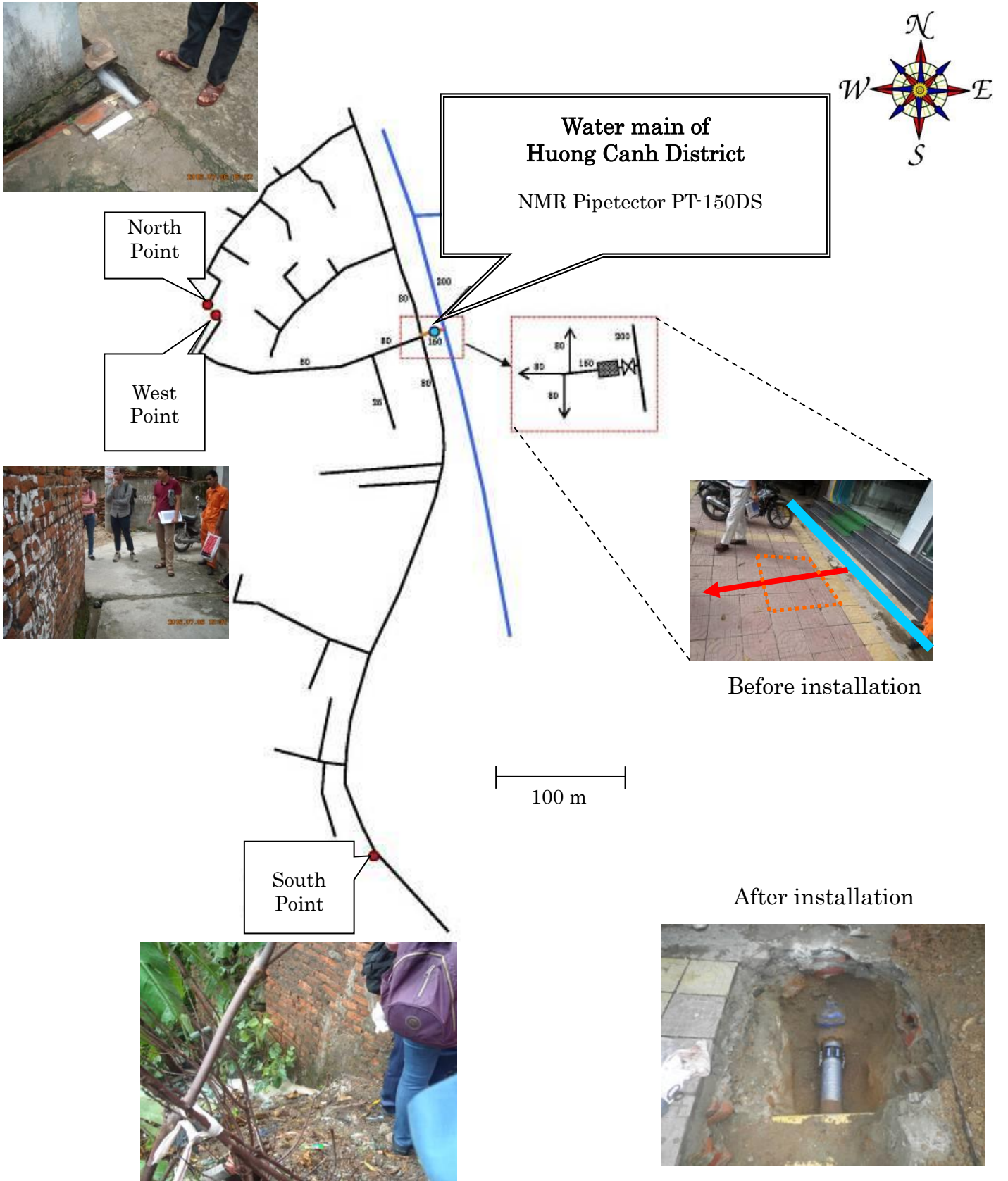
The company expects to see the remaining two points also drop to the same levels.

From these facts, NMR Pipetector successfully proved its effects to reduce internal red rust into a firm and insoluble substance called magnetite.


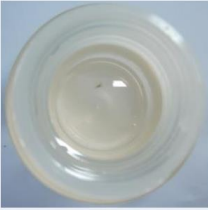

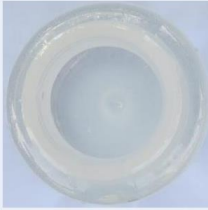

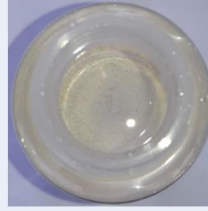

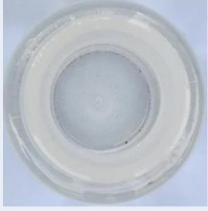

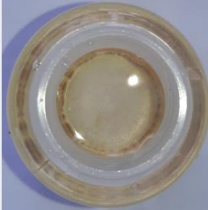


◆ Profile

| | |
|-----------------------------|--|
| Location | Huong Canh District, Vin Phuc Province, Vietnam |
| Age, type | 15-year-old, underground galvanized steel water main 150 mm in diameter |
| Installation date | July 29 th , 2016 |
| Installed device and number | NMR Pipetector PT-150DS × 1 unit |

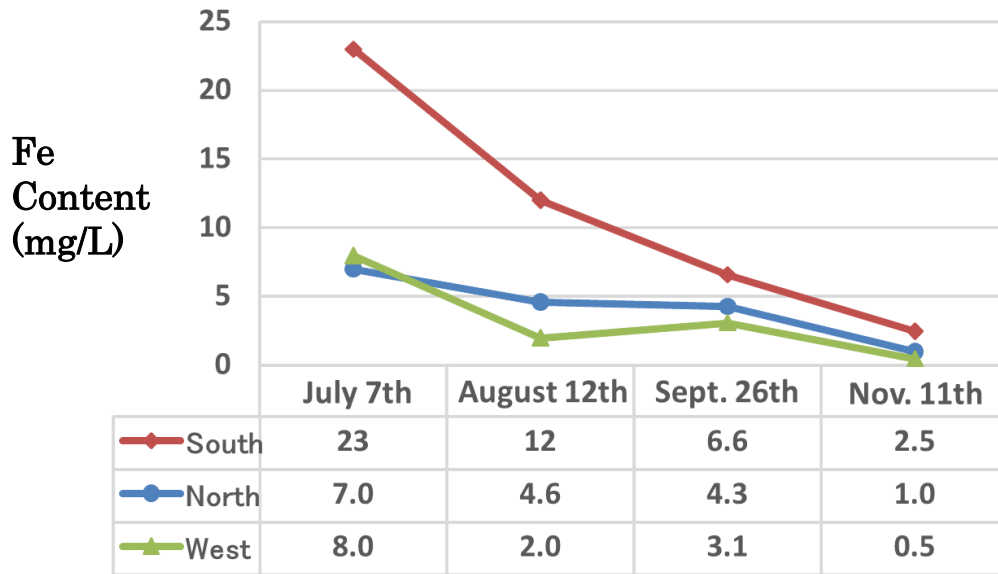
NMR Pipetector installation map



◆ **Sampled water from the district water main**

| | Before Installation July 5 th | 2 weeks after August 12 th | 8 weeks after September 26 th | 15 weeks after November 11 th |
|--------------------------|---|---|--|---|
| Huong Canh West Side |  |  |  |  |
| Fe Content (mg/ℓ) | 8.0 | 2.0 | 3.1 | 0.5 |
| | Before Installation July 5 th | 2 weeks after August 12 th | 8 weeks after September 26 th | 15 weeks after November 11 th |
| Huong Canh North Side |  |  |  |  |
| Fe Content (mg/ℓ) | 7.0 | 4.6 | 4.3 | 1.0 |
| | Before Installation July 5 th | 2 Weeks After August 12 th | 8 Weeks After September 26 th | 15 Weeks After November 11 th |
| Huong Canh South Side |  |  |  |  |
| Fe Content (mg/ℓ) | 23 | 12 | 6.0 | 2.5 |

District of Huong Canh : Transition of Fe Content



Installation Day
July 29th, 2016