Official Scientific Test Result of NMR PIPETECTOR (No.1)

Anti-Corrosion Test

By Hokkaido Industrial Research Institute Of the Japanese Government

To Decrease Fe content of Water in Steel Pipes

♦ Appearance of Building and Place for Anti-Corrosion Test



Appearance of Building



On outlet pipe of elevated water tank for the research building

♦Building Summary

It has been 25 years since this building was built, and there were serious corrosion colored water problems in the water supply pipes because the steel galvanized pipes (SGP) have been used and rusted.

◆Installation Results

Before the installation of NMR PIPETECTOR, the water examination (Water wasn't used during night and taken in an early morning as the first use. The results are the average of three times examinations) shows that Fe content in water was 0.55mg/l, colored was 14.7 degrees, and unclearness was 2 degrees. The results say corrosion colored water was in serious condition. However, 2 months after the installation of NMR PIPETECTOR, Fe content decreased to 0.423mg/l, colored decreased to 9 degrees, and unclearness decreased to 1.25 degrees gradually. 4 months after the installation, the results show that Fe content decreased to 0.262mg/l, colored decreased to 5 degrees, and unclearness decreased to less than 1 degree. The quality of the water improved and passed the Japanese government regulation. Corrosion changed to magnetite and stopped dissolving into water by the effect of NMR PIPETECTOR. The results prove that

NMR PIPETECTOR made the life of the pipe longer by changing corrosion to magnetite.

♦ Installation Summary

Address	Sapporo, Hokkaido JAPAN		
Building Summary	25 years after being built		
Method of Water Supply	Elevated water tank method		
Installation Day	July 25, 2001		
Installation place Number of installed NMR PIPETECTOR	On outlet of water supply pipe of the elevated water tank for the research building (SGP 100mm) NMR PIPETECTOR PT- 100DS×1unit		

♦ Results of Water Examinations

Analyzed 500cc of water which was first taken in the morning under the condition that water is not used for more than 8 hours during night.

Date	Before	1 month after			
	the installation	the installation	2 months after	4 months after	
	(average of 3	(average of 4	the installation	the Installation	Government
	times)	times)			regulation
	July 17- 24,	July31- Aug.21	Sep.28, 2001	Nov.21, 2001	
Item	2001	2001			
Fe (mg/l)	0.789	0.556	0.423	0.262	Under 0.3
T C (mg/l)	0.703	0.000	0.420	0.202	Officer 0.0
Colored (degree)	14.7	13	9	5	Under 5
Colored (degree)	14.7	13	9	3	Officer 5
Unclearness	•	4.05	4		
(degree)	2	1.25	1	Under 1	Under 2

(Examined by Hokkaido Industrial Research Institute)

♦ Water examination reports (Hokkaido Industrial Research Institute)

Before the installation And 1 month after the installation

Result Report

No.13-228

August 23,2001

The chief of Hokkaido Industrial Research Institute

Water examination is based on given sample water of Hokkaido Industrial Research Institute (from July 17 to November 21 in 2001) Unclearness, color, and iron content

The result of the examination is as follows.

Before Installation of NMR PIPETECTOR

Item Date	Unclearness (degrees)	Colored of water (degrees)	Fe ion content (mg/l)
July 17, 2001	1	11	0.866
July 19, 2001	3	19	0.856
July 24, 2001	2	14	0.637

After Installation of NMR PIPETECTOR

Item Date	Unclearness (degrees)	Colored (degrees)	Fe ion content (mg/l)
July 31, 2001	1	12	0.512
August 7, 2001	1	13	0.576
August 14, 2001	2	14	0.581
August 21, 2001	1	13	0.541

We hereby certify that this analyzed report is the duplicate copy of the original.

December 7th, 2001

Chief of Hokkaido Industrial Research Institute

2 months after the installation

4 months after the installation

Result Report

No.13-367

October 4,2001

The chief of Hokkaido Industrial Research Institute

Water examination is based on given sample water of Hokkaido Industrial Research Institute (September 28,2001)

Unclearness, colored, and iron content

Result

The result of water examination is as follow

Unclearness Slightly unclearness

(Unclearness 1 degree)

Colored 9 degrees

Fe content (mg/l) 0.423

Result Report

No.13-367

December 4,2001

The chief of Hokkaido Industrial Research Institute

Water examination is based on given sample water of Hokkaido Industrial Research Institute (November 21,2001)

Unclearness, colored, and iron content

Result

The result of water examination is as follow

Unclearness Transparent

(Unclearness below 1 degree)

Colored 5 degrees

Fe content (mg/l) 0.262

We hereby certify that this analyzed report is the duplicate copy of the original.

December 7th, 2001 Chief of Hokkaido Industrial Research Institute

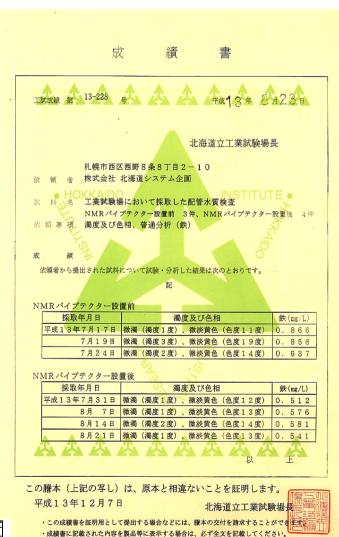
We hereby certify that this analyzed report is the duplicate copy of the original. December 7^{th} , 2001 Chief of Hokkaido Industrial Research Institute

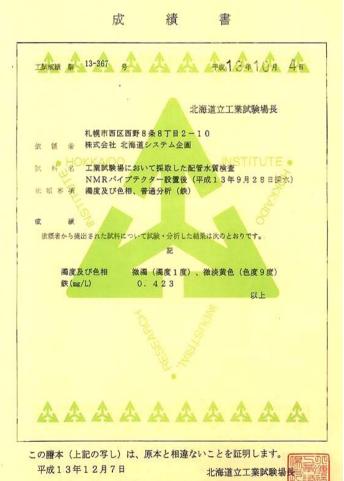
◆水質検査結果証明書(北海道立工業試験場)

設置前及び設置1ヵ月後

設置2ヶ月後

設置4ヶ月後





工獻成蘇 第 13-368 号 平成 1 3 年 1 2 月 4日 北海道立工業試験場長 札幌市西区西野8条8丁目2-10 依 頓 者 株式会社 北海道システム企画 其 将 名 工業試験場において採取した配管水質検査 NMRパイプテクター設置後 (平成13年11月21日採水) 佐 領 事 明 濁度及び色相、普通分析(鉄) 依頼者から提出された試料について試験・分析した結果は次のとおりです。 透明 (濁度1度未満)、微淡黄色(色度5度) 鉄(mg/L) AAAAAAAAA

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北海道立工業試験場長

平成13年12月7日

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