

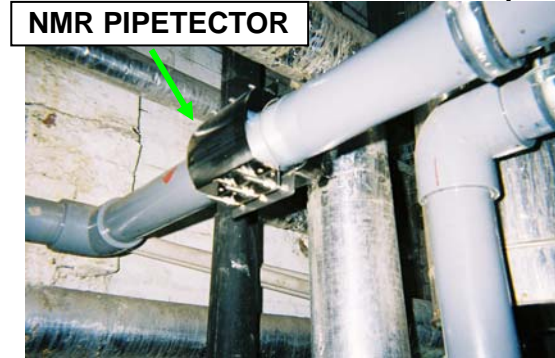
NMR PIPETECTOR Installation Report, in UK

Anti-Corrosion Application, Bournemouth Marriott Highcliff Hotel, located in Bournemouth

NMR Corporation



Appearance of the building



Cold water pipe

< Installation Purpose and Result >

Bournemouth Marriott Highcliff Hotel is one of the prestigious hotels in the world, and it was built in 1878 and has 160 rooms. NMR Pipetector has been fitted onto the domestic hot water system and the cold water supply pipe on the urgent request by the Marriott International Hotel Group.

For the protection of the hot water pipe work and cold water supply pipe from corrosion, two NMR units of 2 inch (PT-50DS) were installed onto the two hot water flow pipes that supplies all the hotel's domestic hot water, and one NMR unit of 3 inch (PT-75DS) was installed onto the cold water feed that supplies all the hotel's bathrooms with cold water.

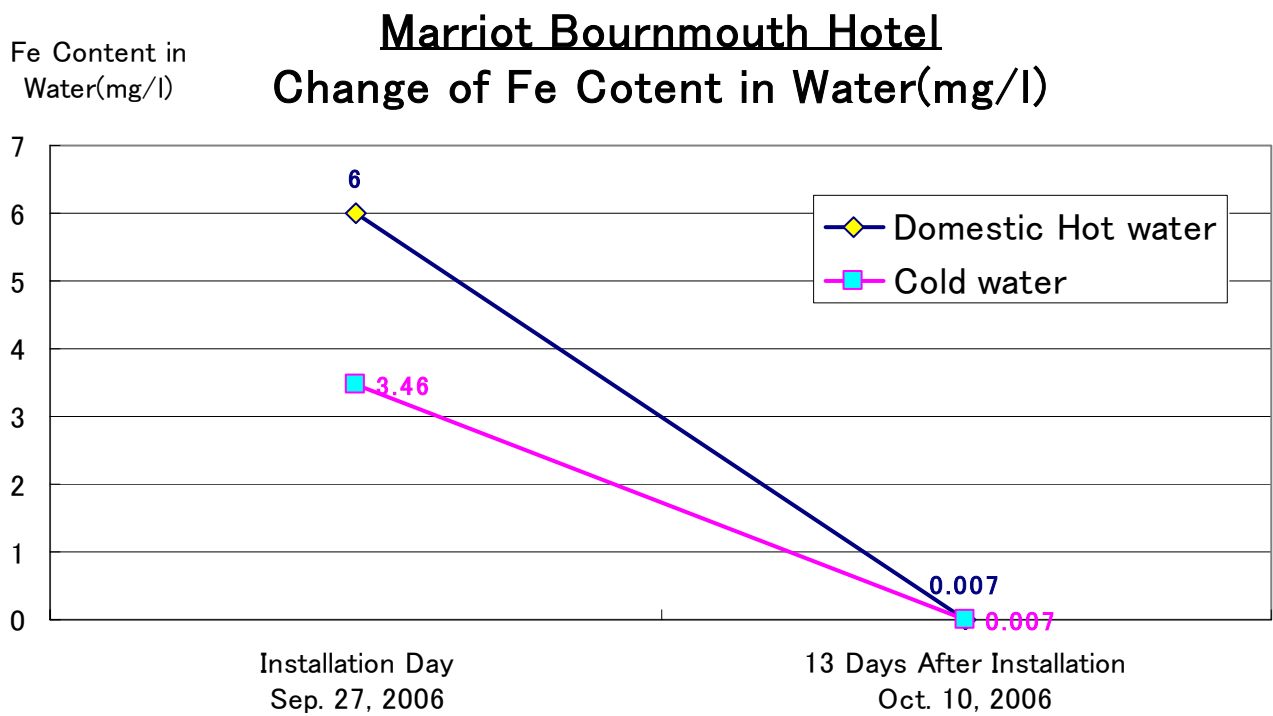
Only 13 days after the installation of NMR Pipetector, the Fe content of the domestic hot water considerably decreased from 6mg/l (before the installation of NMR Pipetector) to less than 0.007mg/l, and the Fe content of the cold water also decreased from 3.46mg/l (before the installation of NMR Pipetector) to less than 0.007mg/l which is much lower than the British Government Standard for Drinking Water of 0.2mg/l. It means that new forming of corrosion (FeO(OH)) inside of the pipe work was immediately terminated, and the existing corrosion is now being changed into magnetite(Fe₃O₄) which is not dissolved into the water and protects the inside of the pipe from corrosion.

< Installation Summary >



Name of Building :	Bournemouth Marriott Highcliff Hotel	
Address	St. Michaels Road, West Cliff, Bournemouth, BH2 5DU, England	
Building Summary	One of the prestigious hotels in the world. The hotel was built in 1878 and has 160 rooms.	
Installation Place	Two hot water flow pipes that supplies all the hotel's domestic hot water. The cold water feed that supplies all the hotel's bathrooms with cold water	
Installation Day	September 27 th in 2006	
Installation Place Number of installed NMR PIPETECTOR	2 inch hot water flow pipe (SGP) 3 inch cold water feed pipe (SGP)	PT-50DSx2 units PT-75DSx1 unit

<Fe content in hot water (mg/l)>

		Installation Day Sep. 27, 2006	13 Days After Installation Oct. 10, 2006	The British Government Standard for Drinking Water
Fe Content in Hot Water (mg/l)	Domestic Hot Water	6 mg/l	0.007 mg/l	0.2 mg/l
	Cold Water	3.46 mg/l	0.007 mg/l	



Installation Day (Domestic Hot Water)



Certificate of Analysis				STL	
		1314 0897 1228 1510	ENVIRONMENTAL LEADERSHIP		
Sample 4	Laboratory Number : 702738				
of 4	Report Number : BR/377904/2006 Issue 1				
Sample Source : Cambridge Water Company					
Sample Point Description : Cambridgeshire Water Company					
Sample Description : marriott - bournemouth, domestic hot water					
Sample Date : 27 September 2006		Sample Received : 04 October 2006	Analysis Complete : 10 October 2006		
Test Description	Result	Unit	Limit	Accreditation	Method
Iron, Total as Fe	6000	ug/l	200	B	SBC44

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. IS = Insufficient sample

Signed: *R. Robins* Name: R. Robins Date: 25 October 2006
Title: Senior Chemist

BEFORE THE INSTALLATION OF THE NMR PIPETECTORS

Before Installation (Main Kitchen Cold)




Certificate of Analysis				STL	
		1314 0897 1228 1510	ENVIRONMENTAL LEADERSHIP		
Sample 3	Laboratory Number : 702737				
of 4	Report Number : BR/377904/2006 Issue 1				
Sample Source : Cambridge Water Company					
Sample Point Description : Cambridgeshire Water Company					
Sample Description : marriott - bournemouth, cold feed water					
Sample Date : 27 September 2006		Sample Received : 04 October 2006	Analysis Complete : 10 October 2006		
Test Description	Result	Unit	Limit	Accreditation	Method
Iron, Total as Fe	3460	ug/l	200	B	SBC44

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. IS = Insufficient sample

BEFORE THE INSTALLATION OF THE NMR PIPETECTOR

13 Days After Installation
(Domestic Hot Water)

Certificate of Analysis


1314
0897
1229
1510

Sample 2 Laboratory Number: 711905
of 2 Report Number: BR/379206/2006 Issue 1

Sample Source: Cambridge Water Company
Sample Point Description: Cambridgeshire Water Company
Sample Description: MARRIOTT, BOURNEMOUTH MAIN KITCHEN HOT
Sample Date: 10 October 2006 Sample Received: 10 October 2006 Analysis Complete: 12 October 2006




Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	<7	ug/l	200	B	SBC44

Accreditation Codes: * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered, IS = Insufficient sample

Signed:  Name: T. Down Date: 13 October 2006
Title: Production Manager

13 Days After Installation
(Main Kitchen Cold)

Certificate of Analysis

1314
0897
1229
1510

Sample 1 Laboratory Number: 711904
of 2 Report Number: BR/379206/2006 Issue 1

Sample Source: Cambridge Water Company
Sample Point Description: Cambridgeshire Water Company
Sample Description: MARRIOTT, BOURNEMOUTH MAIN KITCHEN COLD
Sample Date: 10 October 2006 Sample Received: 10 October 2006 Analysis Complete: 12 October 2006

Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	<7	ug/l	200	B	SBC44

Accreditation Codes: * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered, IS = Insufficient sample