MONARCH WATER

Scaleout Success Story - continued

Date of Report: 23rd January 2014

Objective: To ascertain the effectiveness of Monarch Scaleout within a working environment.

Water Hardness: 574ppm – source Walpole water treatment works – Essex & Suffolk Water.

pH levels: 7.24 pre-Scaleout.
7.22 post-Scaleout

Equipment to be protected: Under sink hot water heater supplying hot water taps in toilet and kitchen with water heated to 60° C.

Evaluation period: 5th Sept 2012 to 22nd Jan 2014 – a total of 72 weeks (16+ months).

Application:
The hot water heater was previously protected by an ion exchange water softener. The softener was installed in the autumn of 2003 and had worked successfully until it was placed on bypass on 13th July 2012 to allow the system to do a controlled build of scale over an 8 week period.

The softener was removed on the 5th September 2012 and the pipework was revamped to include the installation of new isolating valves for the Scaleout and the post filter – see Pic 1.

The Scaleout was installed by David Hunt, a Gas Safe qualified heating engineer and took 1.75 hours.

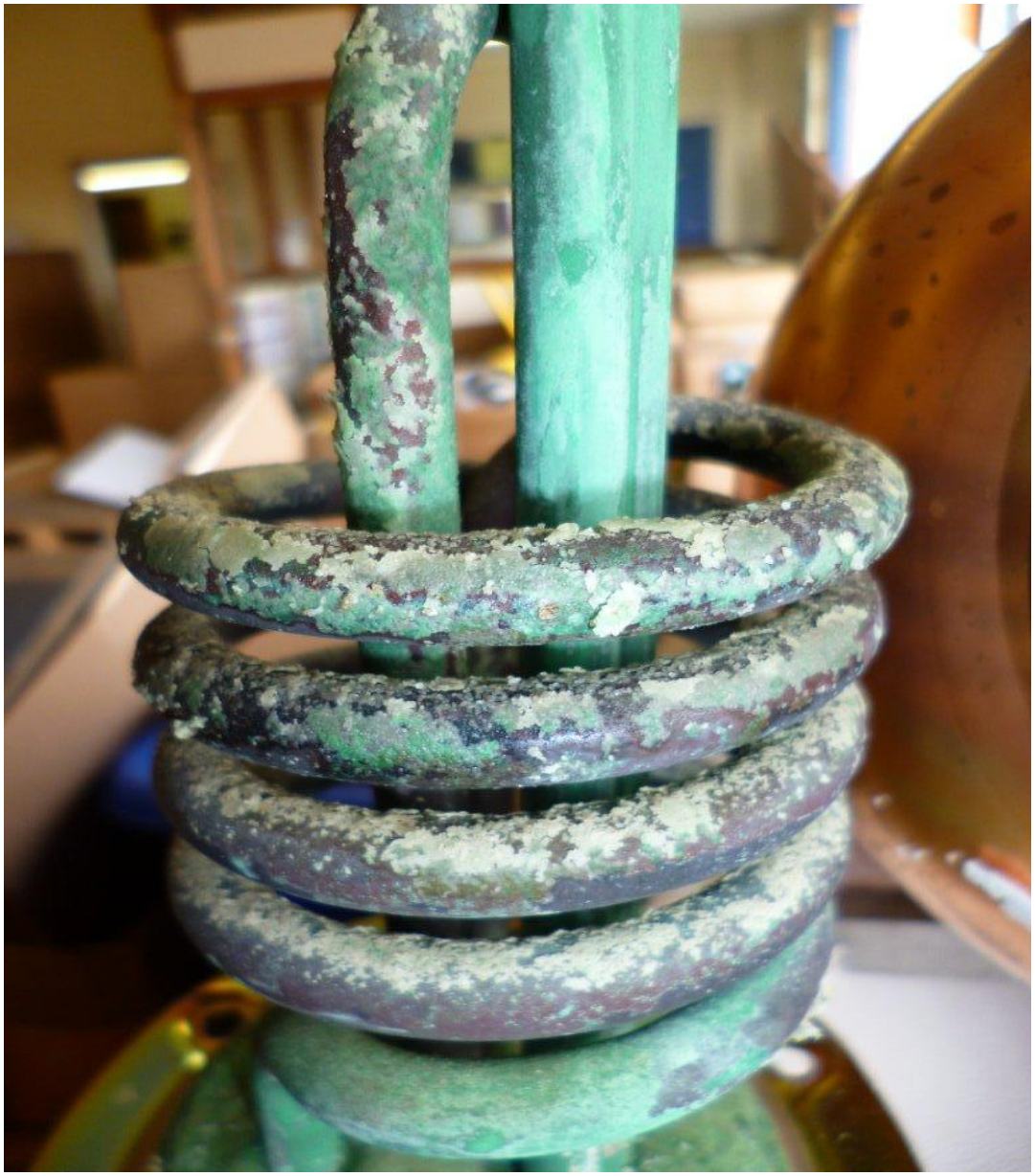
Pic 1

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

5th September 2012.
The under sink water heater was removed and photographs were taken of the scale build up on the element from the 8 week period – see Pic 2.

The Scaleout and SPF10 post filter was installed.



Pic 2

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

15th March 2013.

The under sink water heater was removed again and photographs were taken of the element and inside the pressurised tank.

Upon removal the element was brushed with a soft brush and the minute level of soft scale was easily removed.

This covering the 27 week period of having the Scaleout installed – see Pic 3.

The pressurised tank had a small amount of loose soft scale that was easily removed with a vacuum cleaner to confirm that no scale was adhering to anywhere within the tank – see Pic 4

Pic 3

Pic 4

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

1st Stage Results:

The under sink water heater had operated continuously for a period of 27 weeks without interruption and with no need of service or attention.

2nd Stage:

22nd January 2014

A follow up service was implemented to ascertain the effectiveness of the Scaleout. The hot water heater was removed by Iain MacQueen, an Unvented Storage System qualified engineer and took approx. 1hr – see Pic 5.

Pic 5

Photographs were taken of the element and inside the pressurised tank. This covered the full 72 week period since the Scaleout was installed.

The pressurised tank had a small amount of loose soft scale – see Pic 6.

Pic 6

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

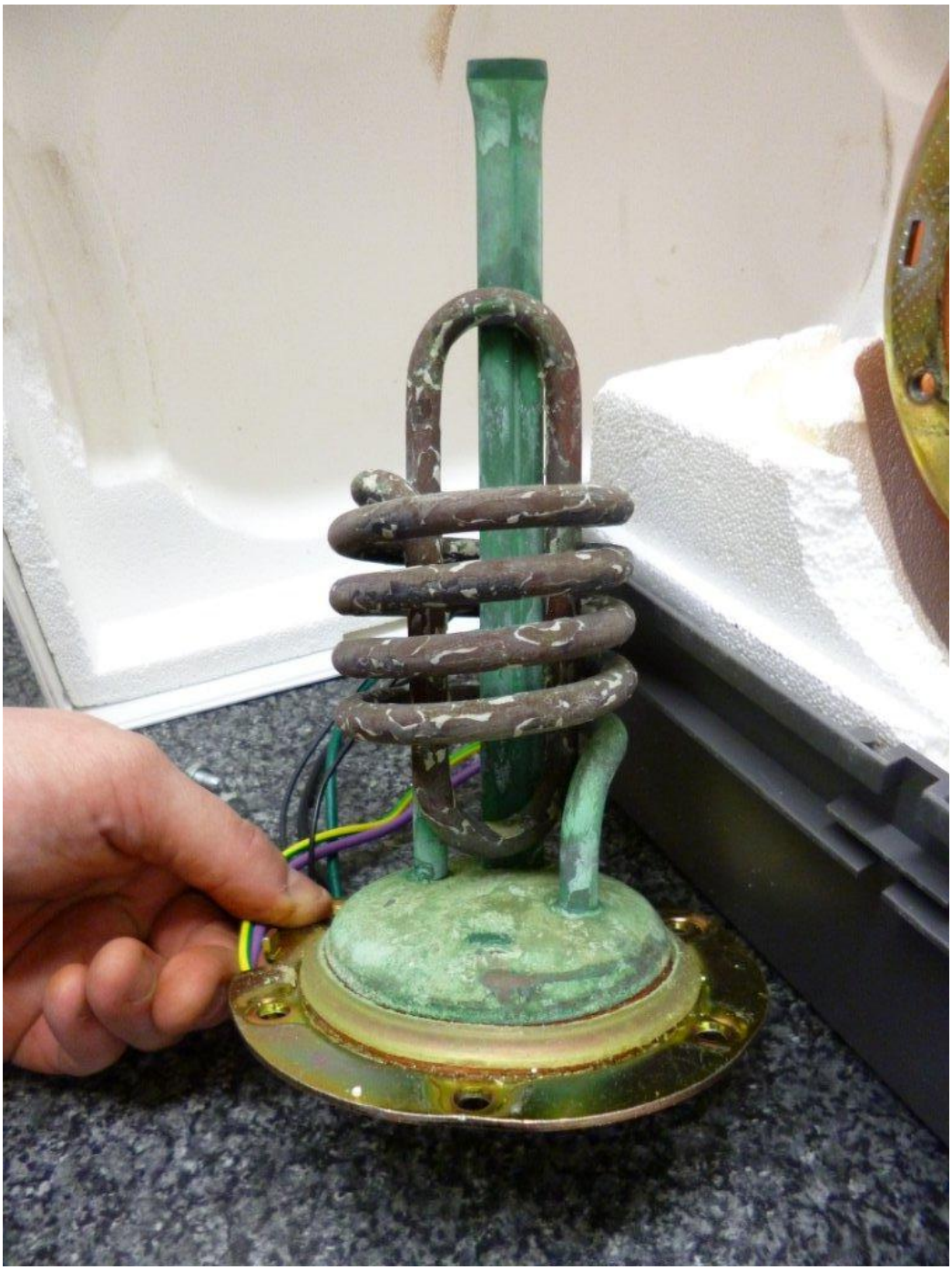
The loose soft scale was easily removed with a vacuum cleaner to confirm that no scale was adhering to anywhere within the tank – see Pic 7.

Pic 7

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

Upon removal the element was brushed with a soft brush (see left hand side of Pic 9) and the minute level of soft scale was easily removed – see Pic 8 and Pic 9.

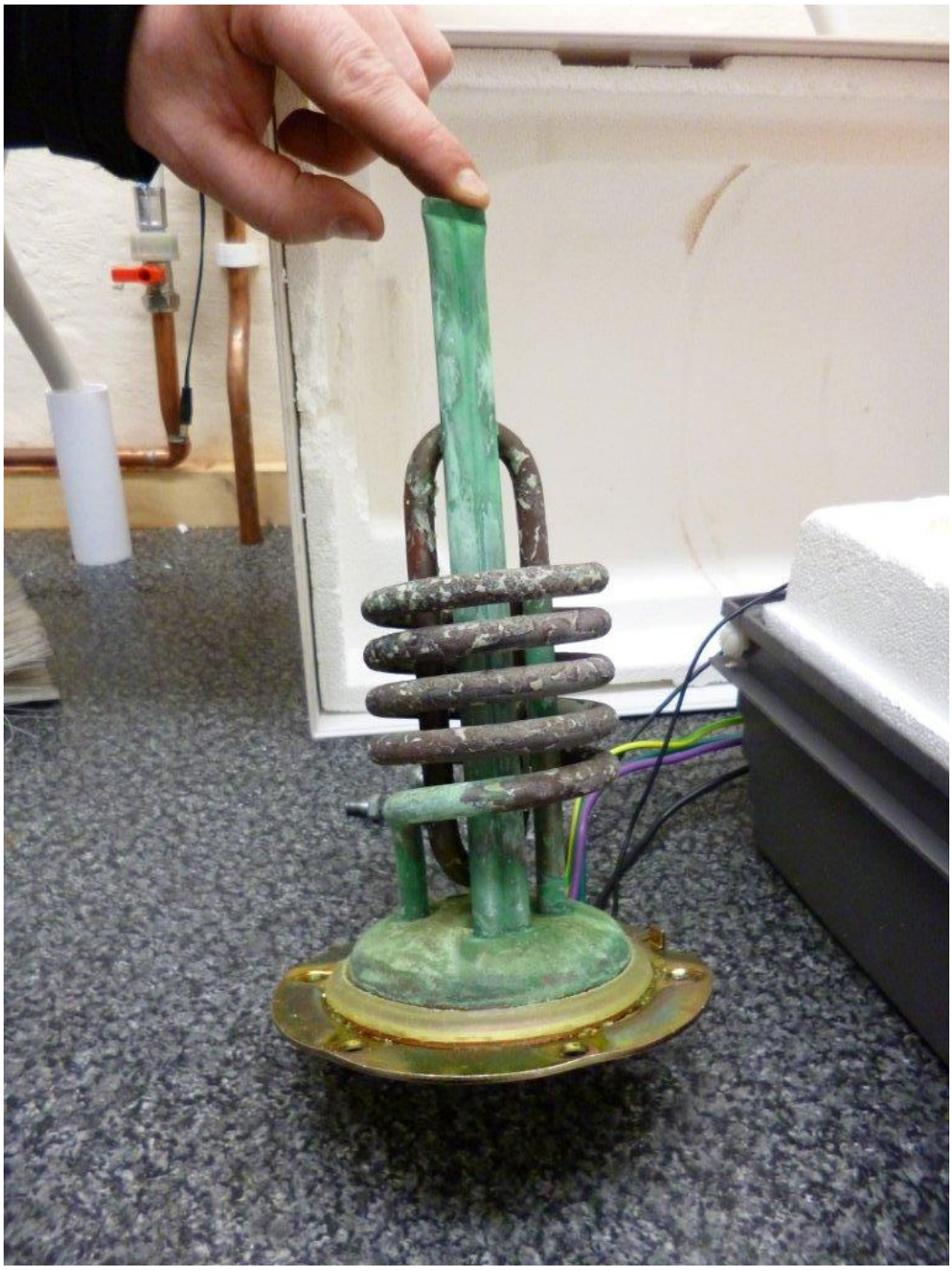


Pic 8

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

Heater element with soft scale removed with soft hand brush (see left hand side of pic)



Pic 9

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

3rd Stage Results:

A further inspection by Mr Iain MacQueen was undertaken on 23rd October, 111 weeks from initial installation. The tank was completely free of scale.

The picture is below. The results are exceptional…

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk

MONARCH WATER

Final Stage Results:
The under sink water heater had operated continuously for a period of 111 weeks without interruption and with no need of service or attention. The estimated throughput in this period is in excess of 32,000 litres.

The Scaleout is based on Filtersorb SP3 resin with an SPF10 (10 micron) post filter.
The Scaleout model was an S15C – **15**mm mains supply suitable for a **C**ombination boiler.
Scaleout is a registered Trademark of Monarch Water Ltd.

Conclusion:
The Monarch Scaleout …

- Initially removed significant levels of existing scale deposits that resulted from the controlled build up period.
- Provided continual protection against scale deposits from water hardness of 574ppm over the 111 week period.
- Showed no alteration to the pH levels.

PH was measured using an Oakton BNC WD3563414 pH Tester and was calibrated prior to use.

Approvals and compliances:
BS6920 Material compatibility
NSF/ANSI-61: Drinking water system components by WQA

The average water hardness in the UK is between 300-350ppm.
END:

With thanks to…

Mr David Hunt
Mr Iain MacQueen - I.D.M Trading Ltd

Monarch Water Ltd, Halesworth Road, Bramfield, Suffolk, IP19 9HP
Tel: 01986 784759 Fax: 01986 784769 Email: sales@monarchwater.co.uk Web: www.scaleout.co.uk