



The Forensic Investigation of Domestic Property Fraud

CII Local Institutes Conference 2019

18 September 2019

Andy Ingle & Dr Christabel Fitzpatrick

Learning Objectives

To gain an appreciation of:

- The common causes of escapes of water
- The evidence that may help identify a manufactured escape
- What a forensic investigation might look like.

Agenda

- Introductions
- EoW - Its not just one of those things
- Causes of Escapes of Water
- EoW Case Study 1 – Crop Circles
- EoW Case Study 2 – The “Dodgy Olive”
- IFED Case Study
- Questions

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- Fire investigation
- Fire engineering
- Mechanical and materials engineering
- Escapes of water
- Chemical engineering
- Contamination and pollution
- Electrical engineering
- Power generation
- Building, Civil and Structural engineering
- Highways engineering
- Hydrology and flooding
- Personal and workplace injury
- Burglaries and fraud claims
- Road traffic accidents
- Rail incidents
- Marine incidents
- Acoustic and sound engineering



Introductions



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Its not just one of those things

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Dr Christabel Fitzpatrick

What's the point in all this?

- Reduce (eliminate) fraudulent escape of water claims
- Learn about the common causes of escapes of water
- Provide you with practical advice to help you identify potential fraudulent cases.

CAUSES OF ESCAPES OF WATER

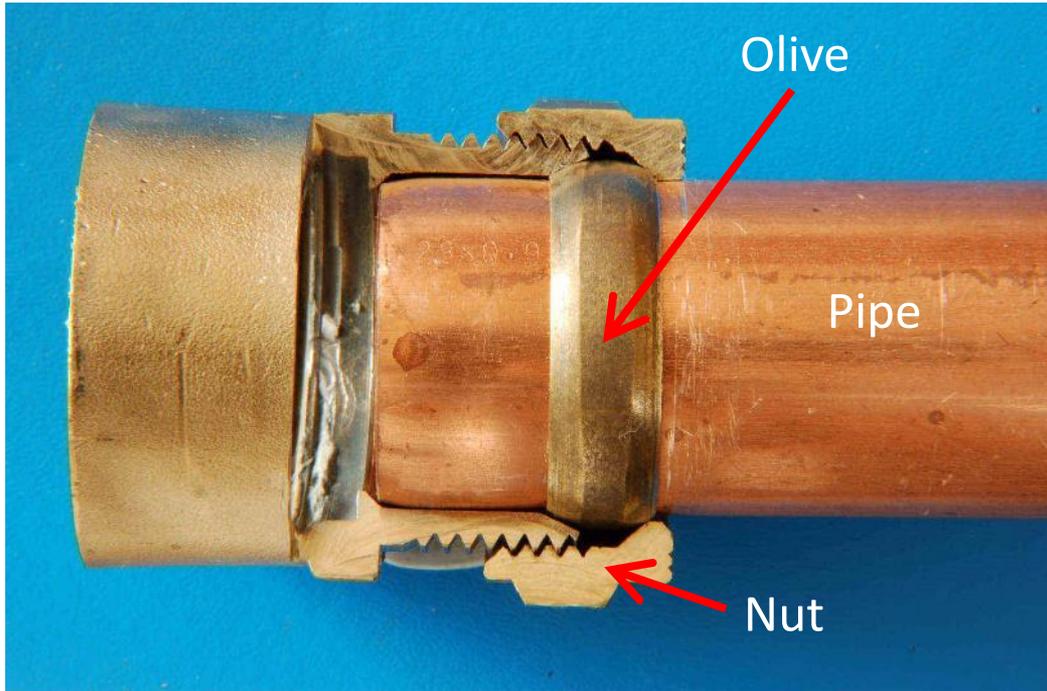
Plumbing failures

- Installation failures
- Material failures
- System failures
- Fraud

Signs and Symptoms

- All of these failure types leave characteristic features
- Analysis of these features can help us to determine why something failed
- Fraudulent cases might be identified by;
 - A lack of characteristic features
 - Additional features
 - Unexpected features, or those which are inconsistent with the “story”
- Can we replicate the features?

Separated joints



Separated joints

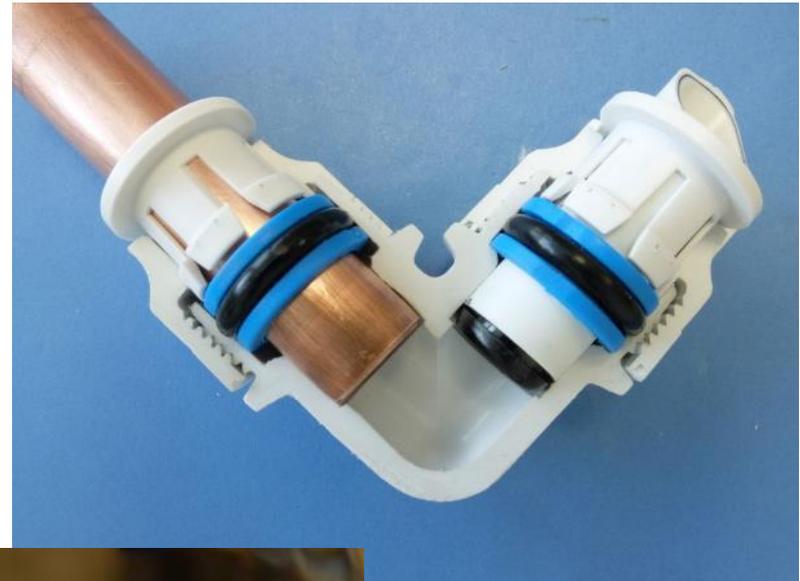
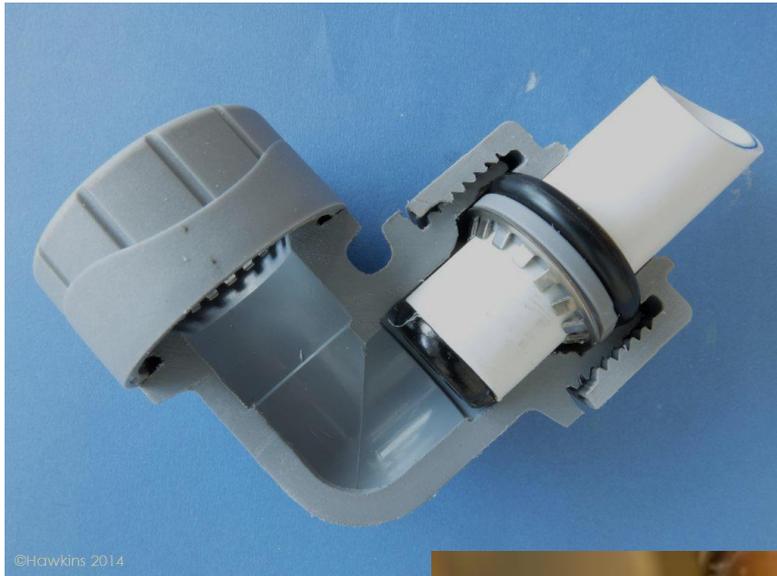


Separated joints

- Witness marks showing evidence of installation
- Joints that have been repaired will often exhibit multiple sets of marks
- The pipe end is just as important as the fitting
- Extremely large forces are required to pull apart a well made joint



Separated joints



Separated joints

- The pipe is more useful than the fitting
- Plastic pipe is perfect for preserving witness marks
- Replicate damage in repeatable tests
- If the pipe is reused the original separation marks will still be present
- If there are no marks present then the pipe was never inside the joint (this could be poor workmanship as well)



Material failures



Material Failures

- When a material fractures, patterns in the surface are created.
- If the surfaces are preserved these clues can help establish what has occurred
- The fracture patterns tell us where a crack started and how quickly it grew.
- The patterns can also indicate when unusual forces have been applied and in what direction.



Every action leaves a mark



- Be on the look out for:
 - Tool marks
 - Smooth surfaces
 - Fractures in unusual areas
 - Lots of jagged cracks
- Do not put the fracture surfaces back together!

Other considerations:

- System type
 - High pressure?
 - Closed system?
- History of the building
 - Maintenance records
 - General care
- Has there been any recent changes
 - How could those changes affect the system
- Patterns of water damage
- Does the story match the evidence?



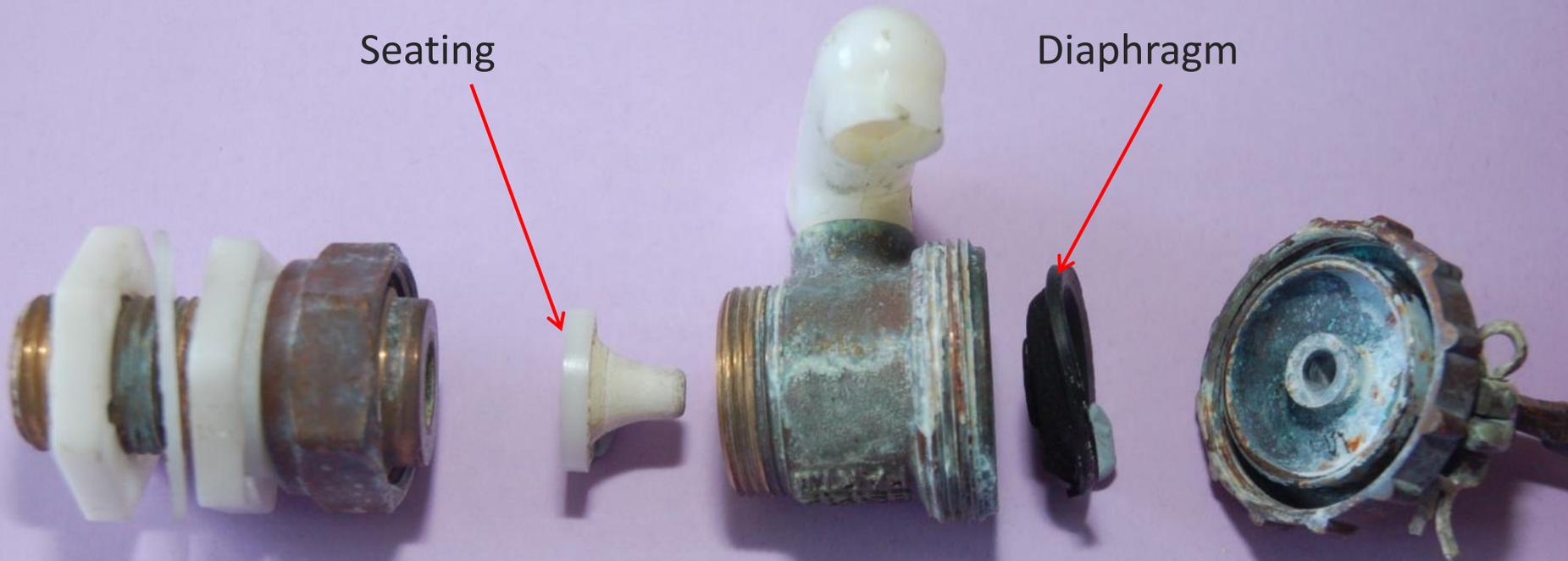
THE CASE OF THE CROP CIRCLES





Seating

Diaphragm







THE CASE OF THE “DODGY OLIVE”





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Practical advice

- Stay aware
- Ask the insured to keep any parts that are removed (and try to obtain them as soon as possible)
- Ask the insured to photograph the source of the leak before a plumber visits
- Take details of the system when visiting the site
- Keep any fracture surfaces apart. Do not reinsert pipes into fittings

Summary

- Ask questions
- Think about the system and the failure type
- Most escapes of water create physical evidence that is not destroyed during the incident
- ...Even if the joint is repaired!
- Look for the witness marks
 - Are there any marks where there shouldn't be?
 - Is there a lack of any marks or repairs?
- Always ask 'why now' and 'what changed'

THANK YOU FOR LISTENING

The Forensic Investigation of Escapes of Water

IFED CASE STUDY – THE INSIDE JOB

Background

- December 2016 – Approach by Insurer’s Counter Fraud Unit
- Conspiracy to defraud Insurer of £279,641 by;
 - Insurer’s in-house loss adjuster, Kevin Macey.
 - Insurer’s policyholder, Debbie Starkings.
- **82** payments, across **8** separate claims, over **4** years;
 - 5 claims in Starkings’ name
 - 2 claims at Starkings’ home in Portsmouth

The scene of (part of) the crime?



- Purchase: 4 November 2013
- EoW: 29 November 2013
- Storm damage: 24 December 2013
- Both claims investigated by Macey
- Repairs scheduled by Macey
- Cash settled on basis of scheduled costs
- “Buildings” payments of approx. £50k

But, had the claimed damage actually occurred?

The EoW Claim (according to Macey)

- “ **Tank leaked** - extensive damage to **kitchen, lounge and main bedroom** ”.
(Source: Repair schedule prepared by Macey on 7 December 2013)

Policyholder lives there with teenage daughter and is a sales rep. I have dealt with p/h a couple of times at the previous addresses in Lower Farlingto Road and she is a genuine straightforward lady with no evidence of any moral hazards.

It appears the feed to water tank has failed allowing water to pour through the bedroom ceiling and to the lounge and kitchen below that.

Policyholder partner is a general retired builder and he has fixed the pipe. Believes probably knocked when storing things in the loft after the move. I have inspected the pipe and confirm genuine incident. Although third claim and recent moved I have no IU concerns.

The Storm claim (according to Macey)

- “ **Storm damage to roof** resulting in **water ingress** ”.

(Source: Repair schedule prepared by Macey on 25 January 2013)

Policyholders were away in Thailand for two weeks and came back to discover the bedroom , lounge and diningroom and kitchen all water damaged.

She called her contractors [REDACTED] to investigate and they confirmed they had suffered major damage to the main roof of the property and have tried to do a temp repair but will require urgent attention.

I have inspected the damage and confirm genuine storm damage to main roof however there is betterment involved so will scope and make offer.

Internally the property has just been finished following a large EOW and policyholder is clearly devastated at the damage !!

I will cope internally which have not been quoted for as they are roofers and she is looking to get her partner to do these works again.

The Storm claim – Contractor's quote

Date: 06/1/2014

Our Ref Water Penetration and Proposed remedial works.

Dear Mrs Starkings

Thank you for your kind instructions to inspect and report on remedial works to your home.

Survey.

A site survey has been carried out to determine the likely cause and nature of remedial works required.

Severe water penetration has been noted in the Groundfloor hallway, adjacent to the Stairwell. In all likelihood, this is a result of a combination of factors. The front gable appears to be constructed of solid 9in brickwork, as indicated by the corbel and capping detail to the top of the gable. This area is also severely distorted resulting in the gable 'leaning back' towards the roof.

It maybe, that originally it was constructed as a partial cavity or solid construction with an open porch arrangement at ground floor level. The first floor appears to have been dry-lined, presumably on studs or battens as first floor level. The addition of a recent porch, means that any water soaking into the gable above, tracks into the living accommodation below. Inserting a cavity tray, if indeed there is a cavity below the first floor window, is unlikely to resolve the problem entirely, as water will still be able to penetrate through the gable at roof level.

The Storm claim – Contractor's quote

Remedial works.

Because of the nature of its construction and its inherent difficulties in satisfactorily weatherproofing, it is proposed to remove the brickwork above the roof line. Then, extending the roof over the top of the gable, bedding an undercloak, fixing a breathable membrane, with battens and finishing with a rain screen, of Red Western Cedar to match the existing house.

The Internal damage can then be made good.

Scope & nature of Works.

To erect a suitable scaffolding.

To carefully cut out brickwork above the existing roof line and reduce down.

To carefully cut out and remove brick corbel details.

To make good with brick/blockwork inserting remedial ties and straps.

To strip back existing clay roof tiles and set aside.

To supply and fix Tyvek breathable roof membrane, tanalized roofing battens and additional tiles.

To set out new undercloak to provide suitable overhang and point in new verge with black mortar.

To supply and fit Tyvek Housewrap breathable membrane, fixed with 25x38 tanalized battens.

To supply and fix Clear Red Western Cedar Cladding (recommend face fixing using 3.65 Stainless Steel annular ringshanks rather than 'secret nailed').

To supply and fix 50x50 Cedar corner battens.

To apply two in coats of finishing Oil.

To clear all debris from site.

Labour & materials £4472.00

Pre-visit sources of information

£164,995
Freehold



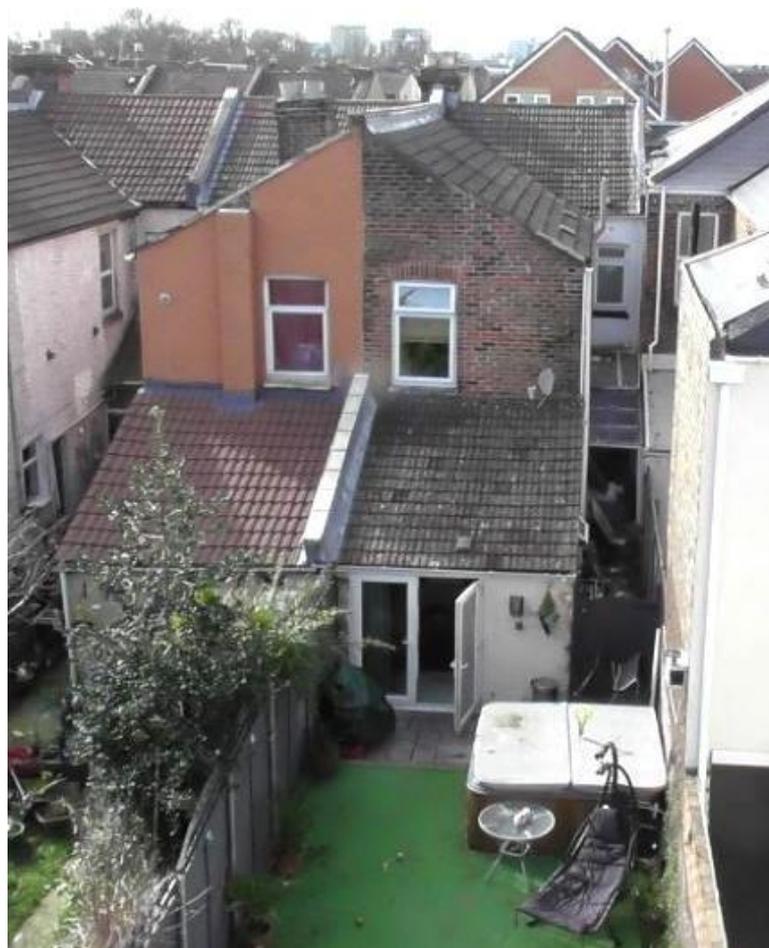
**ALN
SCHOOL
CATCHMENT
AREA**



- Three Bedrooms
- 22' Lounge
- 22' Kitchen/Breakfast Room
- Two Off Road Parking Spaces



The Scene Examination





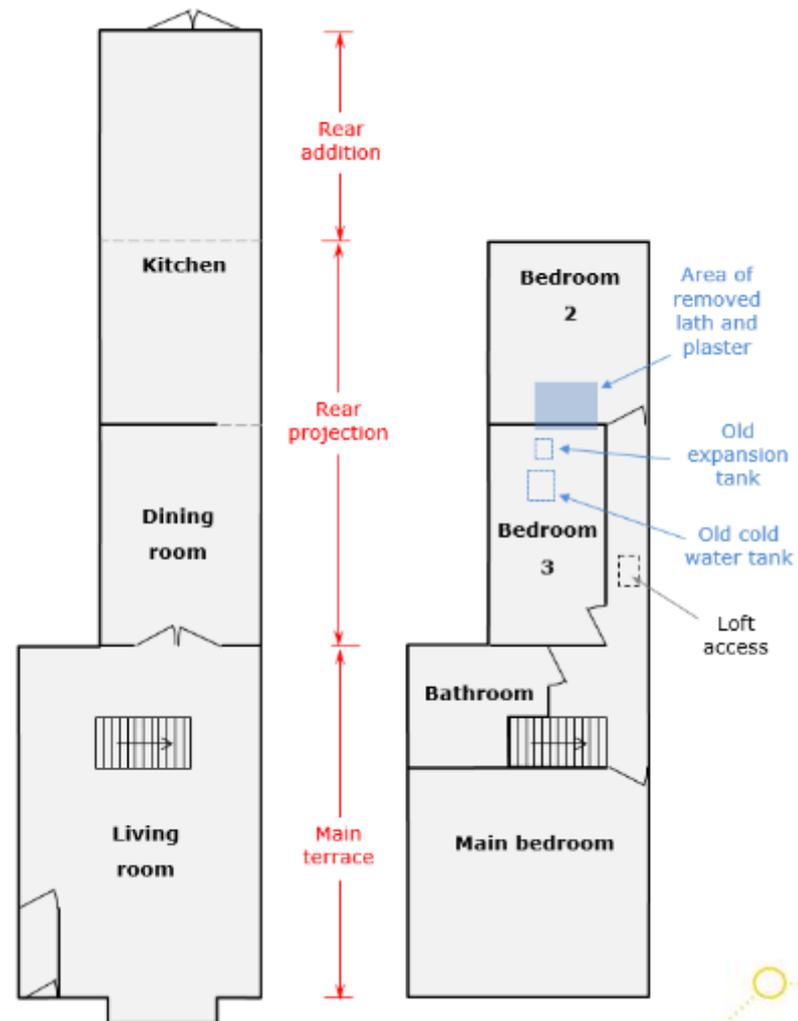
**Lath and
plaster ceiling**

**Bituminous
underfelt to
front pitch**

Main terrace loft, looking towards the front

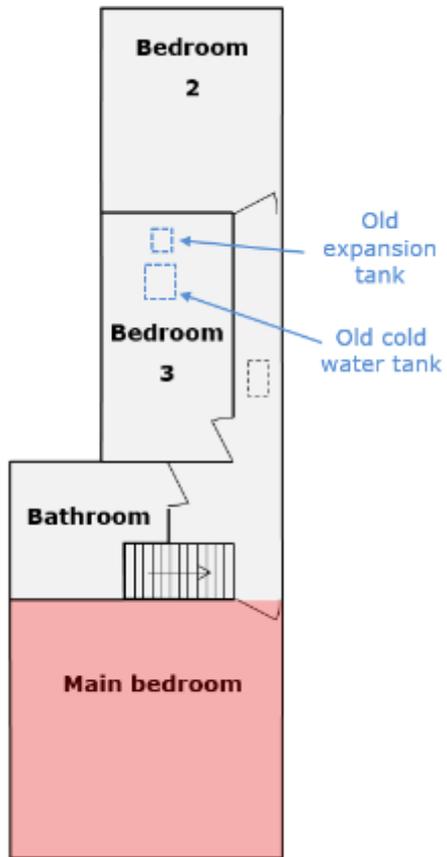


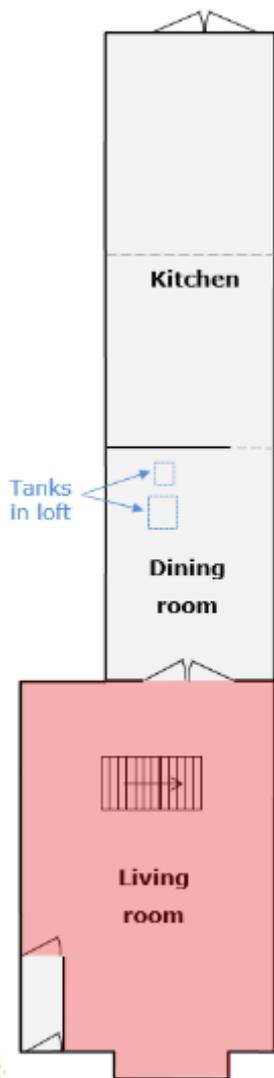
Main terrace loft, looking towards the rear

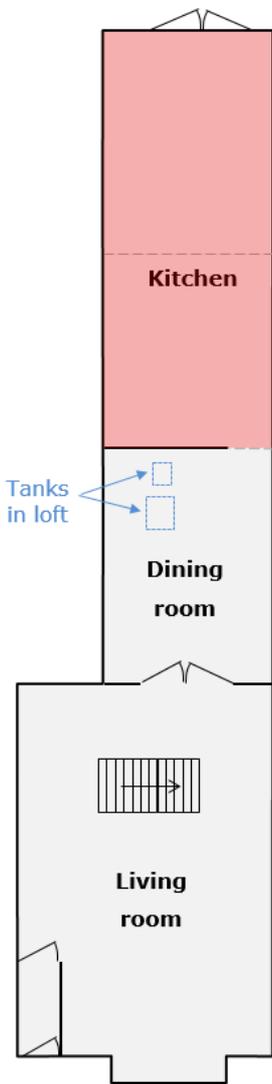


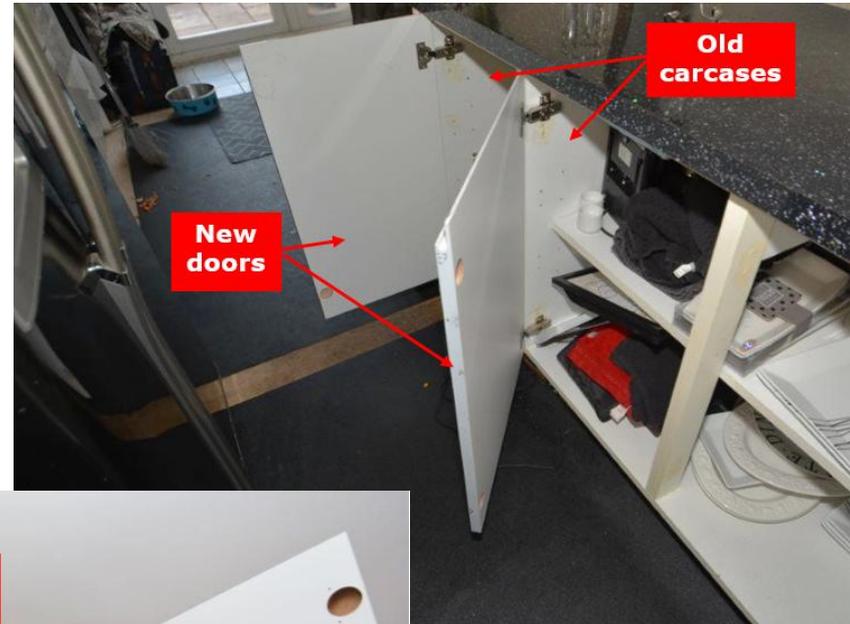
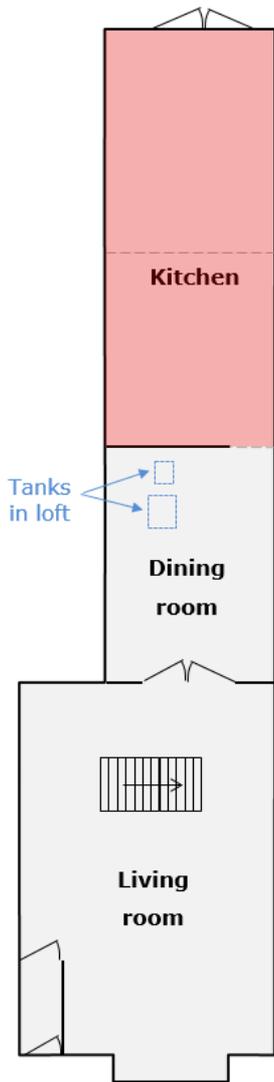


Lath and plaster ceiling to rear of tanks replaced









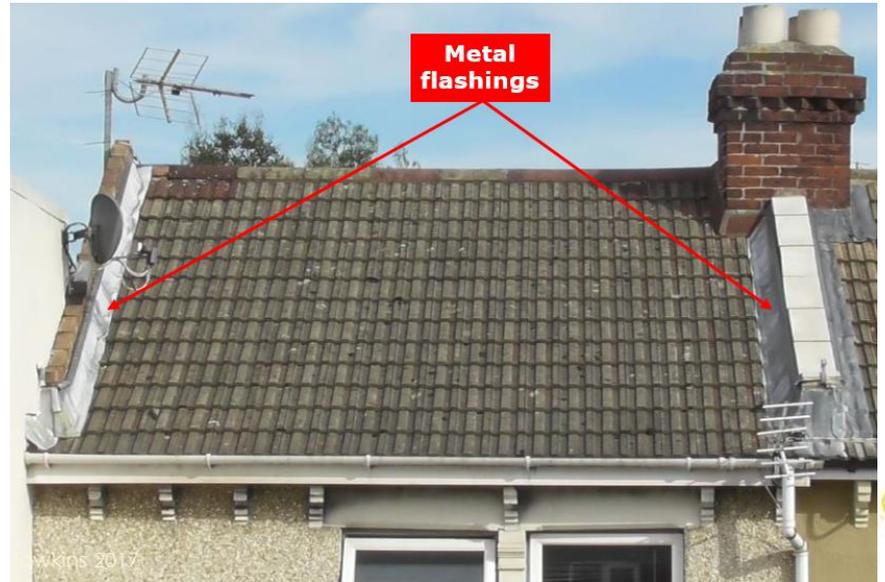
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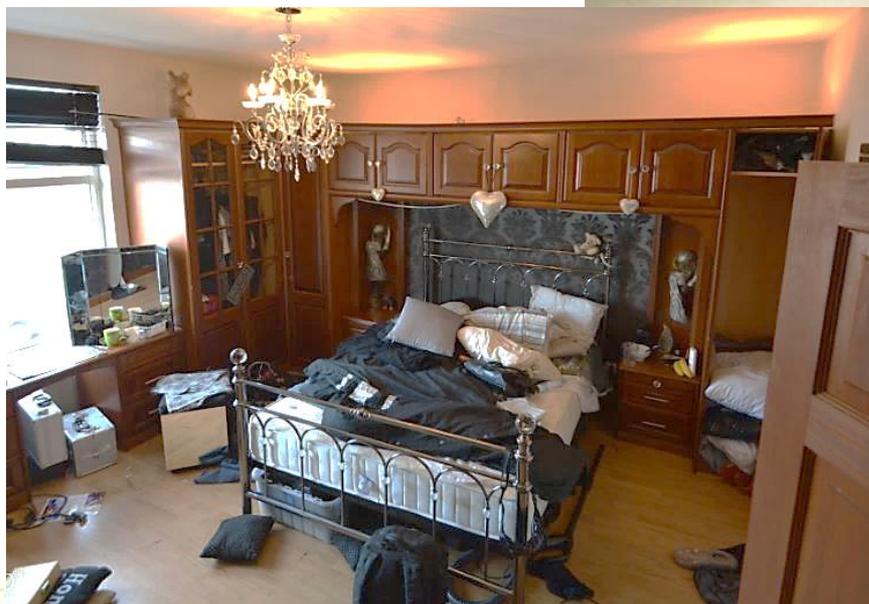
**Chimney
next door**

**Tiles
replaced**

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Before and after....



Before and after....



The Outcome



Macey and Starkings at Portsmouth Crown Court

(Pictures: Solent News & Photo Agency)

Summary

Hopefully, we've given you:

- An understanding of the common causes of escapes of water.
- Some practical advice to help you identify potential fraudulent cases.
- An insight into what a forensic investigation can deliver.

Thank you for listening and.....

