

Prometheus Forensic Services Ltd

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We are an independent company specialising in matters relating to all types of fires and also explosions caused by gas and flammable liquids. We provide a comprehensive service from crime scene to court room. Prometheus Forensic Services can be contacted 24 hours a day, 365 days a year.

Prometheus scientists have over 50 years experience in the criminal justice system and have worked on many high profile and complex cases, including murders, and have given expert testimony in all types of courts in the UK and internationally.

We are dedicated to providing a balanced, impartial and timely service to all our clients.

Fire Scene Investigation

Attendance at fire and some types of explosion scenes principally to establish where, how and when the fire started. Each investigation is independent and follows a scientific and methodological process to ensure that all possibilities have been considered.

With experience of fires in dwellings, commercial premises, vehicles and those involving fatalities, amongst others, our scientists can thoroughly investigate the physical damage at the scene to determine the origin and cause of the fire.

We can examine a fire scene in order to determine whether or not an insured party has met their obligations. We can conduct a brief screening investigation of an incident and use our expertise to determine whether or not there appears to be sufficient evidence available to allow meaningful conclusions to be reached following a full investigation. The likelihood of being able to reach a conclusion will be discussed with the client in order to determine whether or not to proceed with the full investigation.

Depending on the requirements of the client we can either provide a preliminary report within 48 hours or a full statement or report once all the required information has been received. We will always endeavour to keep in close contact with our clients by telephone throughout the investigation.

Gas/Vapour Explosions

We have extensive knowledge and experience of investigating deflagrations such as mains gas and flammable liquid vapour explosions, including those incidents associated with LPG cylinders.

These types of incidents can cause devastating structural damage to the building of origin and the surrounding area. The detailed and meticulous approach we employ at scenes is essential to recover all the available evidence in order to determine the cause and origin of the deflagration.

Arc Mapping

If a room or property is completely destroyed by a fire it could still be possible to use the electrical appliances and installation within a room to determine where the fire started. Once we have

established where the electrical system was first attacked by the fire it is then possible to narrow down the viable ignition sources within that area.

Vehicle Fire Examinations

Vehicles can be both cause and victim of fire. We can examine fire damaged vehicles in order to determine where the fire started and, if possible and appropriate, the component responsible.

Laboratory Examinations

“Flashburning” examination of clothing

Garments and footwear can be examined visually and microscopically for the presence of heat damage caused by the exposure to heat or flame. This is particularly useful if it has been alleged that the wearer of the clothing was present at the ignition of a volatile flammable liquid. The type and distribution of the damage allows us to differentiate between several possible heat sources.

Ignitable liquid residues (accelerants)

The interpretation of analytical results from clothing, scene debris and liquid samples can be undertaken. This can be important when there are disputes involving the ignition propensity of the ignitable liquid, the type and origin of liquid present and the potential legitimacy of the storage of some liquids.

Burning Tests

We have undertaken many experiments to determine whether or not certain materials are capable of being ignited, under what conditions they will burn, how they behave whilst burning and the post fire effects on the item. If these tests are required then we can design a suitable test, facilitate the organisation of the test procedure and carry out the tests.

Devices

Petrol bombs and incendiary devices are encountered frequently and may provide evidence which links one device or bomb to another or to a ‘factory’. Additionally if a small incendiary device is found but not activated we can replicate the device and determine what the effects could have been if it had operated.

A ‘petrol bomb’ is classified as an explosive substance under the 1883 Explosive Substances Act. We are able to determine if a device is a petrol bomb, in accordance with the Act. Incendiary devices can be examined, reconstructed where necessary, and their viability assessed.

Appliances

Gas, electric and liquid fuel appliances are a potential cause of a fire and sometimes need to be examined for evidence of faults or misuse.

Most structures have an electricity supply and as such they can contain a large number of electrical appliances, certainly most households have an increasing number of appliances in them. It is necessary to include or exclude these appliances as potential causes of a fire.

If an appliance has been damaged by a fire it is possible for it to be examined and vital information can be gained from even the most severely damaged item.

Temperature Measurements

Electrical appliances, such as irons and hair straighteners, produce heat that can be sufficient to cause burns. We can measure the temperature these and other appliances reach.

Smoke Detector Examination

Smoke detectors can be examined to determine whether or not they have sounded during the fire.

Endangerment to Life Assessment

We can give an opinion on whether or not a fire posed a risk to the lives of the occupants of a property. If the fire was discovered and extinguished early in its development, we can also give an opinion on the potential spread of a fire following an incident and whether or not that spread could have endangered any occupants or persons in neighbouring properties.

Case Reviews

Following an investigation there are several reasons an independent review could be necessary. We can review the fire related reports and work of other scientists as well as witness statements and other case papers and give an opinion on the fire, the examinations and the reports.

Statement Reviews in urgent cases, where a case is close to court or possibly already at court for example, can be undertaken to review the statement of the opposing scientist and offer alternative hypotheses where appropriate.

Other Services

Report and Statement Preparation

Case Conferences

Providing expert testimony at court

Qualifications and Professional Memberships

Iain Peck:	B.Sc. (1996) M.Sc. (1997) CRFP (Incident Evaluation and Fire Debris Analysis 2003-2009) CRFP Assessor (2009) Member of the Chartered Society of Forensic Sciences
Emma Wilson:	B.Sc. (2000) M.Sc. (2002) Member of the Chartered Society of Forensic Sciences Member of the International Association of Arson Investigators Member of the UK Association of Fire Investigators
Simon Smith:	MSc. (2016) Member of the Chartered Society of Forensic Sciences