FIREPOINT

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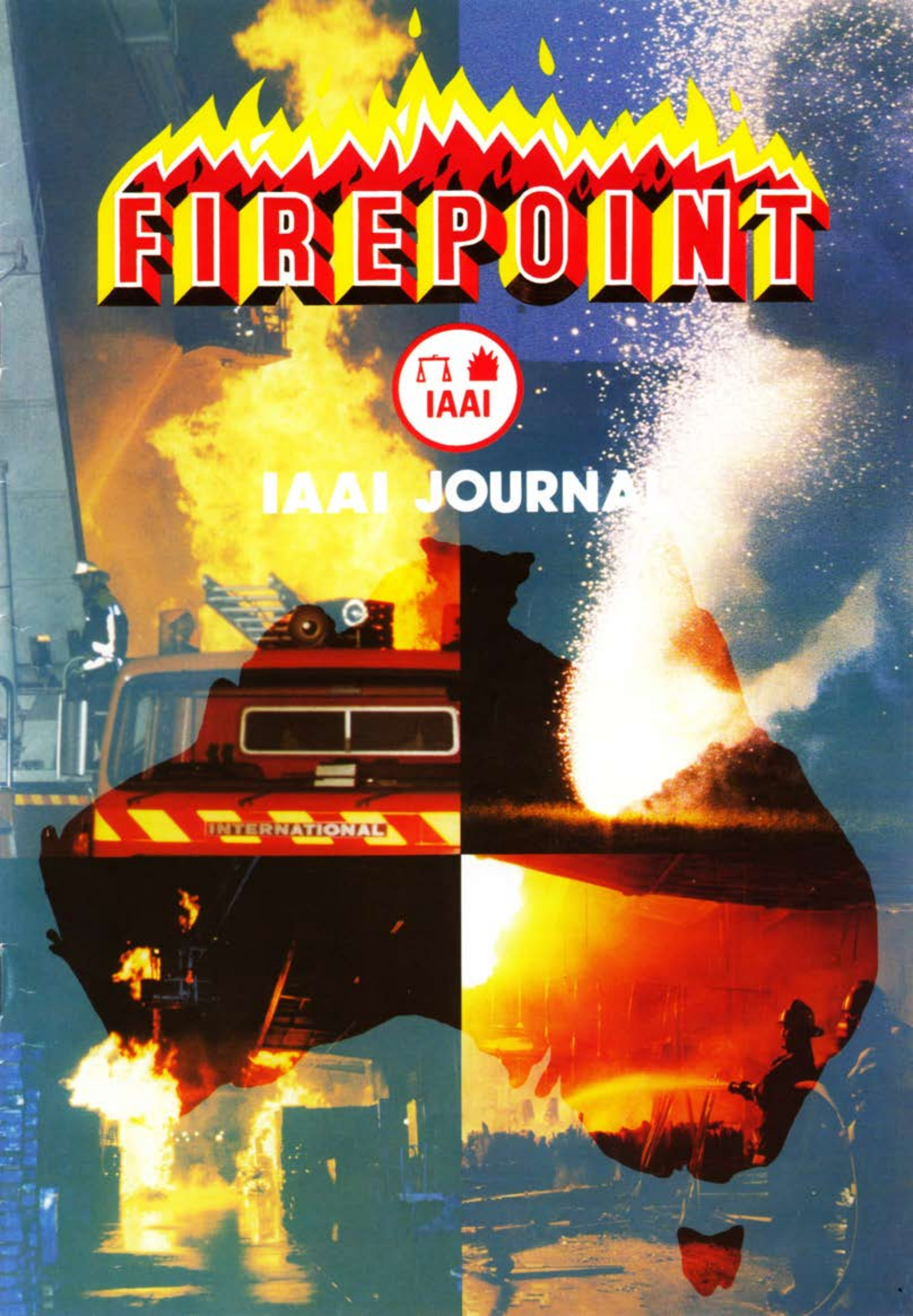

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FIREPOINT: IF YOU HAVEN'T PAID YOUR FEES FOR THE CURRENT YEAR, PLEASE DO SO NOW.

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EDITORIAL

This issue features two articles from members of the NSW Rural Fire Service. The articles each examine a case study of a fire in country NSW, and illustrates the work the Rutal Fire Service is doing in fire investigation.

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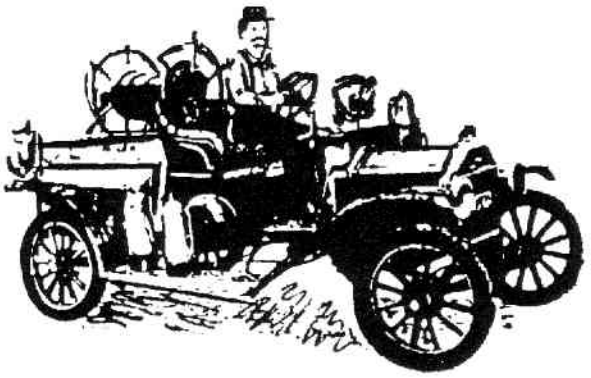
The types of fires in city and country may vary, but the basic methodology for origin and cause investigation remains the same, as these articles show.

Wal Stern



Lightning Strike.
A Case Study in Wildfire Investigation.

Jeff Compton,
Authorised Fire Investigator,
NSW Rural Fire Service.

Abstract: A fire occurred in a rugged and remote location, 85 km West of Sydney. A multi-agency fire investigation team was established and an investigation into the cause and origin of this fire was undertaken. With witness information and a helicopter over-flight, the team established a general area of origin.

Examination of the fireground revealed indicators which led the team to the stump of a tree which had been struck by lightning causing the fire. No lightning strike had been recorded by the lightning tracking system in use at the time.

The NSW Rural Fire Service (RFS) makes determinations of the cause and origin of fires which occur in the geographical area for which it is responsible. In the financial year 2009 to 2010, the RFS attended 8,397 fires (NSW Rural Fire Service, 2010). While these are predominantly bush and grass fires, the RFS does attend structure and vehicle fires and a cause and origin determination is expected for each incident.

Generally, determinations are made by the officer in charge of the incident (NSW RFS, 2009), but if they are unable to make a determination and in cases where death or injury has occurred or more than $100,000 damage has resulted or there is significant public interest or a person is suspected of having caused the fire, an authorised fire investigator is tasked to make the determination.

The RFS currently has more than 80 authorised fire investigators. Most are volunteers and many are trained in both structure and wildfire investigation. There is an active program of in-service continuing education, skill building, training and mentoring. RFS investigators work closely with the NSW Police, Fire and Rescue NSW and the NSW Forensic Services Group and are involved in training of other RFS members and fire research.

In this case a fire was reported on the morning of 25th October 2006 in the area of Barkers Creek. The fire was located in the Sydney water catchment, about 85 km due West of the Sydney CBD, on a rugged sandstone plateau just West of Lake Burragorang, the storage dam for most of Sydney's water. Access to the site for fire fighting was problematic, so a heavy reliance was made on aerial fire fighting and remote area fire fighting teams (RAFT).

The considerable expense, the potential risk to Sydney's water supply and the fact that a large plume of smoke could be seen from the city

generated considerable public interest.

Fire investigation was requested and the author was tasked to undertake the work. A fire investigation team was assembled comprising, in addition to the author, a NSW Police Officer and a Forensic Services Group Fire Investigator.

At the time of the investigation, the fire was still burning, but was within containment lines. Wildfire investigation is conducted using the scientific method (DeHaan 2002 p. 555). The investigation commenced with the team collecting information from the fire Incident Management Team. A member of that team, also an RFS Authorised Fire Investigator, provided fire information and the author was able to ascertain that a National Parks and Wildlife Service Ranger had seen smoke from the fire about 9 am on the morning the fire was reported and a NSW Parks and Wildlife Service helicopter, tasked to investigate a smoke sighting, had seen the fire at about 11:20 am, that morning.

The ranger told the author that as he was driving to work from his home in the Blue Mountains he had seen a small, but intense storm over the area where the fire started. He also gave information about the area, generally, in particular that access was strictly forbidden (the area is catchment for Sydney's drinking water) and that the prohibition is enforced (the area is Schedule 1 land) and that the area is very rugged and inaccessible.

The helicopter crew was able to provide information about the fire and some photos of it in its early stages (Figure 1.), a GPS grid reference for its location and an offer to overfly the site.

Accordingly, the investigation team overflew the fireground and area where the aircrew first spotted the fire with the hypothesis that the fire had started within the area the crew had first seen it, as the result of a storm generated lightning strike.

Air support for fire investigation can be very useful. The ability to fly high over the fireground, particularly if it is large can assist in identifying and documenting "V" or "U" pattern macro indicators formed as the fire spreads from its point of origin, driven by wind and or terrain, expanding and widening, forming a "V" or "U" shape, with the area of origin at the pointed part of the "V" (NSW RFS Training Services, 2004 p. 25).

It can also enable an overall view of the suspected area of origin and can facilitate investigation planning in relation to approach routes, hazard identification and other safety factors. In cases where access is difficult helicopter insertion into helipads can be beneficial and winch or rappelling insertions are also theoretically possible.

In this case, little was added to the investigation by the over flight. The team did get a good impression of the fireground. There was a large area of eucalypt forest, burned and continuing to burn on the top of a large sandstone plateau, under moderate weather conditions, which resulted in moderate fire behaviour (Figure 2.). The area was very rugged and

inaccessible. The general appearance of the suspected area of origin was consistent with fire commencing there (the bush was less damaged in comparison with the surrounding scene), and the co-ordinates of the location were confirmed and waypointed on a GPS unit. The aircrew pointed out the limits of the fire they had seen and the investigation team adopted this as the general area of origin. Nothing was seen to support the lightning strike hypothesis and no other information to suggest an alternate cause was evident.

In consultation with the Incident Management Team and the Air Operations Manager, the team felt examination of the scene was safe and practical and that a hike from a helipad 750 metres from the general area of origin, although rugged, was the best option.

The following day the team was inserted into the helipad and hiked, guided by the GPS unit to the general area of origin. Upon arrival it could be seen that, within that area, there was a 3 metre tall white mahogany tree stump, heavily charred (Figure 3.).

The team then walked the perimeter of the general area of origin noting advancing indicators in an effort to identify a run of fire. Advancing indicators are made by the most intense part of the fire as it spreads away from its point of origin, driven by wind or slope or fuel loads.

In this case, the team could identify foliage freeze (where leaves are softened by the heat of the fire, pushed in the direction the fire is advancing by wind and remain in that position when the fire passes and they dehydrate, cool and harden. Angle of char indicators were also evident (where the sloping angle of the flames of advancing fire – much the same as a candle flame angles when it is blown by wind, char structures which stand in its way. (NSW RFS Training Services 2004, pp. 20-22).

These advancing fire indicators enabled the identification of a run of advancing fire, which had burned in a south-easterly direction up a hillside. Moving from one indicator to the next the investigators followed this run of fire down slope. Flanking indicators were soon visible to the east and west.

The leaves no longer demonstrated foliage freeze, but leaf curl was evident (the softened leaves, in the lower intensity, flanking part of the fire were not driven by the wind, so drooped down rather than pointed). Die out patches were also present (where the low intensity fire had self extinguished) and grass stem indicators were evident (grass stems when burned off at ground level will fall; in the advancing part of the fire, they fall into the path of the fire and are consumed, whereas in the flanks or heel of the fire they fall into already burned ground and will lie there, unconsumed (NSW RFS Training Services 2004 pp. 19-22).

Based on the confluence of these indicators into a transition zone, the team was able to identify a specific area of origin, a roughly circular area about 3 metres in diameter where the fire had originated. Within that area stood the tree stump which had been

had noted earlier. It was now examined more closely (Figure 3.).

It was found to be very heavily burned, especially in relation to surrounding trees. Its branches, also heavily burned, lay on the ground around it and much of the bark was on the ground, leaving the stump heavily charred and alligatored (DeHaan, 2002 p. 263). The team felt that this tree had been struck by lightning, its branches and bark blown off by the explosive force of the strike and the almost instantaneous conversion of its sap to steam (DeHaan, 2002 p. 146). The tree, branches and bark caught fire as the result of sudden heating from the electrical resistance and fire spread from it to the surrounding bush.

The fireground was examined for other evidence. It was felt impractical to dig looking for evidence of fulgurite formation (DeHaan, 2002 p. 263). The team felt that although the sandy soil would have been amenable to the formation of a fulgurite (the super heating of the sand in the soil causes it to melt and fuses it together in a glassy structure). It was likely that the tree had earthed the strike through its roots and any fulgurite would lie amongst them and the extensive digging required was beyond the resources available.

No evidence was found to suggest another cause for the fire. In particular there was not evidence of human presence at the site.

The team returned to the helipad and was extracted.

Further data was collected upon return to the control centre. The team extracted the weather data from the Bureau of Meteorology web site for the period preceding the report of the fire and records of lightning strikes were retrieved from the RFS web site.

In this case, no lightning strikes were recorded in the 24 hour period before the fire was reported, within a 10 km radius of the fire scene. The team interpreted this to be a technology failure, rather than disproof of the hypothesis.

At the conclusion of the investigation, the team determined that a point of origin had been located. Based on witness reports and fireground evidence, lightning strike was the suspected cause. Other causes of wildfire were eliminated.

Acknowledgments. The author would like to acknowledge the assistance of his fellow investigators at this incident. Craig McVey of the NSW Police and Matt Cullen of the Forensic Services Group. Thanks also to Tony Leonard (NSW RFS AFI) for his assistance with the manuscript.

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Spontaneous Combustion – Was it or Wasn't it?

A Case Study of Spontaneous Combustion in hay (shed) fires.

Tony Leonard
Authorised Fire Investigator. NSW Rural Fire Service

Fire Investigators in semi and rural areas may be called on to investigate fire in hay or hay sheds.

In February, 2011, NSW Rural Fire Service units attended a hay shed fire on a rural property. The attendance of a Fire Investigator was requested due to the amount of damage and the cause of the fire was not able to be determined at the time.

As an Authorised Fire Investigator, I was tasked to attend the scene. On arrival, I was confronted with 20m x 10m hay shed with four 5m wide bays, (see Site Sketch 1). The shed was steel framed and iron clad, in a severely damaged condition (replacement value approximately $35,000).

The Incident Controller (IC) told me that, on his arrival, tractors in Bays 2 and 3 were well alight, with the tractor in Bay 3 burning strongest. There was no visible flame to the hay in front of the tractor in Bay 2 (there was no hay in front of the tractor in Bay 3).

Suppression was initially conducted by application of water. Once controlled, the decision was made by the IC to have the remaining hay and the tractors removed. The hay could then be pulled apart and watered down as needed. Some of the hay had been destroyed by fire with the bulk of it remaining as a charred, soggy mass following its removal after initial suppression.

I found that Bay 1 contained old lucerne hay, Bay 2 contained old lucerne hay at the rear with fresh (4 day old) lucerne hay to the front. Bay 3 contained only loose hay on the floor at the rear of the shed and Bay 4 contained oaten hay. Electric cables (240v) traversed the rear wall. The hay bales were approximately 40x45x100cm. The total amount of hay was estimated to be between 3200 and 3500 bales, valued at $8 each (with an estimated value of over $25,600).

The tractors were parked front in to the shed with the rear just inside roof cover in Bays 2 (82hp John Deere), 3 (64 hp John Deere) and 4 (50hp Massey Ferguson). The tractors in bay 2 and 3 were totally destroyed and the tractor in Bay 4 suffered severe damage with the fire sparing only the rear left tyre and mud guard. The combined estimated value of the tractors was $80,000. There had been a plastic trailer between the tractor in Bay 4 and the west wall. (See site sketch 2)

I then examined the scene in more detail. I found that the area of least damage was toward the front of the shed (from centre to east side) and the area of hottest fire was in the rear south east corner, along the rear (south) wall to the south west corner and along the inner west wall towards

the front (north) and was consistent with various indicators, including sooting, metal twisting and heat damage to the hay. This enabled me to determine that the General Area of Origin was between Bay 1 and Bay 2, toward the front (north).

Having determined the General Area of Origin, I undertook a closer scene examination to determine a Specific Area of Origin, but at this stage I was not able to narrow the area of origin further. However, the following day I was given some photographs, taken by the Duty Officer during suppression, which gave me information enabling me to determine the Specific Area of Origin.

From my investigation of the scene, I hypothesized there were four possible causes of the fire:

- Electrical (shorting of the 240v electrical wiring at the rear of the shed)
- Spontaneous combustion
- Mechanical / electrical – 12 volt system to tractor Bay 2 (as the result of a fault on the tractor)
- an incendiary applied to the tractor had to be considered.

I first tested the hypothesis of an electrical cause from the wiring at the rear of the shed. I was able to eliminate this hypothesis having already determined that the fire did not start near the rear wall. Nor did it explain the spread patterns, fire behaviour and damage to the tractors. There was no evidence of any past problems with the electrical system.

One accidental cause down, two to go.

I then tested the hypothesis of spontaneous combustion.

Spontaneous combustion in hay is a condition where the hay catches fire without any apparent ignition source. The presence of moisture, heat and microbial activity causes the production of heat which, being unable to escape the densely packed bale, may raise the temperature to the point of ignition [>230° C] (Griffiths, 2009 p1). The temperature can be 200° C if the oxygen level is high enough (Mickan, 2006, p1). Hazelton (page 1) suggests the culprit is microbial activity, which in the presence of moisture, heats the hay to auto ignition temperature (as above).

Harper and Peace (2004, p1) feel that, in the rush of hay making, with impending rain, farmers and contractors are under great pressure to complete hay baling and have hay 'safely' in the shed.

As a general rule (Hazelton, 2004, p2), the time required from heating to combustion is 2 to 10 weeks (usually closer to the latter), depending on storage and climatic conditions and on the moisture content of the forage (hay).

The literature indicates that for the safe baling of hay the moisture content (the amount of water, in any form, expressed as a percentage, found in any material or substance) should be less than 18% (all temperature and humidity or moisture levels referred to are those within the bales, rather than ambient). Over 20% the risk of heating increases.

If the hay is baled with 25-35% moisture content, then spontaneous combustion is more likely. Small rectangular bales (as in this study) with lower density will tend to dissipate moisture after baling, whereas large rectangular and round bales tend to hold moisture and should have a baling moisture content <16%. However, tightly stacked rectangular bales restrict air movement and allow heat to build (Griffiths, 2009, p1; Harper and Peace, 2204, p2; Hazelton, 2004, p1)

Crop type also affects spontaneous combustion as uneven crops with varying yield and a mixture of leaf and stem are prone to uneven drying and higher moisture content when baled (Griffiths, 2009, p1).

With the required moisture content and the relative humidity within the bale must be between 95 and 97% (Hazelton, 2004 page 2). Microbial activity (breeding, feeding and growth of fungi and bacteria) will create an internal temperature up to 70^0C. When the temperature reaches between 70 and 80^0C, thermal death of microbes takes place, but subsequent rapid oxidation of reactive compounds within the hay causes a further temperature rise to 231 to 274^0 C, the ignition point of hay.

Spontaneous combustion is usually a slow process and, as stated above, usually takes 2 to 10 weeks (Griffiths, 2009, p2). Rarely however, where conditions of weather, hay condition at baling time, method of baling and method of stacking are all at their most conducive, spontaneous combustion can occur in as little as 6 or 7 days (Harper and Peace, 2004 p3).

Once spontaneous combustion takes place, the centre of the bale starts to smoulder/burn with fire spreading towards the outside. A set fire in hay burns from the outside to the inside. Unburned hay in a stack in which spontaneous combustion has occurred will be very dark in colour and produce a caramel or tobacco-like odour.

If a burning stack is spread apart, unburnt hay may suddenly burst into flame as oxygen is introduced. It has been thought that spontaneously ignited hay (and only spontaneously ignited hay) can result in the formation of the "hay clinker" or "clinker." Clinkers are a glassy, irregular mass, grey to green in colour and usually found near the centre of the bale where temperatures were highest and most prolonged. It had been thought that the mechanisms that produce clinkers would not be present if the fire was externally introduced to the hay (DeHaan, 2007, p184).

However, recent research indicates that clinkers can be formed regardless of the method of ignition and, as such, are an unreliable indicator as to the method of ignition (Whaley and Icove, 2011, pp18-22). *[The forthcoming 7th Edition of Kirks Fire Investigation has been amended to reflect this information.]*

Spontaneous combustion of hay can also occur during transport and can involve motor vehicles of various type and size and, can impact urban areas. I have seen three instances of spontaneous combustion in hay being transported. In one instance, a truck caught fire as it was travelling. Following suppression, as hay was

being removed from the tray of the truck, I observed charred centres in several of the bales as they broke open on hitting the ground. These bales were located in the third and fourth layers [stacked five layers high; first layer being on the bottom] and toward the front of the tray. Due to the time it takes spontaneous combustion to develop, I concluded that this condition existed well before the hay was loaded. This was confirmed by a conversation with the truck driver, also the haymaker, who told me the hay had been stacked in a shed for about eight weeks prior to being loaded and transported.

It is my opinion that, as the truck was being driven, air was forced through the bales at the upper levels providing the smouldering areas sufficient oxygen to cause open flame. In later conversation with investigating police, I discovered that a motorist had seen the truck several kilometres earlier and there was no evidence of smoke or fire at that time, proving time and oxygen ingress is important factors.

When investigating hay fires as much information as possible should be gathered regarding the moisture content of the hay when it was cut; what drying time was allowed; how long it has been stored; what the weather conditions were between baling and the fire. Weather information is important as it confirms or questions given information as to moisture content. The owner should be asked if any monitoring of the hay stack had been undertaken; if so, what measures were taken. Fire Crews should be canvassed to ascertain the nature of the fire when first observed. Was there open flame or did open flame occur when oxygen was introduced?

In this instance, I had earlier ascertained that the hay in the front section of bay 2 and immediately in front of the tractor in that Bay was cut and stacked four days previously. No evidence could be found of the bales burning from the inside outward. There was no evidence to support reasonable levels of open flame to cause the burn patterns on the hay, the fire spread or to support the conditions necessary (above) for spontaneous combustion to occur.

A photograph obtained from the Duty Officer (see Photo) showed the join of the old and new hay (before it was removed) and also depicted a 'v' pattern in front of where the subject tractor (Bay 2) had been (a 'V' pattern generates when fire burns from a point upward resulting in a 'v' or 'u' shaped stain or char.) This photograph now became pivotal in my elimination of spontaneous combustion being a cause as the 'v pattern observed resulted in heat from the tractor (in Bay 2) charring the hay directly in front of it. Hence, I eliminated spontaneous combustion as a cause as it did not explain fire spread and other evidence, including the above photograph, provided evidence to support elimination.

Two accidental causes down, one to go.

The hypothesis of tractor involvement remained to be tested. My interest lay with the tractor in Bay 2. The tractor in Bay 3 was parked about 1m west of the tractor in bay 2. Fire spread indicators suggested that its east side

(closest to tractor in Bay 2) was more damaged (showing clean burn on its east side and less damage to its right (west) rear tyre than the rest of the tractor, suggesting it had been subject to more heat on its east side as the result of the fire in the tractor in bay 2 and was probably ignited by radiated heat, or direct flame impingement from it.

I concluded that the fire began in the tractor in Bay 2 and spread from it to the tractor in Bay 3 and to the hay in front of it. Fire spread to east and south portions of the stack where it came into contact with older, dryer hay and with the available oxygen, produced open flame in those sections. The fire then spread west, via the old, loose hay on the floor against the south wall and ignited the stack in Bay 4.

The fire then burned and worked its way toward the front of the shed along the interior of the west wall where it came in contact with a small plastic trailer and the tractor in Bay 4. This explains the lack of damage to the rear left wheel and mud guard of that tractor.

I then examined the tractor, from Bay 2, to try and determine the cause of the fire. I had three hypotheses (electrical, mechanical, and incendiary) to consider. I found that there were pour and splash patterns present. I was not able to determine whether they resulted from the application of an ignitable liquid or from diesel fuel being released when the plastic fuel tank ruptured as the result of the fire or from the application of water during suppression. This cause remained unresolved.

An incendiary cause was eliminated as there was no substantive evidence to support any malicious act or use of incendiary device.

I considered an electrical short circuit the suspected cause of fire to the tractor as it fully explained fire spread, observed indicators, burn patterns and the damage subsequently caused.

I then departed the scene.

Fire Investigators determine origin and cause of the fire. When an investigation is conducted, investigators use the Scientific Method, described in NFPA 921 (Guide for Fire and Explosion Investigations). This details that a systematic approach is required when conducting investigations. The steps are described below:

- Recognise the need – a fire has occurred and a cause needs to be established;
- Define the problem – a proper investigation needs to be conducted by examining the scene and talking to crews and witnesses;
- Collect data – Facts are collected by observation;
- Analyse the data – analysis is based on the knowledge, training, experience and expertise of the investigator;
- Develop a hypothesis or hypotheses – any or each hypothesis is examined by inductive reasoning to explain what occurred. They are based on observations made at the scene and should be able to

explain the burn patterns, fire spread, ignition sequence and fire cause and origin;

- Test the hypotheses – each provable hypothesis should be able to stand the test of serious challenge. If no hypothesis can withstand and examination by deductive reasoning, the fire cause should be considered undetermined;
- Select final hypothesis – conclusions are drawn as a result of testing the hypothesis.

(NFPA 921, p16)

By following the Scientific Method and not making assumptions, the investigation was undertaken with an open mind. In this case, the indicators I observed differentiated between the areas of most and least damage and heat, which enabled the determination of a General Area of Origin. Examination of that area, along with information gained later, enabled me to determine a Specific Area of Origin and then the Point of Origin and several possible hypotheses of cause.

The process of testing these was carried out and a suspected cause was established. There were no indicators to support the fire being hot enough in front of the tractor to cause the tractor to suffer total damage (Bay 2). However, I determined the fire started within the tractor and was, therefore able to explain the fire spread and the resultant burn patterns, indicators and damage.

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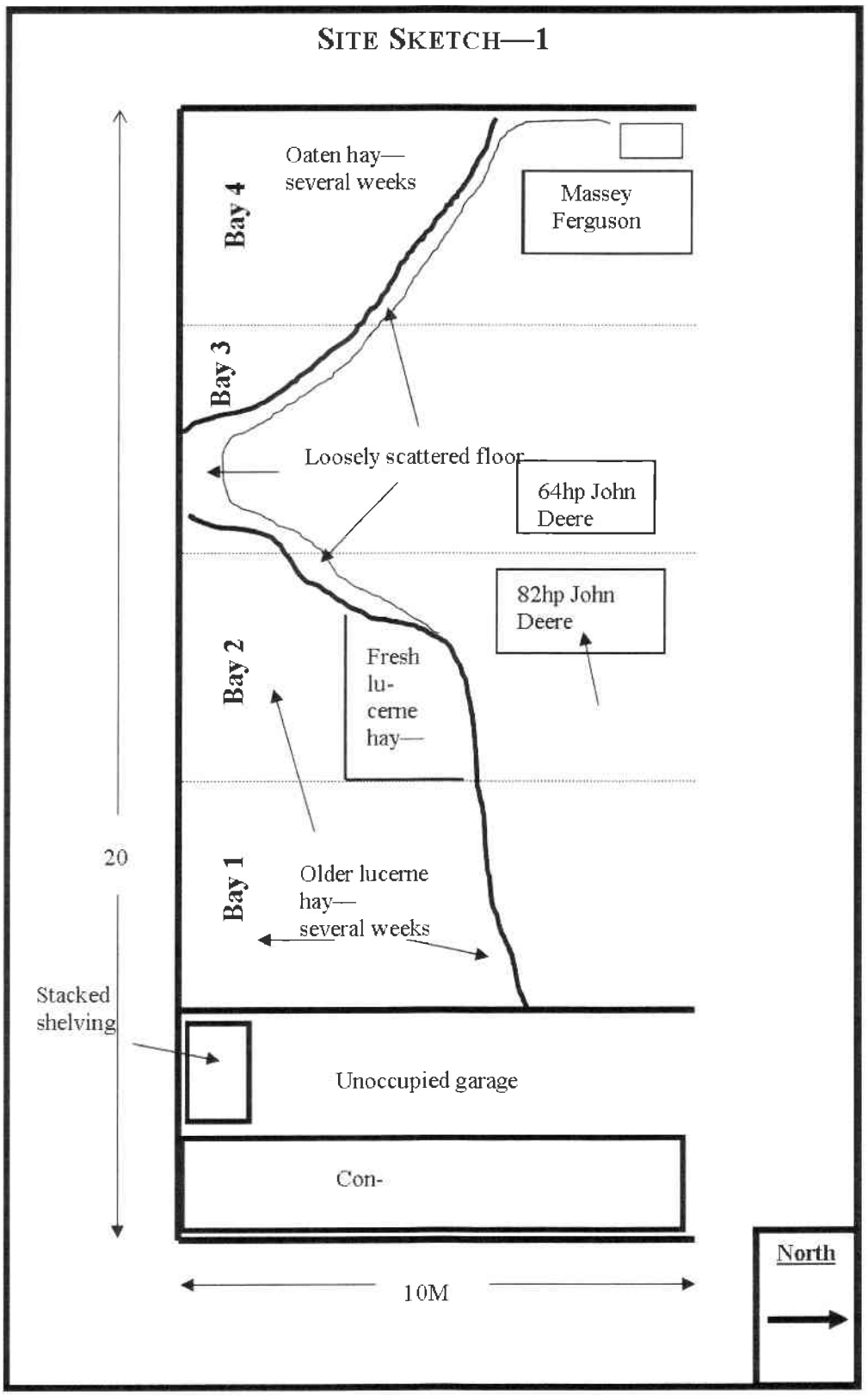
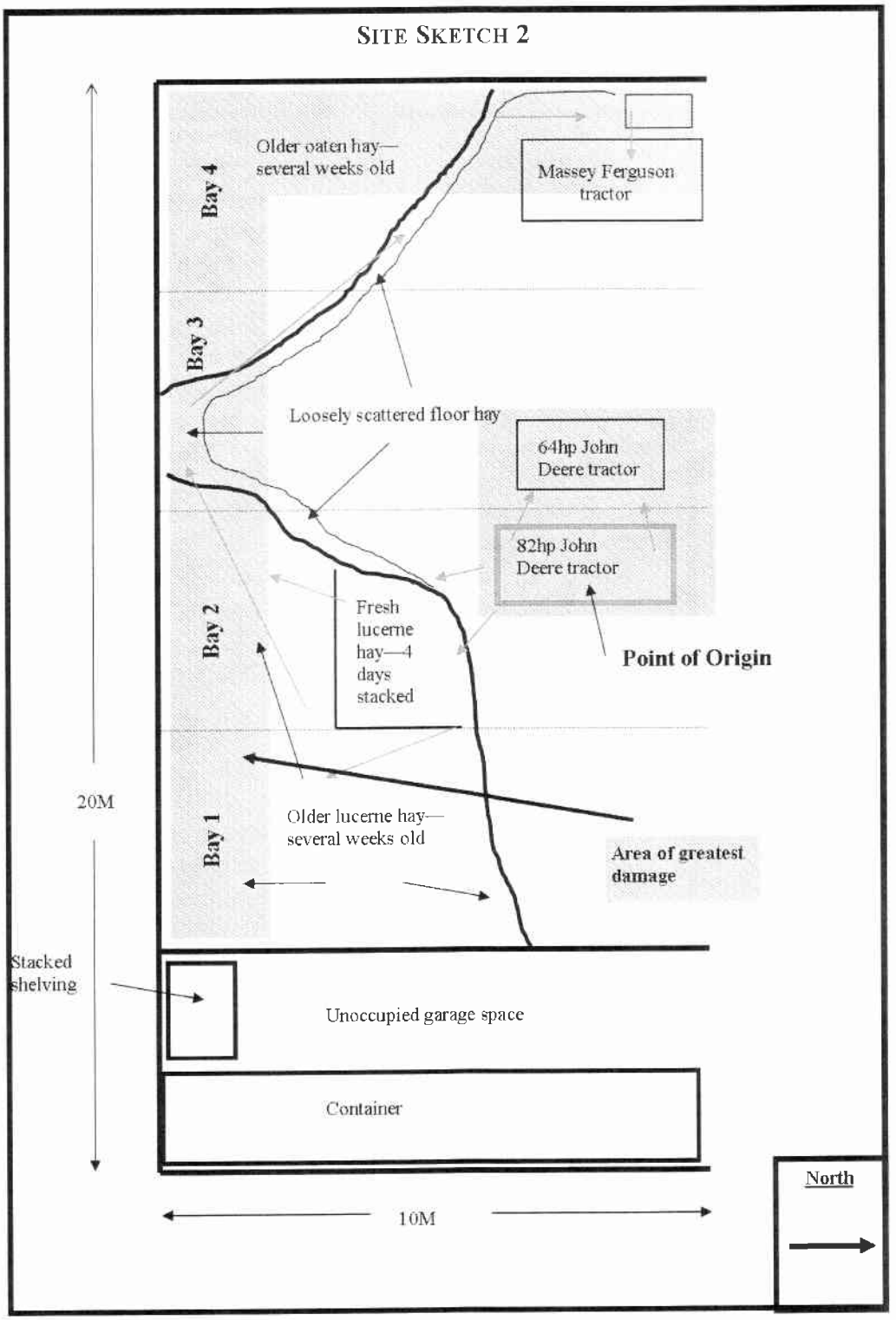
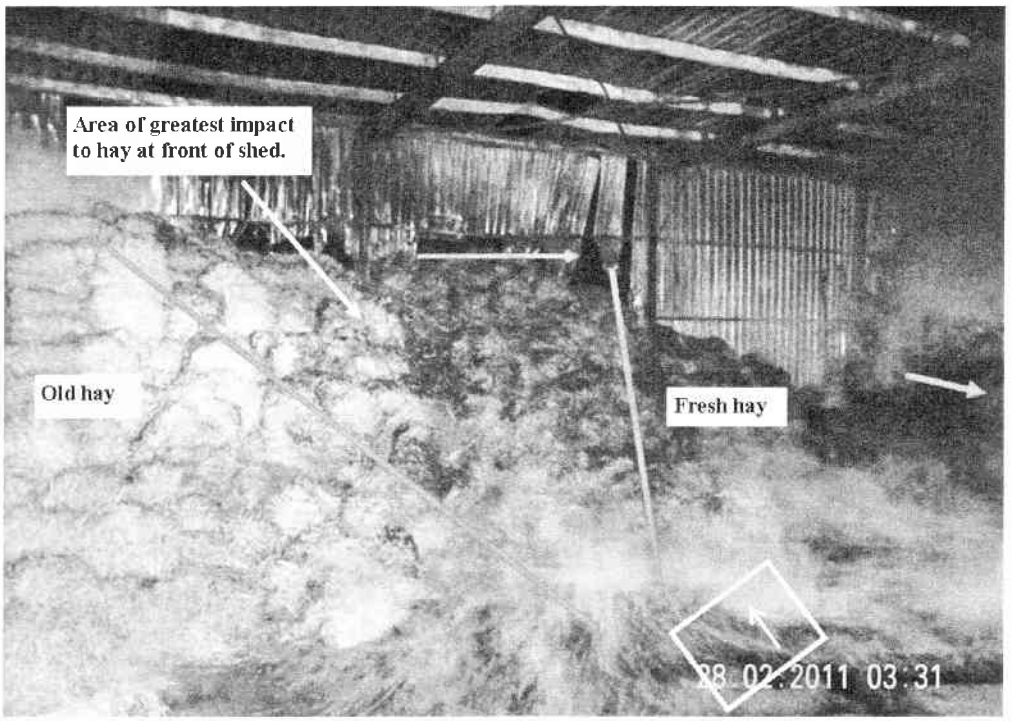

SITE SKETCH—1
Bay 4
Oaten hay—
several weeks
Massey
Ferguson
Bay 3
Loosely scattered floor
64hp John
Deere
82hp John
Deere
Bay 2
Fresh
lu-
cerne
hay—
20
Bay 1
Older lucerne
hay—
several weeks
Stacked
shelving
Unoccupied garage
Con-
10M
North

SITE SKETCH 2





Yellow square/arrow indicates position of tractor and direction facing.

Red lines indicate 'V' pattern generated by spread from tractor with spread as red arrows.

Grey arrow depicts area of most initial damage to old hay.

Left Behind Notebook Leads Fire Investigators to Arrest in Arson Case

Arrests were made in connection with a series of fires on three separate occasions in two vacant homes. The second fire occurred in a house which is located behind the first home. The third fire, which was the largest and caused the most damage, occurred at the same house as the first fire.

Investigators estimate that damage from the two fires was approximately $23,000 to the two homes. Leading to these arrests was the fact that a school notebook with the suspect's name written on the inside pages was left behind at the scene of one of the fires. This enabled investigators to positively identify a person of interest in the case.

Upon completion of their investigation, it was determined that a 14-year-old juvenile who lived in the area, along with four additional juveniles (ages 13-14), were responsible for the vandalism and setting the fires. All five juveniles confessed to starting the fires.

N.S.W. Association of Fire Investigators Inc.
(International Association of Arson Investigators (Chapter 47))

President's Message

Welcome everyone, What a start to the year 2011 has been for tragedy. Our hearts go out to everyone who was affected as a result of the Christchurch Earthquake and the Japan Earthquake and Tsunami.

I have received enquiries as to why we have not taken our Education Nights out into the NSW country. Unfortunately, as we are a voluntary committee based in Sydney and the majority of our membership is based in and around Sydney, it is difficult to please everyone, but we will attempt in the future to travel to Newcastle and Wollongong.

Have you had a look at our website yet? We will be having access shortly to be able to log in to a members only area with access to previous Firepoint magazines and with the possibility of video streaming of our education nights.

You will be also able to purchase merchandise and renew your membership on line. The website address is: www.nswafi.com.au

I would like to welcome to our association the following new members:

Daniel Newton (Private Investigator),
Doron Levy (Private Investigator)

and the following NSWRFS members: Sharon Saunders, Philip Brockett, Les O'Donnell, Gregory Green, Jason Taylor, Paul Rogers, Bruce Angus, Tony Leonard, Andrew Gilbert, Tracy McDermott, Jason Kellner, Allan Hepplewhite, and Darin Howell.

Don't forget that the second National Conference, AAFI2012, will be held in Victoria.

Stay safe.

Mark Black
President

Queensland Chapter Report

www.qafi.com.au

QAFI President's Report

The QAFI have this year opened up membership categories to include Corporate membership so companies involved in the fire investigation community can join and show their support for the ongoing training and networking goals of the QAFI.

Companies being members of the QAFI gain benefit from the aims of the QAFI to learn about causes of, and therefore reduce the incidences and damage of, fires in the community. Additionally companies can effectivly offer philanthropical support to assist in reduction of harm to the community (and Corporate members are able to obtain member rates for their staff for QAFI training seminars and the like).

If you know of a company that could benefit from being part of such an association please pass on the QAFI contact details to them, or if your company is involved in the fire investigation arena, perhaps your company could also join as a corporate member. Of course people wanting to be part of the QAFI and see the benefit in being a member of such an association should still join as individual members. Please contact Clare at qafi@uttinglibke.com.au for membership details.

The 2011 Committee have met several times to consider and plan activities for 2011 and discuss the good feedback obtained from members at the annual general meeting (thanks to **Forensic Services Australia** and **SAA Approvals** for providing meeting room facilities for the committee).

Activities scheduled so far for the year include:

- a morning seminar on 9th June where case studies will be discussed.

- a major seminar is scheduled for 15 September 2011 as a one day event. It is planned to be a training day on vehicle fires including theory and examination of pre-burnt fire scenes as well as viewing of actual burns to see the development of fire in vehicle situations. These live fire days are always well attended so please contact Clare at qafi@uttinglibke.com.au to be added to the email list for more details as they become available.

- an end of year function in November.

Also, thanks to **SAA Approvals** for again sponsoring QAFI for 2011.

Brian Richardson
President QAFI

FREE ONLINE TRAINIG COURSES

See www.cfitrainer.net for a wide variety of free courses which you can do online in various aspects of fire investigation and related issues.

Victorian Association of Fire Investigators Inc. Including Tasmania (VAFI)

Website www.vicfire.com

Progress with the arrangements for the National Conference 2012 in Melbourne is accelerating. The sub-committee headed by Brian Neal has engaged ICMS, to manage and promote the conference. This is the same organisation which managed the Sydney event last year. Calls for papers will soon be announced.

The Committee has some overseas and other speakers in the pipeline but is anxious to hear from the membership in general. You are the investigators and "firies", and your experiences are important. Remember we train each other.

Your committee continues to search for interesting topics for presentation to members. Unfortunately due to reasons beyond their control, a cancellation inconvenienced some people earlier this year.

Earlier this month a very interesting program was presented at the MFB offices in Burnley. This venue is central to many of the membership and a full house was present.

DLSC Glen Hatton spoke on Serial Arson activities intended to force compliance with demands involving an individual who evaded capture for some years but became "just a little too smart". He is presently resting at our expense in less than salubrious accommodations.

Saifudin Abdul Samat (ex Singapore Civil Defence Force) spoke about the arson activities of Triads and similar organisations, and the difficulty of obtaining witnesses willing to speak up.

Both presentations were supported by extensive power points, and questions were thoughtful. The Committee hopes to bring you further interesting presentations and to continue our presentations "up-country". You will shortly receive a flyer about our next presentation at Huntley outside Bendigo. Keep an eye on the web page.

So far this year there has been no application for the VAFI scholarship. Remember that up to $1000 is available for studies in fire investigation. All members are eligible to apply. The Committee hopes to hear from you.

If you think you have a topic which would be of interest to the membership, do not hesitate to contact the Committee. A speaker could be arranged but you might wish to speak yourself. If you require assistance with such a presentation, the Committee can help.

Fire Investigators Use Sense of Smell to Catch Serial Arsonist

On February 16, 2011, Portland Fire & Rescue responded to four suspicious car fires in the area of NE 148th between NE Glisan and NE Sacramento Streets. This is in addition to two other car fires that were reported over the past few days for a total of six car fires.

Two Fire Investigators were patrolling the area of the fires as part of their investigation around midnight on February 17th. While driving down NE 148th Avenue, the investigators smelled the odor of burning paper. Upon further investigation, and to their surprise, they discovered a fire inside a carport at a residence located at 1230 NE 148th Avenue. The fire had originated in a recycle bin and was rapidly spreading into the ceiling and walls of the carport, which was attached to a house.

Springing into action, one of the investigators woke the sleeping family and assisted them with safely evacuating. The other investigator pulled the recycle bin outside and called for firefighting resources. Portland Police Bureau also responded with their canine units and set up a perimeter search of the area.

Fire Investigators arrested a suspect, Bobby Lee Alsup III. He was charged with one count of Arson I (a felony) and one count of Reckless Endangerment (a misdemeanor) in connection with this fire.
"These fire investigators used one of their most basic senses to save this family from a potentially dangerous fire," said Public Information Officer Paul Corah. "Our community is safer thanks to the Portland Fire Arson Squad's actions to apprehend this individual and stop his arson spree."

Fire Investigators believe that this individual may be connected with all six car fires, plus an additional six suspicious fires in the area for a total of 13 fires. Mr. Alsop's bail is currently set at $250,000 and he is being detained.

Portland Fire Arson Investigators Catch Arsonist

On October 25, 2010, two Portland Fire Investigators were investigating a string of small fires, which they suspected had been deliberately set. During surveillance, investigators observed an individual setting a fire near the location of a second fire that was set in a dumpster at the Unitarian Church.

While Portland Firefighters quickly extinguished the fire at the church, Arson Investigators took Rita Hoffman into custody. Damage to the church's property was estimated at $1,200. During the course of the investigation, Hoffman confessed to lighting a total of seven fires.

"Thanks to fire investigators' diligent work, an arsonist has been brought to justice," said Public Information Officer Paul Corah. "Arson is a serious crime because the potential for loss of life to citizens and firefighters is so high."

Portland Fire's Arson Squad investigates an average of 300 suspected arson fires each year.

Dangerous Light Bulbs

Below is a picture of a CFL light bulb from someone's bathroom. It was turned on and then started to smoke after a few minutes. Then ten centimetre flames were spewing out of the side of the ballast like a blow torch! The light was immediately turned off but it's certain that it would have caused a fire if a person was not right there. Imagine if the kids had left the lights on as usual when they were not in the room.

The bulb was taken to the MFB Fire Department (Melbourne Australia) to report the incident. They weren't at all surprised and said that it was not at all an uncommon occurrence. Apparently, sometimes when the bulb burns out there is a chance that the ballast can start a fire.

There have been reports issued about the dangers of these bulbs.

Internet research shows that, bulbs made by "Globe" in China seem to have the lion's share of problems. Lots of fires have been blamed on misuse of CFL bulbs, like using them in recessed lighting, pot lights, dimmers or in track lighting. This one was installed in a normal light socket.

The 'Globe' bulbs were bought at Bunnings. They have been removed from the house. CFL bulbs are a great energy saver but make sure you buy a name brand like Sylvania , Phillips or GE and not unknown brands from China.