

Fire Scene Examination Report

Incident Date: 14 February 2024

Incident Address: 30 Main Street
Bisbee, Az 85603

Incident Report: 240026

Distribution: Report Origin and Cause

Assignment

I responded as part of a special call on March 1st to assist in the investigation of a fire that occurred at 30 Main Street on the 14th of February. I responded initially to the call for assistance to ensure the safety of the building, assist in the preservation of evidence and to provide an origin and cause of the fire.

Bisbee Fire Department was dispatched to the call at 2116hrs with the first firefighting apparatus (Engine 82) arriving on the scene at 2127 according to Spillman CAD records (See Attached Spillman CAD report). The last fire apparatus to clear scene was E82 at 0537 on the 15th of February.

Bisbee Fire Department went back periodically to check on the scene and to identify and extinguish any hotspots in the fire. The scene was left open throughout the timeframe of Engine 82 leaving the scene.

The Origin and Cause investigation needed to be postponed until after a structural engineering company was brought in to assess the building and provide an assessment and recommendation. The building was in need of stabilizing in order to be able to safely work inside to conduct the origin and cause investigation.

I coordinated with Jeff Corey from Associated Fire Consultants out of Tucson. ATF was initially brought in on the investigation for the interstate commerce nexus that existed.

An electrical engineer specializing in fire origin and cause was on staff from the insurance company to provide expertise and electrical findings that may have contributed to the cause of the fire. The report from the engineer was not procured as part of this investigation report but is available from Oracle Forensics (1-877-672-2594). Note: The investigation proved impossible to rule out electrical involvement in origin and cause of the fire.

Weather

The weather was 72 degrees under clear skies with no rain and winds were sustained out of the west/southwest at 5-10 mph, relative humidity of 24%. Local weather available for that area is varying due to the occupancy being in the canyon leading to downslope winds. No lightning was reported in the area.

Responding Agencies

Bisbee Fire Department, San Jose Fire District, Naco Fire District, Douglas Fire Department, Fry Fire District and Cochise County Sheriff's Office.

Utilities

Electrical

Service provider is Arizona Power Electric Cooperative (APCO)
There is an above ground electric line to the building on the southern portion of the structure. This line appears to be service entrance for the home and business. The weather drop is intact and undamaged. The line terminates at the electrical panel directly below the weather drop. The electrical panel is the main entrance for the electricity on the property.

The service entrance at the panel is a 100 amp service. The electrical panel is intact and depicted in the photo log (1.1 and 1.1.1) Multiple breakers are tripped in the structure. Due to the amount of damage sustained during the collapse post fire caused by the shoring and stabilization, the exact line location throughout the structure could not be ascertained.

The electrical service appeared largely intact to the service inlet. There was no evidence of electrical involvement, on the service side, in the fire origin or spread.

Gas

No gas lines were identified in the structure or involved in the origin and cause of the fire.

Vehicle Involvement

No vehicle involvement in the fire occurrence.

Structure

The year of the structure is an unknown year; however, the resident stated that this building was built in the early 1900's and possibly completed in 1902. The building is site built made of primarily type 3 construction approximately 2,300 square feet with a brick exterior with and a flat, built up roof with a metal covering and solid wood supporting members. The structure has no basement, but has a small space under the subfloor for plumbing pass through and access. The building has party walls on the east and west sides that adjoin similar two story buildings. The building prior to the secondary collapse was standing with significant structural damage from the fire occurrence. The building was occupied at the time of the fire. The style of construction is of a "tax payer" interior floor plan with a large suite on the second story and a small entrance area to the Southside ("C side"). The majority of the bottom story is a business that remains grossly intact with some heat, smoke and water damage (Refer to Photolog #34-#37 pre-collapse). The front door on the ("A side") is accessed from main street and opens up into the business occupancy. There is a door towards the back of the business that accesses the rear of the building into the more residential portion to a small workshop. A door leads from the workshop to the laundry room, and sauna is located and is identified as a utility room for this report. The utility room has open access to a stairwell that leads to the second story residential living area. The second story is used as a primary residence and was occupied at the time of the fire by the building owner and his wife. The layout of the 2nd story was not available, but contained a full kitchen and dining room, bathroom, bedrooms and other living space. The second story also has access to the roof of the building to the west ("D" side exposure). This access was used as an egress area for the occupants at the time of the fire as an escape (refer to photolog #8 and #9). The front of the structure is grossly intact with some heat and smoke damage to the second story and roof collapse onto the first story (refer to photolog #51 pre-collapse).

Occupancy

The property is used as a primary residence for the occupants and owners. The residence is oriented so that the long axis runs from North to South with the front door facing North. An alley way is located to the south leading into the property providing the primary ingress and egress for the residence. The property is open with no inside yard or curtilage present. The property appears to be occupied and residents were home at the time of the fire. The property is located approximately 1.2 miles from the Bisbee Fire Station 82 at 645 Tombstone Canyon. The initial suppression company was on duty and in quarters at the time of the fire with no other calls in the area.

The building belongs to the property owners and occupants of the residence. The Tenant is Bisbee oil and vinegar (Refer to document for pre-fire depiction). Insurance information was not available at the time of the incident.

The Fire was discovered by the owner who resides at #30 Main Street who stated that he saw the fire in the corner of the utility room close to the sauna and tried to extinguish the fire with a fire extinguisher. He then went upstairs to get another extinguisher and the fire had gotten too big. He and his wife were only able to escape through onto the roof of the adjacent building. There were no further occupants in the fire. He went out of the building after discovering the fire, his wife subsequently calling 911.

Scene Examination

Fire Exposures:

The occupancy to the east on the other side of the party wall ("B" side exposure) is of similar size and dimension (refer to photolog#52). This occupancy, labeled as "B1" exposure has severe damage to the second story and was an exposure to the main fire occupancy and is ruled out as the origin of the fire from video evidence taken on the night of the fire.

The occupancy labeled "B2" exposure is the building to the east of the "B1" exposure. This building is a two-story adobe wall building that has a basement. This building had been shored prior to the fire, structurally and remains standing with significant structural damage. Refer to photolog 33. Pre-collapse for damage representation. This building was not involved in the fire but showed significant damage to the adobe party wall from extinguishment of the fire and protection of the exposure. This building is primarily used as a residence and was not occupied at the time of the fire. Upon inspection of the walls on the interior of the building I found that no fire or smoke damage was interior, but there is significant smoke transfer onto the party wall on the eastern most aspects indicating that the fire came from outside of this area and structure and not considered the area of origin.

All occupancies are accessed from the "A" side of the building from Main Street and from the "C" side through an open alley way. The alley way is used primarily for vehicle traffic and access to the rear of the structure(s).

The "A" side of the structure of the B1 exposure faces Main Street. The exterior face of the building is clean on the exterior and has heavy smoke and fire damage to the remains of the interior structure of the building on the second floor. The window sills show minimal damage to the exterior as depicted in the photolog

(photolog #38, 39, and 43) and damage is consistent with fire not originating on the outside of the building at the front of the structure.

The "C" side of the structure of the B1 exposure faces the alleyway behind the structure. There is minimal damage from smoke and heat transfer to this portion of the exposure indicating that the fire did not come from without the structure on the "C" side of the B1 exposure. There is some collapse damage noted to the upper portions of the wall that has partially collapsed towards the interior of the exposure. The fire did not originate exterior to the "B1" exposure.

Upon looking at the "B1" exposure from the vantage point of a bucket truck supplied by the City of Bisbee, the interior structural components that supported the roof structure have been burned away at the roof level and the roof has collapsed into the structure. The roof supporting members show patterns of being burned from above, indicating that the fire came from the roof area and was an exposure to the fire originating from the fire occupancy of origin which is #30 Main Street.

The interior structural members and occupancy partitions remain intact and burned through, but remain standing. The interior wall coverings remain intact in many places and the layout is still visible. The center of the structure shows the most damage in the for the "B1" exposure. Towards the "C" and "A" sides of the structure the patterns of burning and the lack of burning on indicate the fire burned from the center out having extended from the fire occupancy to the exposure somewhere around the center of the "B1" exposure. Refer to photolog #52 for depiction of the fire patterns and fire progression.

Fire Occupancy:

The fire occupancy of origin has been corroborated by the burn patterns as well as suppression personnel first arriving on the scene (refer to Bisbee Fire Department incident reports) Upon inspection of the "A" side of the fire occupancy, it is noted that the lower portions of the occupancy are grossly intact and have evidentiary value to the investigation. The business portion of the occupancy shows minimal damage and sustained some heat damage from exposure to the fire (Photolog #34-#37) The ceiling of the first floor in the business portion of the occupancy, pre secondary collapse, some peeling and exposure of the substrate of the ceiling covering. There are light "flashy" fuels that are interior of the structure that did not ignite indicating that the room did not go to flashover and was not the origin of the fire.

The second story as seen from the ground level on the "A" side shows significant structure damage to supporting structure from the interior walls (Photolog #48). The façade above the windows of the second story show significant damage to the under portions, but minimal damage. This façade protected the upper portions of the bricks of the structure indicating that the fire originated from within the structure. The window frames are of wood construction with a paint covering. The frames show minimal damage which increases to significant depth of char in excess of 26/32nds at the upper most portion of the window frame. The exterior of the window frame at the base is intact on the exterior and shows significant depth of char on the interior of the window frame as well indicating that the fire originated from within the structure. The window towards the "A/D" corner on the "A" aspect has failed and fell away from the structural connections and is clean on the bottom portion and burned on the top portion. The fire originated from within the structure.

The interior of the second story on looking from the "A" side window towards the "C" side, facing to the south/southwest shows significant interior damage with roof having collapsed onto the second floor. The interior supporting members have completely burned away and the framing has completely failed and pulled away from the structure. The bricks on the interior towards the "A" side on the party wall with the "B1" exposure are clean at the lower portion and the plaster covering at the 7-8 foot level show some heat transfer indicating that the fire was less intense at this portion of the building, but did reach flashover. The bricks, on the interior of the "B1" party wall of the fire occupancy, towards the door opening (Photolog 51) show evidence of some spalling as it appears from a distance. There is a large air conditioning unit on the floor of the second story in front of the upper door leading to the bedroom. There is evidence of failure of the upper structure of the party wall to the "B1" exposure.

Damage to the structure on the on the "D" side exterior is limited to an approximate 4x4 foot area as depicted (refer to photolog #9). The window was utilized as a means of egress for the two occupants of the fire occupancy. There is some fire damage that was repaired prior to the investigation. The fire damage was limited by suppression crews. The fire did not originate from the "D" side exposure.

The second story as seen from the ground level on the "C" Side of the building shows heat and smoke transfer onto the bricks on the exterior on both the upper and lower floors exterior of the fire occupancy (refer to Photolog #1). This photo was taken prior to the secondary collapse which took place when the contracted crews were removing the bricks and the second story exterior brick structural portion fell onto the second floor. There is smoke and heat transfer to the upper floor exterior on the brick walls above the window opening(s) as depicted in photo

1 (Pre-collapse). The door on the lower floor was opened by the occupant at the time of the fire and the fire extended from the first floor of the structure to the ledger board above the first floor. There is no evidence of fire extension on the exterior from the first floor to the second. Fire and smoke transfer of deposits onto the exterior of the brick is above the lintels of the door frame and no evidence of the fire originating from the exterior of the structure on the "C" side. Fire patterns on the window frame on the second story indicate that the fire originated from the interior of the building on the "C" side (Photolog #22).

Interior of the second floor as depicted in #24 and #25 show a stairwell leading from the first floor to the second floor of the structure. Burn patterns and spalling of the bricks on the wall indicate that the fire extended from the first floor of the fire occupancy to the second floor. The building was deemed to dangerous to be in to conduct the inspection and investigation of the first floor and the second floor of the fire occupancy. The building was photographed to the extent that was safe to do so. The Bisbee Fire Department was advised that the building would need to be shored and stabilized in order to proceed with the investigation.

Instructions for the shoring were provided and the contracted (Refer to Structural Engineer Report and Recommendation).

Collapse:

I was notified by Chief Richardson, Fire Chief of the Bisbee Fire Department that the contractors that were selected to stabilize the structure, in the process of shoring the building, had caused a secondary collapse of the second floor exterior walls. The walls of the second floor bricks fell onto the floor. The structural supporting members failed and the bricks and members fell into the suspected fire area of origin (Refer to #61 and #61.1).

The insurance companies and investigators that were assigned to investigate the fire were notified. The contract company was instructed to removed only the bricks and structural members of the collapse of the second floor. The collapse material was removed by the contractors under supervision of the fire department.

Upon investigation of the first floor, there is significant damage to the area of origin. Much of the evidence that was left in the area was damaged and destroyed. Photos taken on the interior of the structure depict burn patterns on the wall of the interior of the "D" side towards the "C" side (Refer to Photolog 62.2). "V" pattern found on the wall of the "D" side indicate a fire originating on the first floor (Refer to Photolog 62.2.1). The pattern extends from the right of the electrical junction box upwards and out. According to the homeowner, there was a sauna in that area. Upon further examination from the electrical engineer, there was no

electrical involvement from the sauna due to it not being energized at the time of the fire (Refer to Photolog 64.1.1) depicting the wiring not being connected to the electrical service at the time of the fire.

Electrical Involvement:

There are two plugs in the occupancy at the room and area of origin. One of the plugs is a duplex plug that is located on the interior wall toward the “A” side (Refer to Photolog 64.2). An extension cord is plugged into the wall and extends toward the “C” side. The exact routing of the extension cord and its location in relation to the suspected area of origin is difficult to ascertain due to the collapse and destruction in the area of origin.

The second plug is a duplex plug that is located beside the combination washer and dryer that is stacked vertically. The homeowner stated that there was not anything plugged into the receptacle, but there is evidence that there was something plugged in (Refer to Photolog #73-73.0.1) depicting clean terminals that indicate that the extension cord, found in the room was plugged in. It is difficult to ascertain the location and routing of the extension cord and its relation to the area of origin due to the amount of damage in the room and area of origin that destroyed the location of the cord.

The washer was plugged into the duplex receptacle and did not appear to be involved in the fire’s origin (Refer to Photolog #73.0.1 through #73.1.3). The Dryer is directly wired into the breaker box exterior to the structure (Refer to Photolog 1.1) for the breaker box exterior. There is no evidence that the fire originated around the washer or dryer, nor is there any evidence of electrical involvement.

There were multiple extension cords of various amperages found throughout the room of origin. Their routing and location, relative to the area of origin is unknown, due to the damage sustained in the area/room of origin from the collapse.

There is significant damage and “V” patterns indicating that a fire originated behind where the sauna was located (Refer to Photolog #77) along the wall on the “D” side interior of the room of origin along a wall that extends from the “D” side interior wall. The pattern depicted in photolog #62.3.2 shows a pattern that originates in the wall between the framed studs behind where the sauna was and extends up toward the ceiling. This is consistent with the report from the homeowner that stated that the fire was at the back of the room towards the back of the sauna. He further stated that he tried to extinguish the fire with two extinguishers. Upon layering the scene at the suspected area of origin, we found

that the floor had burned through at the base of the wall where the studs originated (Refer to Photolog #77 and 78). The floor joists had failed below the studs and show the fire burned through from above, indicating that the fire originated at the base of the sauna from either drop down or behind the sauna.

The buildings are located in downtown Bisbee Arizona and in the business district of the city with similar style and size buildings in the area.

Fire Occurrence

Fire damage is consistent with a fire originating on the bottom floor on the “C” side interior of #30 Main Street within a five foot area of the base of the wall that extends from the “D” side interior wall. The Fire then spread to adjacent fuels, and extended, consuming the fuels in room. The fire was discovered by the homeowner, who retrieved a fire extinguisher and attempted to extinguish the fire. The man door to the alley way access was in the open position, as well as the door to the first floor business was in the open position. The door leading to the second floor was open and allowed the fire to extend to the second floor by way of the stairwell. The occupants of the structure then exited the building through the second floor window onto the “D1” exposure. The fire then had an inlet of air and an exhaust flow pathway that expedited the fire extension to the second story. The interior contents burned and ignited the substructure of the ceiling and subsequently into the roof. The roof failed and the fire extended to the “B1” exposure where the roof failed and ignited the interior contents of the structure. The fire was controlled by suppression personnel. The damage to the adobe party wall on the “B2” exposure occurred and the building partially collapsed at the party wall.

Electrical analysis is available through Oracle Forensics located in Tucson Arizona. In speaking to them, they were not able to locate any electrical source of ignition for the fire in the area of origin. Arc mapping and general scene mapping was performed by Oracle Forensics.

No weather in the area that would have been an ignition consideration at the origin and not the cause of the fire.

Fire Cause and Classification

Fire cause determined to be suspected electrical, but due to the damage from the collapse, the investigation was hindered by the amount of damage from the collapse.

Classification: Undetermined

Evidence and Samples Collected

No evidentiary samples were taken for scientific testing.

Signed:

Billy R. Seamans
Deputy Chief/Fire Marshall
Fry Fire District