

BULLETIN

NO.: 22-133
DATE: August 17, 2022
TO: All Personnel
FROM: David Picone, Battalion Chief, Health and Safety Officer
SUBJECT: Incident Review – Clairemont Incident

Please find attached the Informational Summary Report (Incident Review) for a partial volume deflagration (backdraft) that occurred at a commercial structure fire on July 4, 2022.

- **Refer to SDFD Operations Manual**
 - **SI 10 Section 04 Safety Communications**
- Please review this as a crew to share all your knowledge and experiences
 - Supervisors can add their crew members for assignment completion on all Health & Safety material

Any questions should be directed through the chain of command.

Don't hesitate to contact the Health and Safety Office at SDFDHealth&Safety@sandiego.gov with comments or areas of improvement. For all other questions, contact HSO/Battalion Chief David Picone at 619.533.4466 or dpicone@sandiego.gov.



Wellness Resources QR code:
login: sdfd password: wellness
or call toll free **833-SDFD-HSO (733-3476)**





Informational Summary Report

Incident Review

San Diego Fire-Rescue Department

“Clairemont IC” Incident # FS22113169

Monday, July 04, 2022

SUMMARY

San Diego Fire-Rescue (SDFD) units responded to a commercial structure fire at 18:31 hours. The first arriving units observed a small flaming fire exiting the bottom of a rooftop drain system at the building's Bravo (B)/Charlie (C) exterior. A hose line was deployed, and forcible entry was conducted to access the first-floor suite adjacent to the fire. While the metal framed glass door was being opened, a partial volume deflagration (backdraft) occurred in the void space above the B/C corner. The blast pressure of the deflagration resulted in structural damage to the building, including the failure of tempered glass windows. Two firefighters suffered minor injuries because of the projectile glass debris.

CONDITIONS

Weather:

Temperature: 67° Fahrenheit

Relative Humidity: 70%

Winds: West 7 MPH

Structural Features:

- Two-story commercial structure (office use only) with a center courtyard

Fuel Type:

- Wood structural members/framing and synthetic ABS drain piping

Fire Behavior:

- An electrical event initiated a smoldering fire at an outlet at the bottom of a 1' by 1' vertical chase. Fuels inside the chase included exposed wood framing, ABS piping, and electrical conduit. Fire gases exhausted towards the top of the chase via a rooftop drain and through perforations in a void space between the first-floor ceiling and T-Bar style suspended acoustic panels. By-products of combustion collected in the ceiling void space and chase. A partial volume deflagration occurred when the forcible entry was conducted at the front door of the involved unit, introducing air to a tightly sealed office space.

SEQUENCE OF EVENTS

18:28:31 The initial call was received by the ECDC (Emergency Dispatch and Command Center), and shortly after, San Diego Engine 28 (SND E28) was dispatched to a rubbish fire

18:32:26 Based on more information, the ECDC reconfigured the call from a rubbish fire to a commercial structure fire, and the following 1st Alarm units were added SND E36, SND E27, SND E50, San Diego Truck 28 (SND T28), SND T35, San Diego Battalion 5 (SND B5), SND B2, Falck Medic 36 (FM36)

18:36:29 SDN E27 arrived at the scene, provided an initial radio report of "black smoke from the roof, attacking the fire," and established Incident Command (IC), Clairemont IC

18:36:54 SND E36 arrived at the scene, notified the IC, and staged at the hydrant

18:37:04 SND E28 arrived at the scene and was assigned "Fire Attack" (FA) by the IC, and SND E36 was assigned to them

18:37:37 San Diego Police Department (SDPD) Officer #1 arrived at the scene along with FM36, SND B5, SND T28, and SND E50. SND E50 was assigned to stage. SND T28 was assigned Roof Division, and SND B5 advised the IC to meet at their vehicle

18:39:11 The SND E27 firefighters (FF)s were at the B/C corner with the hose line, and the SND E28 FF was preparing for forcible entry at the B side door. Grey smoke was showing from the roof of the B/C corner

18:39:21 The B/C corner window, on the B side, started bulging outwards

18:39:22 An explosion occurred with a flash of fire which caused the B-side and C-side windows to fail and shatter outward. The B-side glass door also failed and shattered outward. All personnel backed away from the building once the explosion occurred.

Note: Crews did not notice the flash, but it was evidenced on the bodycam video below

The SND E28 captain and firefighter were hit with exploding debris and received cuts to the face. The SND E27 Engineer checked on impacted personnel, and the SND E28 Engineer provided medical treatment to the SND E28 FF who had blood on their face.

The IC updated ECDC that an explosion occurred and that all personnel were accounted for

18:41:27 ECDC advised the IC that they were 10 minutes into the incident

18:42:05 SND T35 arrived at the scene and was assigned to Roof Division by IC

18:43:33 SND B2 arrived at the scene and was assigned as the incident safety officer

18:44:44 IC reassigned Fire Attack to Division 1 (Div 1), and SND E50 was assigned to Division 2

SND E36 Engineer connected to the hydrant, and SND T28 laddered the A/D corner

18:47:28 SND B5 assumed Clairemont IC and requested two additional engines and one additional medic unit

The IC reconfirmed that SND T28 was Roof Division and reassigned SND T35 to Ventilation Group

Div 1 updated the IC that there was no fire but structural damage and that the smoke was dissipating

18:51:00 ECDC advised the IC that they were 20 minutes into the incident.

The IC relayed to Div 2 that there was no fire on DIV 1 and requested a primary search

SND E39 arrived at the scene and was assigned Medical Group with FM36 and FM23

18:55:42 Div 1 & 2 conducted primary searches and notified the IC that it was "all clear." The IC then withdrew all personnel from the building for a tactical pause

The Safety Officer reported that two FFs would be transported

19:01:06 The IC contacted ECDC to discontinue the timer, advised of the injured FFs and requested the Metro Arson Strike Team (MAST), a building engineer, a Bomb unit, and Hazmat to respond to the scene

21:20:19 The IC notified ECDC that Incident Command was terminated

ACCOMPLISHMENTS AND CHALLENGES

An unexpected explosion with no preliminary indicators and no post-blast changes in the fire conditions presented a unique challenge for crews.

Immediate actions by engineers at the scene, including rapid post-blast evaluations of firefighters near the debris field and rendering first aid, demonstrated excellent situational awareness.

INJURIES/DAMAGES

Two firefighters suffered minor superficial injuries resulting from flying tempered glass debris.

AREAS FOR REVIEW

It is important to note that SDFD responds to several reported structure fires daily in various situations, including various stages of fire development and growth. These situations are dynamic and require all personnel to assess a constantly developing scene with little to no time to assimilate the data they are perceiving and even less time to develop a plan and act on it. All personnel involved in the Clairemont Incident did a great job adjusting to the situation on the fire ground. The areas for review below are general reminders gathered from this incident for all SDFD crews to consider during their operational periods to maintain the safety of all SDFD personnel. Many points below were

collected during the post-incident review by good habits and professional firefighting exhibited on that day. We want to thank all involved for their honesty and openness in providing the details necessary for a good learning document.

- Brief radio report on conditions vs. a size up
 - All crew members arriving on the scene should do their own size up of the building, visually looking at a minimum of three sides.
 - A 360 view of the structure is optimum but usually only done by the first arriving officer, Rapid Intervention Crew (RIC) crew, Safety Officer (SOF), and Ventilation Officer of the building for many things but not limited to occupancy type, building size, i.e., number of floors, volume, and location of the fire, possible rescues, ingress and egress points, safety hazards, etc.
 - SND E28 captain utilized the thermal imaging camera (TIC) outside the building. Although no indicators were identified, crews are encouraged to do this during their 360 as a great best practice, hopefully gathering valuable data before entering any reported structure fire
 - A brief initial radio report (SDFD Ops Manual SI 01 Section 1 Pg.3) will be performed by the first arriving officer at the scene
 - All company officers (as done in the Clairemont Incident) must perform the following size up to paint an accurate picture of what first arriving crews are encountering when arriving on the scene
 - This radio report includes five parts; 1. Unit identifier 2. Description of scene 3. Actions taken 4. Immediate hazards 5. Name and assume IC of the incident
- Tactical Coordination
 - Remember to have Group/Division supervisors contact other supervisors when their tactics could impact operations being performed
 - Actions should always be coordinated
 - Examples:
 - Forcible entry or advancing interior hose lines post exterior investigation with the Incident Commander
 - Fire attack and ventilation should always be coordinating tactics such as opening a hole when a line is in place or engaging a blower after knockdown
 - These are all good habits to practice between groups and divisions but take time, effort, and coordination
- Tactical radio traffic and switching modes
 - Remember the importance of allowing groups and divisions such as "Fire Attack" and "Ventilation Group" tactical radio time to relay essential conditions changes, not only to the Incident Commander but also so that all crews on the scene can hear the most up-to-the-minute report

- Any change in tactics, i.e., offensive to defensive, mayday, and significant fire events, should be announced on the radio clearly and concisely so that all crewmembers are aware of the change
- Group and division supervisors should report all changes in tactics or procedures down the chain of command as task-level crewmembers generally work with tools, nozzles, and equipment and can easily miss radio traffic
- All personnel should always communicate up the chain of command if they witness significant events or are unclear about their orders
- Use of Personnel Accountability Report (PAR)
 - Utilizing a PAR whenever on-scene crews experience a change in conditions will ensure crew safety and act as a "reset," advising all working crews of current fire ground conditions. (SDFD Drill Manual Ch. 29)
 - A PAR should be conducted:
 - When changing from offensive to defensive mode
 - After any significant event (collapse, Explosion, etc.)
 - During extended periods of interior attack
 - Following suspicion or confirmation of firefighter down/trapped/missing
 - Following the building evacuation signal
 - As deemed necessary
 - Keep in mind a PAR can be difficult to conduct and will require radio discipline and tenacious follow-up. All crews are encouraged to practice these radio techniques on duty.

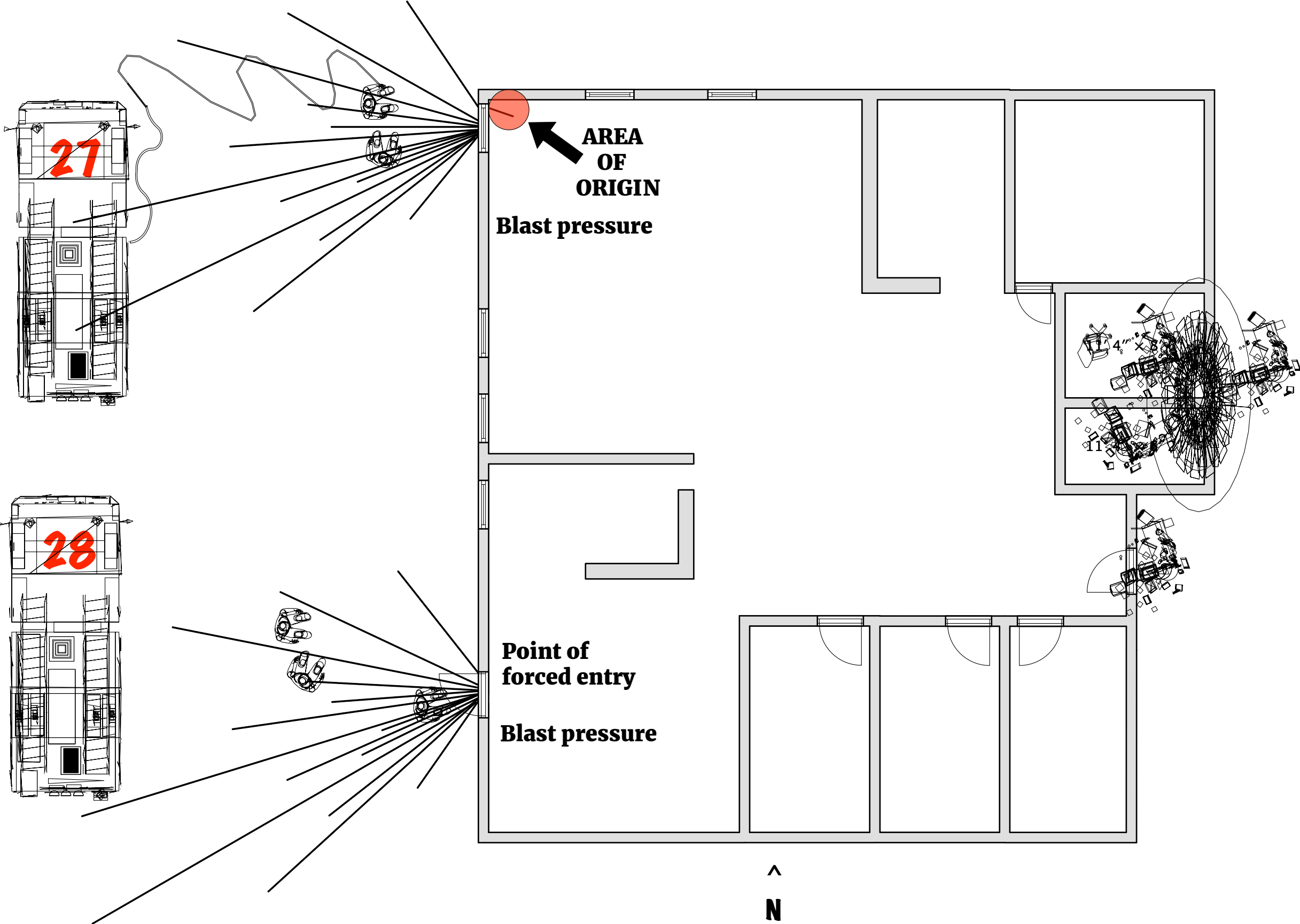
The Occupation Health and Safety Committee's investigation sub-committee conducted the review.

Lead investigators:

- Captain Dallas Higgins, SDFD
- Captain Wayne Whitney, SDFD
- County H&S Section; Captain Charles Kuniyoshi, Chula Vista Fire
- County H&S Section; Captain Andy Wilson, Chula Vista Fire
- Battalion Chief David Picone, Health & Safety Officer

PHOTOS/SITE DIAGRAMS/MAPS

- [Clairemont IC Bodycam 7 4 22](#)
 - Video from SDPD bodycam
- [3D Matterport photography of the Clairemont smoke explosion scene](#)
 - Hover over the image to move in any direction
 - Select areas to zoom
 - or
 - Spin the image from various viewpoints and vantages



**7/4/2022 1849 HOURS 7510
CLAIREMONT MESA BLVD FS#
22113160**

**NOT TO SCALE
A. COCHRAN #0941**

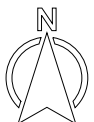




Photo No. 1: Alpha side of two story commercial structure with center courtyard.



Photo No. 2: Bravo side of structure. Location of event.

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Name Clairemont IC





Photo No. 3: Bravo – Charlie corner. Smoke damage from bottom drains.



Photo No. 4: Aerial ladder placement at Alpha – Delta Corner

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Name Clairemont IC





Photo No. 5: Tempered glass debris field. Large artifacts marked with yellow cones.



Photo No. 6: Debris field; view from south to north.



Photo No. 7: Forced door.



Photo No. 8: High level blast pressure structural damage.



Photo No. 9: Access door to center courtyard. High level severe structural damage.



Photo No. 10: Protruding door and window frames; view from center courtyard.



Photo No. 11: Alpha – Bravo corner; area of origin of fire. ABS pipe and electrical conduit present.



Photo No. 12: Localized smoke staining to plenum between T-bar panels and ceiling.



Photo No. 13: Perforation in chase allowing for conduit passage and exhausting of combustion gas



Photo No. 14: Ceiling – Floor Joists above area of origin. Location of escaping combustion gases.



Photo No. 15: View of forcible entry operation at entry door and suppression efforts at B-C corner



Photo No. 16: View prior to overpressure / deflagration event.



Photo No. 17: View prior to overpressure / deflagration event.



Photo No. 18: View prior to overpressure / deflagration event.



Photo No. 19: Shattering of north first floor window – bowing of blinds in south window



Photo No. 20: Failed window debris with deflagration.



Photo No. 21: Debris expelled due west from north window; south window shattering.

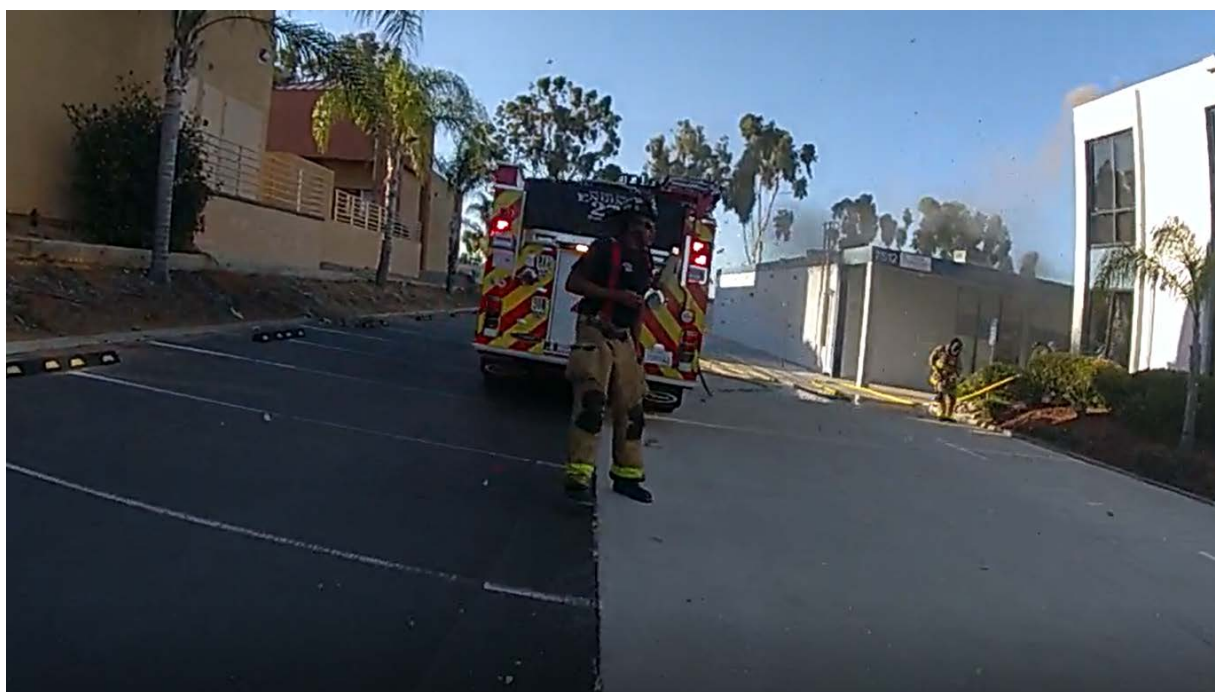


Photo No. 22: Immediate post blast.