

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



CEN22FA375

MATERIALS LABORATORY

Fire Specialist's Factual Report 23-078

September 15, 2023

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A. ACCIDENT INFORMATION

Location: Maxwell, California
Date: August 9, 2022
Vehicle: Sonex Aircraft Waix
Investigator: Michael Hodges, NTSB-CEN

B. COMPONENTS EXAMINED

Fire Investigation

C. EXAMINATION PARTICIPANTS

Investigator-in -Charge	Michael Hodges NTSB-CEN Aurora, Colorado
Fire Specialist	Nancy B McAtee NTSB-RE30 Washington, DC

D. ACCIDENT SUMMARY

On August 9, 2022, about 11:06 am pacific daylight time (PDT), a Sonex Aircraft Waix, N51YX, was destroyed when it impacted the ground near Maxwell, California. The pilot sustained fatal injuries. Prior to impact, the accident aircraft departed runway 13 at the Colusa County Airport (O08), Colusa, California at approximately 10:27am. The aircraft traveled to the north of Colusa and then traveled to the west. After the aircraft crossed the I-5 highway, the aircraft traveled to the north of Maxwell, California, where the ADS-B data terminated in a remote area populated with fields used for agricultural work. Local law enforcement reported a small airplane impacted terrain near an open field. The aircraft wreckage was found nose down position, in a flat dirt field. The wreckage sustained additional damage from a post-crash fire that ignited at impact.

E. DETAILS OF EXAMINATION

After the initial on scene examination, the wreckage was removed from the accident scene and transported to an aircraft salvage facility.

The aircraft was mostly intact with the wings and empennage still attached to the main fuselage as shown in Figure 1. The wings and empennage exhibited mechanical damage in the form of dents, bends, and some crushing. There was sooting over the entire surface of the empennage and right wing. The left wing

exhibited fire damage at the root as shown in Figure 2. The root area was heavily sooted and had some signs of melting. The paint in this area was missing exposing areas of bare metal.

The fuselage was mostly destroyed. The remaining fuselage exhibited severe thermal and mechanical (crushing) damage shown in Figure 3. The upper portion of the fuselage was missing as was most of the cabin interior. There was severe crushing mechanical damage to the remaining forward fuselage section. The remaining fuselage structure exhibited melting and thermal discoloration. The thermal damage centered around the location of the fuel tank which was located under the aircraft cabin as shown in Figure 4. The fuel tank was partially consumed, and the remaining tank exhibited melting and thermal discoloration. No thermal damage specifically related to an in-flight fire was found.

The windscreen/windshield was fragmented and scattered over the accident site. Over 100 pieces of recovered windscreen/windshield material were sent to the Materials Laboratory to look for evidence of hydrocarbon fluid (lubricant/hydraulic fluid/fuel) spray. A selection of fragments is shown in Figure 5. Most of the fragments were sooted in various amounts. Several pieces were discolored and exhibited localized melting and charring consistent with thermal exposure during the post-crash fire. The pieces were visually examined using various alternate light sources (ALS). The ALS uses varying wavelengths of light to improve the visualization of hydrocarbon residue on the surface of the windshield fragments. No evidence of hydrocarbon residue was found on any fragments.

Submitted by:

Nancy B McAtee
Fire and Explosion Specialist



Figure 1. Overall photograph of accident aircraft.



Figure 2. Closeup of thermal damage to left wing.



Figure 3. Closeup of main fuselage/cabin area of accident aircraft.



Figure 4. Closeup of aircraft cabin and fuel tank.

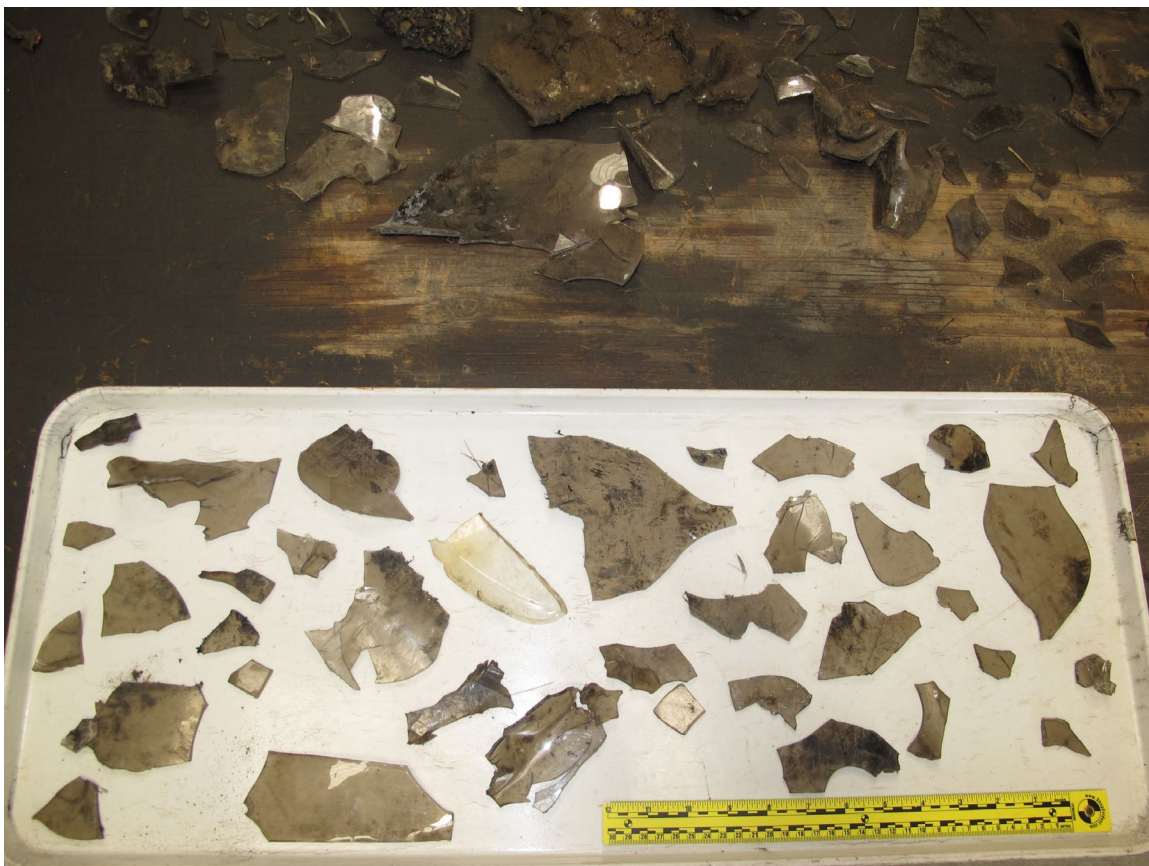


Figure 5. Windshield fragments from accident aircraft.