



Department of Public Safety
MISSOURI STATE HIGHWAY PATROL
Colonel Eric T. Olson, Superintendent



An
Internationally
Accredited
Agency

Michael L. Parson
Governor

Sandra K. Karsten
Director

November 06, 2020

Mike Spillane
Missouri Attorney General's Office
221 West High St
Jefferson City, MO 65101

Dear Mr. Spillane:

The case record from lab number L-153602 has been reviewed. Below were key factors considered:

In the late 1990s, the Missouri State Highway Patrol (MSHP) Crime Laboratory transitioned from gas chromatography with flame ionization detection (GC-FID) to gas chromatography mass spectrometry (GC-MS). This advancement in technology allowed for not only comparison of the overall chromatographic pattern to a known standard but also the identification of individual components in an ignitable liquid. At the time of analysis, analysts relied heavily upon pattern comparisons. Over time, as the forensic science community began to learn that certain components (i.e., aromatics, naphthalenes, alkanes) were necessary for confirmation of gasoline, the MSHP Crime Laboratory adopted new identification criteria.

Due to scientific research in the field, it is now known that solvents found in footwear adhesives have similarities to gasoline. In the late 1990s, this knowledge was not widely known. If gasoline is identified in footwear today, a disclaimer stating the footwear cannot be ruled out as the source of an ignitable liquid would be included in the report.

The data from the case record contains a chromatographic pattern that resembles gasoline and includes aromatics and naphthalenes. At the time of analysis, the analyst would not have known that alkanes were also necessary to confirm the presence of gasoline. Furthermore, the analyst would not have known that solvents used to manufacture footwear could closely resemble gasoline.

Under the current MSHP Crime Laboratory ignitable liquids procedure, the presence of alkanes is required to render a positive conclusion; alkanes were not identified during the case record review. In the absence of this information, I would report this case as no ignitable liquids were identified on the shoes.

A handwritten signature in black ink, appearing to read "MJ Baker", is positioned above the typed name.


MICHAEL J. BAKER, Criminalist Supervisor
Crime Laboratory Division

AFFIDAVIT

Before me, the undersigned authority, personally appeared Michael Baker, who being by me duly sworn, deposed as follows:

My name is Michael Baker, I am of sound mind, capable of making this affidavit, and personally acquainted with the facts herein stated:

I am the custodian of the records for the Missouri State Highway Patrol Crime Laboratory. Attached hereto are record from laboratory case L-153602. These records are kept by the Missouri State Highway Patrol Crime Laboratory in the regular course of business, and it was the regular course of business of the Missouri State Highway Patrol Crime Laboratory for an employee or representative of said laboratory with knowledge of the act, event, condition, opinion, or diagnosis recorded to make the record or to transmit information thereof to be included in such record; and the record was made at or near the time of the act, event, condition, opinion or diagnosis by an employee or representative of the Missouri State Highway Patrol Crime Laboratory. The records attached hereto are the original or exact duplication of the original.



Affiant

In witness whereof I have hereunto subscribed my name and affixed official my seal this 12th day of November, 2020.



NOTARY PUBLIC

