



OFFICE OF THE MEDICAL EXAMINER  
701 W. Jefferson St.  
Phoenix, AZ 85007

**MEDICAL EXAMINER REPORT**

**DECEDENT:** Jesse James Steed

**CASE:** 13-04436

**DATE OF EXAMINATION:** 07/02/2013

**TIME:** 1429 Hours

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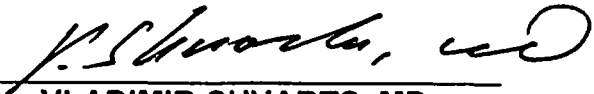
**PATHOLOGICAL DIAGNOSES OR SIGNIFICANT FINDINGS**

- I. Thermal injuries.
  - A. Predominantly 3rd degree burns with areas of 4th and 2nd degree burns (approximately 70 percent of entire body surface involved).
  - B. No evidence of soot in airways (inconclusive for Carboxyhemoglobin saturation).
- II. Thyroid nodule.
- III. Decomposition, early to moderate.

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**CAUSE OF DEATH:** Fire related injuries  
**MANNER:** Accident

08.01.2013  
Date Signed

  
VLADIMIR SHVARTS, MD  
MEDICAL EXAMINER

## **CIRCUMSTANCES OF DEATH**

On July 1, 2013, Yavapai County officials requested assistance from the Maricopa County Office of the Medical Examiner with the medicolegal death investigations of 19 firefighters who died in the Yarnell Hill wildfire on June 30, 2013. Under the Maricopa County Manager's authority and direction, the Maricopa County Office of the Medical Examiner examined the firefighters' remains for the purpose of forensic identification and postmortem evaluation. The Maricopa County Office of the Medical Examiner also agreed to provide consultative services to investigating authorities and the Yavapai County Medical Examiner. The Yavapai County Medical Examiner agreed it will certify the firefighters' death certificates. The following Maricopa County Office of the Medical Examiner case numbers were designated for this incident: 13-04425, 13-04426, 13-04427, 13-04428, 13-04429, 13-04430, 13-04431, 13-04432, 13-04433, 13-04434, 13-04435, 13-04436, 13-04437, 13-04438, 13-04439, 13-04440, 13-04441, 13-04442, and 13-04443.

## **EXTERNAL EXAMINATION**

The body is received in a zippered body pouch secured by evidence seal #025522.

## **CLOTHING AND PERSONAL EFFECTS**

The body is present inside a personal fire shelter. The fire shelter is mostly intact with openings over the right leg and right arm. There are also some defects noted on the back. There are some items of personal protective equipment present:

1. There is a melted and deformed helmet present inside the shelter.
2. There are mostly preserved green pants with brown belt and metal buckle. The size of the pants is 36-40 regular. There is an engraving on the buckle: Granite Mountain on the top and Hotshot Crew on the bottom. There is a pocketknife and pen present in the left side pocket of the pants.
3. There is a yellow coat partially burned, mostly on the left side. It contains two cigarette lighters and earplugs in the right chest pocket. There is a mirror present in the left chest pocket as well as melted piece of plastic.
4. Boots, mostly intact.
5. Black tee shirt.
6. Black and gray socks.
7. There are partially melted sunglasses present around the neck area.
8. A partially melted watch is found inside the shelter.

## **EVIDENCE OF THERMAL INJURY**

Most of the body is covered by soot. There are what appear to be 3rd degree burns present in the head and neck area, anterior chest wall, abdomen, most of the upper extremities, thighs, and part of the lower legs. There are areas of 4th degree burns with tissue loss noted on the left shoulder and on the left side of the anterior chest wall and abdomen. There is skin slippage over both hands with charring of the fingertips.

JESSE JAMES STEED

13-04436

## **SCARS, TATTOOS, AND OTHER IDENTIFYING BODY FEATURES**

1. There is a blue tattoo on the left fourth finger.
2. There is a circumferential blue tattoo with what appears to be a head on the left arm.
3. There is a 9 cm scar over the left knee.
4. There is a 15 cm scar on the left shin with metal hardware noted on the x-ray.

## **GENERAL EXTERNAL EXAMINATION**

The body is unembalmed. The body is that of a Caucasian male 74 inches in length and weighing 220 pounds. The body shows pugilistic position with heat related contractures. There is some evidence of early to moderate decomposition with greenish discoloration of the skin and focal slippage. There is no scalp hair present. The color of the irides cannot be determined. Dentition is natural. There are no acute oral mucosal lesions. There is no significant soot noted in the oral cavity. The trachea is in the midline. The thorax is well developed and symmetrical with 30 x 15 cm soft tissue defect on the left lateral aspects of the chest extending to the abdomen. The exposed soft tissue shows greenish discoloration. The abdomen is flat. The external genitalia are those of a normal male, with testes in the scrotal sac. The scrotum is distended due to decomposition. The extremities show extensive thermal injuries as previously described. The posterior aspects of the torso are symmetrical and show thermal injuries.

## **INTERNAL EXAMINATION**

The body is opened by a standard Y-shaped thoracoabdominal incision. All viscera occupy their appropriate anatomic relationships. Subcutaneous adipose tissue ranges up to 2 cm in thickness over the abdominal wall. Both pleural cavities contain approximately 100 mL of hemorrhagic fluid. There are no adhesions present.

## **CARDIOVASCULAR SYSTEM**

The 320-gram heart occupies its usual mediastinal site. The external configuration is not remarkable. The epicardial surfaces are smooth. All major vessels arise in their appropriate anatomic relationships. The coronary arteries arise normally and are distributed in a right dominant pattern. They show no significant atherosclerosis. The myocardium is dark brown and soft with no areas of hemorrhage or gross scarring. Cardiac chambers are dilated. Ventricular thicknesses are: left 1.3 cm, right 0.5 cm, and 1.2 cm in the interventricular septum. The cardiac valves show no significant abnormalities.

The aorta is of normal caliber, with all major arterial branches arising in their appropriate anatomic relationship. It shows no significant atherosclerosis, aneurysm formation, or dissection. No systemic venous abnormalities or thrombi are present.

**RESPIRATORY SYSTEM**

The lungs weigh 475 grams left and 600 grams right. The pleural surfaces are smooth. The lungs are distended. The parenchyma is dark brown and very soft with no areas of consolidation, hemorrhage, or gross scarring. The bronchi are patent and of normal caliber. There is no evidence of soot deposit on the bronchial mucosa. The pulmonary vessels are patent. The upper airway is patent with no evidence of obstruction or aspiration. There is no gross evidence of soot deposit on the laryngeal or tracheal mucosa.

**DIGESTIVE/HEPATOBIILIARY SYSTEM**

The oropharynx is grossly normal. The esophagus is of normal caliber, with autolyzed mucosal lining. The gastroesophageal junction is ill-defined. The gastric mucosa is autolyzed and the lumen contains approximately 25 mL of dark brown partially digested food. No areas of ulceration, hemorrhage, or scarring are present. The small and large intestines externally are not remarkable except for decomposition. The appendix is present. The pancreas is autolyzed.

The liver weighs 1400 grams. The capsule is intact. The parenchyma is dark brown and very soft with no localizing masses or areas of hemorrhage on external or cut surfaces. The gallbladder contains air with no bile present.

**GENITOURINARY SYSTEM**

The kidneys weigh 140 grams left and 125 grams right. They are grossly similar. The capsules strip with ease from the smooth, red-brown cortical surfaces. The cortices are sharply delineated from the medullary pyramids. The calyces, pelves and ureters are unremarkable. The renal vessels are patent and of normal caliber.

The urinary bladder contains no urine. The mucosal surfaces are flat and pink-tan. The prostate and seminal vesicles are not remarkable.

**HEMATOPOIETIC SYSTEM**

The spleen weighs 150 grams. The spleen is intact. The parenchyma is dark brown and very soft. Regional lymph nodes have their usual distribution and appearance.

**ENDOCRINE SYSTEM**

The thyroid gland contains 1 cm brown nodule in the right lobe. The adrenal glands are autolyzed.

JESSE JAMES STEED

13-04436

## **NECK**

The cervical spine is structurally intact. The hyoid bone and thyroid cartilage are intact. There are no hemorrhages in the strap muscles or soft tissues of the neck.

## **MUSCULOSKELETAL SYSTEM**

There are no gross skeletal abnormalities. The muscles are well developed and show decompositional changes.

## **NERVOUS SYSTEM**

The scalp is reflected in the usual fashion. There are no contusions, lacerations, or abrasions. There is no skull fracture. The brain weighs 1575 grams. The leptomeninges show greenish-brown discoloration. There is no evidence of epidural or subdural hemorrhages. There is a good preservation of cerebral symmetry with no evidence of either diffuse or localized swelling. The cerebral vessels are intact with no evidence of aneurysm or significant atherosclerosis. The brain tissue is very soft and shows greenish-brown discoloration. Multiple sections of brain reveal no injuries or other gross focal lesions. The ventricles contain cloudy liquid. The atlanto-occipital articulation and basal skull are intact.

## **EVIDENCE**

The following items of evidence are collected:

1. All items of personal protective equipment.

## **TOXICOLOGY SPECIMENS**

Samples of the blood, vitreous fluid, gastric contents, brain, spleen, liver, kidneys, and psoas muscle are collected and submitted for toxicological testing.

## **MICROSCOPIC DESCRIPTIONS**

Kidney:       Marked autolysis.

## **FINAL SUMMARY**

Based on the autopsy findings and investigative history, as available to me, it is my opinion that Jesse James Steed, a 36-year-old male, died as a result of thermal injuries sustained when he participated in liquidation of the wildfire.

The manner of death is accident.

VS/gz  
D 7/2/13  
T 7/3/13

*The Maricopa County Medical Examiner's Office is required by statute (A.R.S. § 11-594(A)(2) and (4)) to certify the cause and manner of death following completion of the death investigation of each case over which it assumes jurisdiction, and to promptly execute a death certificate, on a form provided by the state registrar of vital statistics, indicating the cause and manner of death. The form provided by the state registrar of vital statistics includes five manners of death: homicide, suicide, accident, natural, and undetermined. The determination of manner of death is a forensic determination by the pathologist predicated upon the totality of all then-known forensic evidence and other circumstances surrounding the cause of death; it is not a legal determination of criminal or civil responsibility of any person(s) for the death.*

MARICOPA COUNTY OFFICE OF THE MEDICAL EXAMINER

REPORT OF TOXICOLOGICAL EXAMINATION

Case Number: 13-04436  
Decedent: JESSE JAMES STEED  
Date Submitted: 07/02/2013  
Report Date: 07/30/2013

Specimens Collected: NASAL CAVITY SWABS, VITREOUS, SUBCUTANEOUS  
ADIPOSE TISSUE, BLOT/FILTER PAPER, CARDIAC BLOOD,  
GASTRIC, SPLEEN, LIVER, PSOAS MUSCLE, KIDNEY, LUNG,  
BRAIN

Medical Examiner: VLADIMIR SHVARTS, MD

**RESULTS\*:**

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Vitreous: None detected for ethanol, methanol, isopropanol and acetone

Cardiac Blood: Positive for  
Ethyl alcohol 0.02 g%  
Ibuprofen (~15 mg/L)  
None detected for methanol, isopropanol, acetone, amphetamine,  
methamphetamine, phencyclidine, cocaine, benzoylecgonine,  
methadone, morphine, codeine, benzodiazepines, barbiturates,  
antihistamines, phenothiazines, tricyclic antidepressants, fentanyl,  
oxycodone, and acid neutral drugs


Cardiac Blood: Inconclusive for Carboxyhemoglobin Saturation

Gastric: None detected for amphetamine, methamphetamine,  
phencyclidine, cocaine, methadone, codeine, antihistamines,  
phenothiazines, and tricyclic antidepressants

Brain and Lungs: Positive by GC/MS for  
Benzene  
Toluene  
Xylene

\*If results are not listed for any specimen(s), that/those specimen(s) is/are deemed to be on "HOLD"

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Norman A. Wade  
Laboratory Director

VS.