



Forensic Engineering, PLLC
3948 Third Street South
Jacksonville Beach, FL 32250
904.473.5186

September 5, 2017



Re: Loraine Pullin Lynn
Death Investigation
D.O.L.: August 1, 2017
FE File No.: 20170806A

Dear Ms. Pullin:

FORENSIC ENGINEERING, PLLC (FE) is pleased to provide the following report that summarizes our investigational activities in this assignment. We trust it will be found to be informative and suitable for its intended purposes.

BACKGROUND INFORMATION

FE was contacted August 6, 2017 and requested to travel to 1365 Shannon Road, Girard Ohio to perform an engineering investigation and evaluation into the death of Ms. Loraine Pullin Lynn. Specifically, we were asked to examine the tractor for a possible malfunction and to provide an objective expert opinion, including supporting rationale that fulfilled the following requests:

- Determine if the tractor was defective and contributed to Ms. Lynn's death.
- Determine the source of any mechanical damage if found.

During the initial phone contact with Ms. Diane Pullin the following information was conveyed.

Ms. Lynn was reported missing on August 2, 2017 by her fiancé, Mark Schoonover, after not returning home the previous evening. Mr. Schoonover had notified Ms. Lynn's friends and family members of her uncharacteristic disappearance. Ms. Lynn's brother Chip Pullin and her ex-husband Tim Lynn decided to do a search of her mother's farm as it was understood that the last time anyone had seen Ms. Lynn was during a visit to the farm on August 1, 2017.

During this search Ms. Lynn's 2017 Nissan Pathfinder was located behind a barn on the property. The vehicle was covered with dew indicating that it had been parked there overnight. Also during this search Chip Pullin noticed that the family's tractor was not in the same location as he had left it; adjacent to a storage shed. See Figure 1. The tractor had a pull-behind accessory that cuts grass. The cut-grass-path was obvious and easy to follow. See Figure 4. Chip and Tim followed the path around the property and ended at the upper pond where the tractor and Ms. Lynn were found. The authorities were notified at that point.

Knowing that the tractor was still mostly submerged, FE requested that a pump be rented and set up to remove as much water from the pond as possible in order to gain access. We were concerned that removing the tractor prior to in-situ inspection may introduce unexplained anomalies.

OBSERVATIONS

Upon arrival at the subject property on Tuesday August 8th, 2017 a meeting was conducted with the property owner, Mrs. Wanda Pullin (Deceased's Mother), Diane Pullin (Deceased's Sister) and Mark Schoonover (Deceased's Fiancé). During this meeting, the path of the tractor was walked and ended at the north-east corner of a small pond. A farm tractor was observed partially submerged in the water. The pond was being pumped down in order to lower the water level enough to gain access to the entire tractor. See Figure 3.

This meeting also revealed the presence of four security cameras and a DVR that recorded video. The cameras were installed under the eaves near the front entrance of the residence with two facing a northerly direction and two facing in a southerly direction. See Figure 5. It was determined that the DVR did contain footage of August 1 and that data was secured by Diane Pullin for future analysis.

On Wednesday morning August 9th, 2017, the pump had removed enough water from the pond in order to gain access to the front portion of the tractor. The front tires were embedded in mud and weeds. The gear shifter was determined to be in the neutral position and the speed selector was set to high. The key switch was in the run position. The throttle was set to half speed and the PTO was engaged. The tractor is a 1978 Ford 2000 manufactured in 1978 with a 6-speed transmission and a 950 rpm PTO. Attached to the tractor and PTO was a rotary cutter, manufactured by Woods Equipment. It was a Dixie model MD160 with dual blades and cuts a 5-foot-wide path. See Figure 6.



Figure 1: Aerial View of Subject Property

The tractor and cutter was removed intact from the pond using a truck-mounted crane and placed on a flatbed trailer. The tractor was covered with mud and vegetation so it was cleaned using fresh water and a brush then thoroughly inspected. The tires were intact, properly mounted and fully inflated. There were no signs of tire damage other than some minor cuts to the treads that would be typical of this vintage and of this farm-use tractor. The steering linkages, ball and socket joints, and steering column were intact and worked freely. There were no signs of a steering problem and no missing pieces of the steering system. Due to being submerged, the engine was not started. It is likely that the engine air intake was flooded with water upon the initial plunge into the pond and the cylinders filled with water. The brakes were found to be functional and solid pedals for both rear tires. The brake linkages and fittings were tight and no missing pieces were identified. The operator's seat was present and seemed to be working as designed. There is no back support with this style of pan seat and no seatbelt was present. See Figure 8. There is no occupant restraint device built into this vintage of tractor. The gear selector was easily moved from a gear into neutral so it is conceivable that the accident itself or the removal of the body caused the selector to be found in the neutral position.

In order to determine if there were any missing pieces of the tractor along the cut path, a large magnet was dragged. Nothing of significance was found that would suggest it came from the tractor. The gear selector operated as expected as did the high/low selector. There were signs of a somewhat recent repair to the starter. Otherwise there was no indication that the tractor malfunctioned in any way.

INTERVIEWS

Chip Pullin was interviewed, via a phone call, as to his knowledge of the tractor and the circumstances of Ms. Lynn's discovery. Chip received a call from his mother Wanda on August 2, 2017 around 7am saying that police had been to her house looking for Lori. Chip lives next door so he came over and Tim Lynn was already there. He and Tim started walking the property and found Lori's car parked behind the barn. Chip had pulled the tractor out of the barn two days prior, filled it with gas, ensured that it was working and then parked it near the storage shed so he quickly noticed that the tractor was not where he left it. They could see the cut path so they followed it and came upon the tractor in the pond and Lori's body. Chip did not have his cell phone so Tim called 911 while Chip ran to the street in order to direct first responders to the property. When asked to describe Lori's position on the tractor, Chip responds that she was laying fully on the attached cutter facing down with her face on the 'driveshaft'. The driveshaft was understood to be the PTO that transmits power from the tractor to the cutter. Neither he nor Tim touched or move the body. Chip did not feel comfortable coming back to the farm and demonstrating the position he found Lori. He confirmed that Courtland Tractor had made repairs to the tractor twice this year and the tractor was working last time he used it. He also confirmed that he had installed the security cameras on his mother's front porch and the DVR in the basement.

Tim Lynn was interviewed on August 9, 2017 as to his knowledge of the tractor and the circumstances of Ms. Lynn's discovery. Tim had not used the subject tractor in a long time but Lori is familiar with this tractor and others. She had worked for the county for many years using a variety of heavy equipment. Tim received a call at 4am from his and Lori's daughter saying that Lori did not come home last evening and asking if he had seen or heard from her. Mark had called the daughter looking for Lori. Around 7am Tim came to Wanda's house to try and locate Lori. As he pulled along the driveway he noticed Lori's car by the barn and walked up to the car. He saw her purse in the front seat and knowing she would not leave her purse unattended, thought she was on the property somewhere. He made his way to the residence and made a search of the house thinking she may be sleeping. Chip arrived at the residence about 10 minutes after Tim arrived. Chip noticed the tractor missing as they were looking at Lori's car. Tim felt it was very odd for Lori to park her car in this location as she would never leave it there. However, a plausible explanation would be if she brought gas for the tractor then she may pull into that spot to have easier access to the tractor. Tim and Chip followed the cut trail and came upon the tractor. Chip noticed the tractor first and Tim made his way down into the pond after noticing Lori's leg but Chip stopped him from disturbing anything. Tim saw Lori sitting in the tractor's seat with her right leg positioned behind her. The top part of her torso was draped forward onto the steering wheel and partially submerged. The lower part of her body was out of the water but positioned in the seat. Tim called 911 and the first responder was believed to be a police officer then a rescue vehicle arrived with paramedics. Tim was moved away from the site and interviewed. When asked about the

discrepancy between Chip's recollection of the position of the body and his recollection, he had no explanation. Tim was adamant that because he went down into the pond and saw Lori's position that his observations are the correct ones. Chip did not go into the pond and so perhaps he did not see the full picture.

Video Surveillance

Since the video footage was available for review, Ms. Diane Pullin was tasked with watching all four feeds to determine the timeline for when Lori arrived and left her mother's property. After three viewings of the August 1st footage it was determined that Lori had arrived earlier in the day but left after finding her mother not home. The footage shows Lori arriving at the house, carrying her purse, at 11:02am on August 1, 2017 then driving away at 11:36am. The driveway was used for both arrival and departure. Her car is then seen again at 12:14pm driving through the front and side lawn of the house rather than using the driveway. It is unknown why Lori's vehicle would take this circuitous path to get to the barn rather than the straighter and safer path of the driveway. See Figure 8. The black path shown in Figure 2 is a gravel and compacted drivable pathway that is built for the purpose of vehicles obtaining access to the residence and the outbuildings. The red path shown in Figure 2 is the circuitous path taken by the Lori's vehicle at 12:14pm. This path is not improved and has rocks and trees to avoid in order to prevent damage to the vehicle. The vehicle is not observed leaving during the rest of the day. It should be noted that using the red path shown in Figure 2 has the potential to avoid the video surveillance cameras whereas the black path does not.



Figure 2: Aerial view outlining the driveway path and the surveillance path of the Pathfinder

FINDINGS

FE was asked to perform an engineering investigation and evaluation concerning the death of Ms. Loraine Pullin Lynn. Based upon the information identified during the course of our investigation, FE was able to determine the following:

- The 1978 Ford 2000 Tractor was mechanically sound. There are no defects that prevented the tractor from being stopped or steered by the operator.
- The Tractor gearing was found to be in neutral and high speed with the PTO engaged and the key switch in the on position. These findings suggest that the tractor was running normally prior to the accident.
- The first two people to find Ms. Lynn's body was her ex-husband Tim Lynn and her brother Chip Pullin.
- There is a discrepancy between the first two witnesses as to the position of Ms. Lynn's body upon the tractor.
- Surveillance footage shows Ms. Lynn arriving and leaving the residence using the driveway on August 1, 2017.
- On the same day, the surveillance footage shows Ms. Lynn's vehicle arriving at the residence but driving through the yard rather than the driveway.

We appreciate the opportunity to be of support to you. We trust you will find our report to be suitable for its intended purposes. It is understood that the coroner's report, police report, EMS report and fire department reports are not yet available. Once they become available and reviewed, that information could change the findings of this report. We reserve the right to update this report as further information becomes available.

Respectfully submitted,

Thomas Baker
Principle Engineer

APPENDIX A

PHOTOGRAPHS

Samples of the 373 photos taken by
Thomas Baker, P.E.
On August 8 and 9, 2017
All photos and video available upon request



Figure 3: Partially submerged tractor



Figure 4: Trail of cut grass leading from original tractor location



Figure 5: Front view of residence – Video Camera locations circled

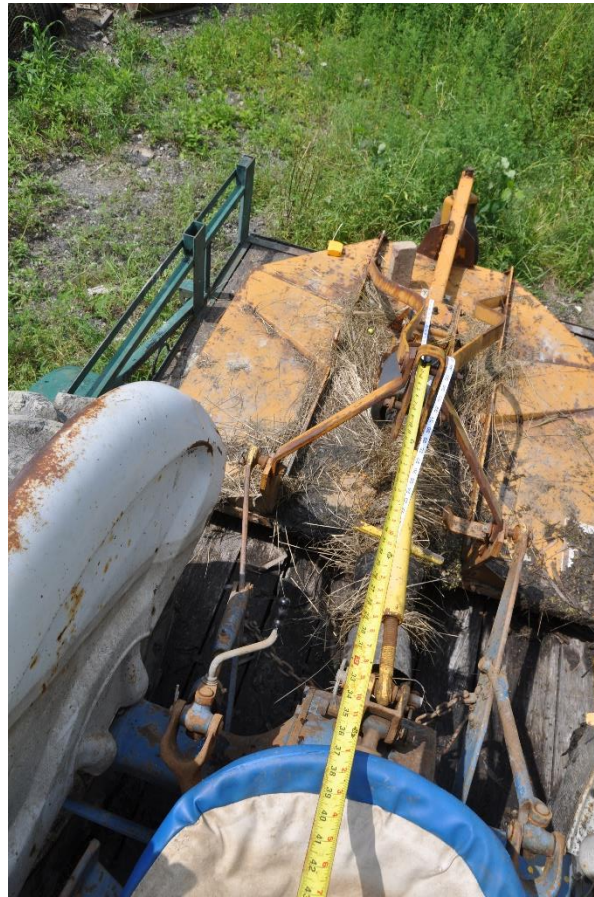


Figure 6: Woods Dixie Cutter attachment viewed from operator's seat



Figure 7: Barn



Figure 8: Gravel driveway leading from residence to barn and shed



Figure 9: Pan-style tractor seat and steering wheel